Getting started with InterBase Express

InterBase Express (IBX) is a set of data access components that provide a means of accessing data from InterBase databases. The following components are located on the InterBase tab of Delphi 5:


TIBDatabase


TIBTransaction


TIBTable


TIBQuery


TIBDataSet


TIBStoredProc


TIBSQL


TIBUpdateSQL


TIBSQLMonitor


TIBDatabaseInfo


TIBEvents

This document assumes that you are familiar with the Delphi development environment and know how to use the Standard, Data Access, and Data Control components.

Though they are similar to BDE components in name, the IBX components are somewhat different. For each component with a BDE counterpart, the sections below give a discussion of these differences.

There is no simple migration from BDE to IBX applications. Generally, you must replace BDE components with the comparable IBX components, and then recompile your applications. However, the speed you gain, along with the access you get to the powerful InterBase features make migration well worth your time.

IBDatabase

Use an IBDatabase component to establish connections to databases, which can involve one or more concurrent transactions. Unlike BDE, IBX has a separate transaction component, which allows you to separate transactions and database connections.

To set up a database connection:

1. Drop an IBDatabase component onto a form or data module.
2. Fill out the DatabaseName property. For a local connection, this is the drive, path, and filename of the database file. Set the Connected property to True.
3. Enter a valid username and password and click OK to establish the database connection.

Tip: You can store the username and password in the IBDatabase component's Params property by setting the LoginPrompt property to False after logging in. For example, after logging in as the system administrator and setting the LoginPrompt property to False, you may see the following when editing the Params property:

```
user_name=sysdba
password=masterkey
```

IBTransaction

Unlike the Borland Database Engine, IBX controls transactions with a separate component, IBTransaction. This powerful feature allows you to separate transactions and database connections, so you can take advantage of the InterBase two-phase commit functionality (transactions that span multiple connections) and multiple concurrent transactions using the same connection.

Use an IBTransaction component to handle transaction contexts, which might involve one or more database connections. In most cases, a simple one database/one transaction model will do.

To set up a transaction:

1. Set up an IBDatabase connection as described above.
2. Drop an IBTransaction component onto the form or data module
3. Set the DefaultDatabase property to the name of your IBDatabase component.
4. Set the Active property to True to start the transaction.

IBX dataset components

There are a variety of dataset components from which to choose with IBX, each having their own characteristics and task suitability:

IBTable

Use an IBTable component to set up a live dataset on a table or view without having to enter any SQL statements.

IBTable components are easy to configure:

1. Add an IBTable component to your form or data module.
2. Specify the associated database and transaction components.
3. Specify the name of the relation from the TableName drop-down list.
4. Set the Active property to True.

IBQuery

Use an IBQuery component to execute any InterBase DSQL statement, restrict your result set to only particular columns and rows, use aggregate functions, and join multiple tables.

IBQuery components provide a read-only dataset, and adapt well to the InterBase client/server environment. To set up an IBQuery component:

1. Set up an IBDatabase connection as described above.
2. Set up an IBTransaction connection as described above.
3. Add an IBQuery component to your form or data module.
4. Specify the associated database and transaction components.
5. Enter a valid SQL statement for the IBQuery's SQL property in the String list editor.
6. Set the Active property to True

IBDataSet

Use an IBDataSet component to execute any InterBase DSQL statement, restrict your result set to only particular columns and rows, use aggregate functions, and join multiple tables. IBDataSet components are similar to IBQuery components, except that they support live datasets without the need of an IBUpdateSQL component.

The following example that provides a live dataset for the COUNTRY table in employee.gdb:

1. Set up an IBDatabase connection as described above.
2. Specify the associated database and transaction components.
3. Add an IBDataSet component to your form or data module.
4. Enter SQL statements for the following properties:

SelectSQL	`SELECT Country, Currency FROM Country`
RefreshSQL	`SELECT Country, Currency FROM Country WHERE Country = :Country`
ModifySQL	`UPDATE Country SET Country = :Country, Currency = :Currency WHERE Country = :Old_Country`
DeleteSQL	`DELETE FROM Country WHERE Country = :Old_Country`
InsertSQL	`INSERT INTO Country (Country, Currency) VALUES (:Country, :Currency)`

5. Set the Active property to True.

IBStoredProc

Use IBStoredProc for InterBase executable procedures: procedures that return, at most, one row of information. For stored procedures that return more than one row of data, or "Select" procedures, use either IBQuery or IBDataSet components.

IBSQL

Use an IBSQL component for data operations that need to be fast and lightweight. Operations such as data definition and pumping data from one database to another are suitable for IBSQL components.

In the following example, an IBSQL component is used to return the next value from a generator:

1. Set up an IBDatabase connection as described above.
2. Put an IBSQL component on the form or data module and set its Database property to the name of the database.
3. Add an SQL statement to the SQL property string list editor, for example:

```
SELECT GEN_ID(MyGenerator, 1) FROM RDB$DATABASE
```

IBUpdateSQL

Use an IBUpdateSQL component to update read-only datasets. You can update IBQuery output with an IBUpdateSQL component:

1. Set up an IBQuery component as described above.
2. Add an IBUpdateSQL component to your form or data module.
3. Enter SQL statements for the following properties: DeleteSQL, InsertSQL, ModifySQL, and RefreshSQL.
4. Set the IBQuery component's UpdateObject property to the name of the IBUpdateSQL component.
5. Set the IBQuery component's Active property to True.

IBSQLMonitor

Use an IBSQLMonitor component to develop diagnostic tools to monitor the communications between your application and the InterBase server. When the TraceFlags properties of an IBDatabase component are turned on, active IBSQLMonitor components can keep track of the connection's activity and send the output to a file or control.

A good example would be to create a separate application that has an IBSQLMonitor component and a Memo control. Run this secondary application, and on the primary application, activate the TraceFlags of the IBDatabase component. Interact with the primary application, and watch the second's memo control fill with data.

IBDatabaseInfo

Use an IBDatabaseInfo component to retrieve information about a particular database, such as the sweep interval, ODS version, and the user names of those currently attached to this database.

For example, to set up an IBDatabaseInfo component that displays the users currently connected to the database:

1. Set up an IBDatabase connection as described above.
2. Put an IBDatabaseInfo component on the form or data module and set its Database property to the name of the database.
3. Put a Memo component on the form.
4. Put a Timer component on the form and set its interval.
5. Double click on the Timer's OnTimer event field and enter code similar to the following:

```
Memo1.Text := IBDatabaseInfo.UserNames.Text;
```

IBEvents

Use an IBEvents component to register interest in, and asynchronously handle, events posted by an InterBase server.

To set up an IBEvents component:

1. Set up an IBDatabase connection as described above.
2. Put an IBEvents component on the form or data module and set its Database property to the name of the database.
3. Enter events in the Events property string list editor, for example:

```
IBEvents.Events.Add('EVENT_NAME')
```

4. Set the Registered property to True.

TIBBase

Hierarchy Properties Methods Events See also

TIBBase is the ancestor object from which TIBDatabase and TIBTransaction descend.

Unit

IBDatabase

Description

TIBBase is the ancestor object from which TIBDatabase and TIBTransaction descend.

TIBBase properties

TIBBase Alphabetically Legend

In TIBBase

- Database
- DBHandle
- Owner
- Transaction
- TRHandle

TIBBase properties

TIBBase By object Legend

Database
DBHandle
- Owner
- Transaction
- TRHandle

TIBBase.Database

TIBBase See also

Sets or returns the associated database.

```
property Database: TIBDatabase;
```

Description

Use Database to set or return the associated database.

TIBBase.DBHandle

TIBBase See also

Indicates the database handle.

```
property DBHandle: PISC_DB_HANDLE;
```

Description

Use DBHandle to return the database handle.

TIBBase.Owner

TIBBase See also

Indicates which component owns the component.

```
property Owner: TObject;
```

Description

Owner refers to the SQL object (DataSet, TIBSQL, or Blob) that created the TIBBase component.

TIBBase.Transaction

TIBBase See also

Sets or returns the associated transaction.

```
property Transaction: TIBTransaction;
```

Description

Use Transaction to set or return the associated transaction.

TIBBase.TRHandle

TIBBase See also

Returns the transaction handle.

```
property TRHandle: PISC_TR_HANDLE;
```

Description

Use TRHandle to return the transaction handle.

TIBBase events

TIBBase Alphabetically Legend

In TIBBase

- OnAfterDatabaseDisconnect
- OnBeforeDatabaseDisconnect
- OnDatabaseFree
- OnAfterTransactionEnd
- OnBeforeTransactionEnd
- OnTransactionFree

TIBBase events

TIBBase By object Legend

- OnAfterDatabaseDisconnect
- OnBeforeDatabaseDisconnect
- OnDatabaseFree
- OnAfterTransactionEnd
- OnBeforeTransactionEnd
- OnTransactionFree

TIBBase.OnAfterDatabaseDisconnect

TIBBase See also

Occurs after a database is disconnected.

```
property OnAfterDatabaseDisconnect: TNotifyEvent;
```

Description

Write an OnAfterDatabaseDisconnect event handler to take specific actions after a database is disconnected.

TIBBase.OnBeforeDatabaseDisconnect

TIBBase See also

Occurs before a database disconnects.

```
property OnBeforeDatabaseDisconnect: TNotifyEvent;
```

Description

Write an OnBeforeDatabaseDisconnect event handler to take specific actions before a database disconnects.

TIBBase.DatabaseFree

TIBBase See also

Occurs after a database is freed from memory.

```
property OnDatabaseFree: TNotifyEvent;
```

Description

Write an OnDatabaseFree event handler to take specific actions after a database is freed from memory.

TIBBase.OnAfterTransactionEnd

TIBBase See also

Occurs after a transaction has ended.

```
property OnAfterTransactionEnd: TNotifyEvent;
```

Description

Write an OnAfterTransactionEnd event handler to take specific actions after a transaction has ended.

TIBBase.OnBeforeTransactionEnd

TIBBase See also

Occurs before a transaction ends.

```
property OnBeforeTransactionEnd: TNotifyEvent;
```

Description

Write an OnBeforeTransactionEnd event handler to take specific actions before a transaction ends.

TIBBase.OnTransactionFree

TIBBase See also

Occurs after a transaction has been freed from memory.

```
property OnTransactionFree: TNotifyEvent;
```

Description

Write an OnTransactionFree event handler to take specific actions after a transaction has been freed from memory.

TIBBase methods

TIBBase Alphabetically

In TIBBase

- CheckDatabase
- CheckTransaction
- Create
- Destroy

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBBase methods

TIBBase By object

- AfterConstruction
- BeforeDestruction
- CheckDatabase
- CheckTransaction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBBase.CheckDatabase

TIBBase See also

Checks if the database is active.

```
procedure CheckDatabase;
```

Description

Call CheckDatabase to check if the database is assigned and active.

TIBBase.CheckTransaction

TIBBase See also

Checks if the transaction is active.

```
procedure CheckTransaction;
```

Description

Call CheckTransaction to check if the transaction is assigned and active.

TIBBase.Create

TIBBase See also

Creates an instance of an IBBase object.

```
constructor Create(AOwner: TObject);
```

Description

Call Create to create an instance of an IBBase object.

TIBBase.Destroy

TIBBase See also

Destroys an IBBase object.

```
destructor Destroy;
```

Description

Call Destroy to destroy an IBBase object and to free up any resources associated with it.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TIBBatch

Hierarchy Properties MethodsSee also

TIBBatch is the abstract base class for the TIBBatchInput and TIBBatchOutput components.

Unit

IBSQL

Description

Use a TIBBatch object to provide properties and methods for use with the TIBBatchInput and TIBBatchOutput components, which make it possible to input and output data in virtually any format.

Descendents of this class can specify a file name (for input or output), and a TIBXSQLDA component representing a record or parameters. The ReadyFile method is called right before performing the batch input or output.

TIBBatch properties

TIBBatch Alphabetically Legend

In TIBBatch

- Columns
  - FileName
  - Params

TIBBatch properties

TIBBatch By object Legend

- Columns
  - FileName
  - Params

TIBBatch.Columns

TIBBatch See also

Returns the XSQLDA columns.

```
property Columns: TIBXSQLDA;
```

Description

Use the Columns property to retrieve the XSQLDA columns.

TIBBatch.FileName

TIBBatch See also

Sets or displays the name of the external file.

```
property FileName: String;
```

Description

Use the FileName property to set or display the external file name.

TIBBatch.Params

TIBBatch See also

Returns the XSQLDA parameters.

```
property Params: TIBXSQLDA;
```

Description

Use the Params property to retrieve the XSQLDA parameters.

TIBBatch methods

TIBBatch Alphabetically

In TIBBatch

- Move
- ReadyFile

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBBatch methods

TIBBatch By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- Move
- NewInstance
- ReadyFile
- SafeCallException

TIBBatch.Move

TIBBatch See also

Indicates whether the can be moved.

```
function Move: Boolean;
```

Description

Call Move to allow a file to be moved.

TIBBatch.ReadyFile

TIBBatch See also

Prepares the file.

```
procedure ReadyFile;
```

Description

Call ReadyFile to prepare the file for input or output.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TIBBatchInput

Hierarchy Properties MethodsSee also

TIBBatchInput is the abstract class for performing all batch input.

Unit

IBSQL

Description

Use a TIBBatchInput object to provide properties and methods for performing all batch input.

TIBBatchInput properties

TIBBatchInput Alphabetically Legend

Derived from TIBBatch

- Columns
- FileName
- Params

TIBBatchInput properties

TIBBatchInput By object Legend

- Columns
- FileName
- Params

TIBBatchInput methods

TIBBatchOutput Alphabetically

In TIBBatchInput

- ReadParameters

Derived from TIBBatch

- Move
- ReadyFile

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBBatchInput methods

TIBBatch By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- Move
- NewInstance
- ReadParameters
- ReadyFile
- SafeCallException

TIBBatchInput.ReadParameters

TIBBatchInput See also

Reads the XSQLDA input parameters.

```
function ReadParameters: Boolean;
```

Description

Call ReadParameters to read the input parameters of the extended SQL descriptor area (XSQLDA) from the specified file.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject
|
TIBBatch

TIBBatchOutput

Hierarchy Properties MethodsSee also

TIBBatchOutput is the abstract class for performing all batch output.

Unit

IBSQL

Description

Use a TIBBatchOutput object to provide properties and methods for performing all batch output.

TIBBatchOutput properties

TIBBatchOutput Alphabetically Legend

Derived from TIBBatch

- Columns
- FileName
- Params

TIBBatchOutput properties

TIBBatchOutput By object Legend

- Columns
  - FileName
  - Params

TIBBatchOutput methods

TIBBatchOutput Alphabetically

In TIBBatchOutput

- WriteColumns

Derived from TIBBatch

- Move
- ReadyFile

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBBatchOutput methods

TIBBatch By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- Move
- NewInstance
- ReadyFile
- SafeCallException
- WriteColumns

TIBBatchOutput.WriteColumns

TIBBatchOutput See also

Outputs the data in columns in the XSQLDA to the specified file.

```
function WriteColumns: Boolean
```

Description

Call WriteColumns to output data in columns in the extended SQL descriptor area (XSQLDA) to the specified file.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject
|
TIBBatch

TIBBCDField

Hierarchy Properties Methods Events See also

TIBBCDField encapsulates the Windows Currency type.

Unit

IBCustomDataSet

Description

TIBBCDField encapsulates the Windows Currency type.

TIBBCDField properties

TIBBCDField Alphabetically Legend

In TIBBCDField

- Size

Derived from TBCDField

- AsCurrency
- AsFloat
- AsInteger
- AsString
- AsVariant
- Currency
- DataSize
- MaxValue
- MinValue
- Precision
- Value

Derived from TNumericField

- DisplayFormat
- EditFormat

Derived from TField

- Alignment
- AsBoolean
- AsDateTime
- AttributeSet
- AutoGenerateValue
- Calculated
- CanModify
- ConstraintErrorMessage
- CurValue
- CustomConstraint
- DataSet
- DataType
- DefaultExpression
- DisplayLabel
- DisplayName
- DisplayText
- DisplayWidth
- EditMask
- EditMaskPtr
- FieldKind
- FieldName
- FieldNo
- FullName
- HasConstraints
- ImportedConstraint
- Index
- IsIndexField
- IsNull
- KeyFields
- Lookup
- LookupCache

- LookupDataSet
- LookupKeyFields
- LookupList
- LookupResultField
- NewValue
- Offset
- OldValue
- Origin
- ParentField
- ProviderFlags
- ReadOnly
- Required
- Text
- ValidChars
- Visible

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBBCDField properties

TIBBCDField By object Legend

- Alignment
- AsBoolean
- AsCurrency
- AsDateTime
- AsFloat
- AsInteger
- AsString
- AsVariant
- AttributeSet
- AutoGenerateValue
- Calculated
- CanModify
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- ConstraintErrorMessage
- Currency
- CurValue
- CustomConstraint
- DataSet
- DataSize
- DataType
- DefaultExpression
- DesignInfo
- DisplayFormat
- DisplayLabel
- DisplayName
- DisplayText
- DisplayWidth
- EditFormat
- EditMask
- EditMaskPtr
- FieldKind
- FieldName
- FieldNo
- FullName
- HasConstraints
- ImportedConstraint
- Index
- IsIndexField
- IsNull
- KeyFields
- Lookup
- LookupCache
- LookupDataSet
- LookupKeyFields
- LookupList
- LookupResultField

- MaxValue
- MinValue
- Name
- NewValue
- Offset
- OldValue
- Origin
- Owner
- ParentField
- Precision
- ProviderFlags
- ReadOnly
- Required
- Size
- Tag
- Text
- ValidChars
- Value

VCLComObject

- Visible

TIBBCDField.Size

TIBBCDField See also

Indicates the length of the datatype.

```
property Size;
```

Description

Indicates the length of the datatype. The default length is 8.

TIBBCDField events

TIBBCDField Alphabetically Legend

Derived from TField

- OnChange
- OnGetText
- OnSetText
- OnValidate

TIBBCDField events

TIBBCDField By object Legend

- OnChange
- OnGetText
- OnSetText
- OnValidate

TIBBCDField methods

TIBBCDField Alphabetically

In TIBBCDField

- Create

Derived from TField

- Assign
- AssignValue
- Clear
- Destroy
- FocusControl
- GetData
- IsBlob
- IsValidChar
- RefreshLookupList
- SetData
- SetFieldType
- Validate

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress

Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBBCDField methods

TIBBCDField By object

- AfterConstruction
- Assign
- AssignValue
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Clear
- Create
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- FocusControl
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetData
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- IsBlob
- IsValidChar
- MethodAddress
- MethodName
- NewInstance
- RefreshLookupList
- RemoveComponent

SafeCallException
SetData
SetFieldType
UpdateAction
Validate

TIBBCDField.Create

TIBBCDField See also

Creates an instance of a TIBBCDField object.

```
constructor Create(AOwner: TComponent);
```

Description

Create sets the datatype to ftBCD and the size to 8.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

|

TPersistent

TComponent

TField

TStringField

TIBBlobStream

Hierarchy Properties Methods See also

TIBBlobStream is a stream object that lets applications read from or write to field objects that represent Blob fields.

Unit

IBBlob

Description

Use TIBBlobStream to access or modify the value of a Blob field object. Blob field objects are TBlobField objects and descendants of TBlobField such as TGraphicField and TMemoField. Blob fields use Blob streams to implement many of their data access properties and methods.

TIBBlobStream allows objects that have no specialized knowledge of how data is stored in a Blob field to read or write such data by employing the uniform stream interface.

To use a Blob stream, create an instance of TIBBlobStream, use the methods of the stream to read or write the data, and then free the Blob stream. Do not use the same instance of TBlobStream to access data from more than one record. Instead, create a new TIBBlobStream object every time you need to read or write Blob data on a new record.

TIBBlobStream properties

TIBBlobStream Alphabetically Legend

In TIBBlobStream

- BlobID
- BlobMaxSegmentSize
- BlobNumSegments
- BlobSize
- BlobType
- Database
- DBHandle
- Handle
- Mode
- Modified
- Transaction
- TRHandle

Derived from TStream

- Position
- Size

TIBBlobStream properties

TIBBlobStream By object Legend

- BlobID
- BlobMaxSegmentSize
- BlobNumSegments
- BlobSize
- BlobType
- Database
- DBHandle
- Handle
- Mode
- Modified
- Position
- Size
- Transaction
- TRHandle

TIBBlobStream.BlobID

TIBBlobStream See also

Sets or returns the Blob ID.

```
property BlobID: TISC_QUAD;
```

Description

Use BlobID to set or return the 64-bit system-defined Blob ID, which is stored in a field in the table and points to the first segment of the Blob or to a page of pointers to Blob fragments

TIBBlobStream.BlobMaxSegmentSize

TIBBlobStream See also

Returns the maximum segment size.

```
property BlobMaxSegmentSize: Long;
```

Description

Use BlobMaxSegmentSize to return the length of the longest Blob segment.

TIBBlobStream.BlobNumSegments

TIBBlobStream See also

Returns the total number of segments in the Blob.

```
property BlobNumSegments: Long;
```

Description

Use BlobNumSegments to return the total number of segments in the Blob.

TIBBlobStream.BlobSize

TIBBlobStream See also

Returns the total size of the Blob.

```
property BlobSize: Long;
```

Description

Use BlobSize to return the total size of the Blob in bytes.

TIBBlobStream.BlobType

TIBBlobStream See also

Returns the Blob type.

```
property BlobType: Short;
```

Description

Use BlobType to return the Blob type; either 0 for segmented, or 1 for stream.

TIBBlobStream.Database

TIBBlobStream See also

Sets or returns the associated database.

```
property Database: TIBDatabase;
```

Description

Use Database to set or return the associated database.

TIBBlobStream.DBHandle

TIBBlobStream See also

Indicates the database handle.

```
property DBHandle: PISC_DB_HANDLE;
```

Description

Use DBHandle to return the database handle.

TIBBlobStream.Handle

TIBBlobStream See also

Indicates the Blob handle.

```
property Handle: TISC_BLOB_HANDLE;
```

Description

Use Handle to return the Blob handle.

TIBBlobStream.Mode

TIBBlobStream See also

Sets or returns the Blob stream mode type.

```
type TBlobStreamMode = set of (bmRead, bmWrite, bmReadWrite);
property Mode: TBlobStreamMode;
```

Description

Use Mode to set or return the Blob stream mode type. BlobStreamMode can be one of the following values.

Value	Meaning
bmRead	The stream is used to read from a Blob field
bmWrite	The stream is used to write to a Blob field
bwReadWrite	The stream is used to read from or write to a Blob field

TIBBlobStream.Modified

TIBBlobStream See also

Indicates whether or not the Blob field has been modified.

```
property Modified: Boolean;
```

Description

Modified returns True when the value to a Blob field has been changed. If the value of the Blob field is set by using the properties of TBlobField, or by using a TIBBlobStream object, Modified is automatically set to True.

TIBBlobStream.Transaction

TIBBlobStream See also

Sets or returns the associated transaction.

```
property Transaction: TIBTransaction;
```

Description

Use Transaction to set or return the associated transaction.

TIBBlobStream.TRHandle

TIBBlobStream See also

Returns the transaction handle.

```
property TRHandle: PISC_TR_HANDLE;
```

Description

Use TRHandle to return the transaction handle.

TIBBlobStream methods

TIBBlobStream Alphabetically

In TIBBlobStream

- Call
- CheckReadable
- CheckWritable
- Create
- Destroy
- Finalize
- LoadFromFile
- LoadFromStream
- Read
- SaveToFile
- SaveToStream
- Seek
- SetSize
- Truncate
- Write

Derived from TStream

- CopyFrom
- ReadBuffer
- ReadComponent
- ReadComponentRes
- ReadResHeader
- WriteBuffer
- WriteComponent
- WriteComponentRes
- WriteDescendent
- WriteDescendentRes

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface

GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBBlobStream methods

TIBBlobStream By object

- AfterConstruction
- BeforeDestruction
- Call
- CheckReadable
- CheckWritable
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- CopyFrom
- Create
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Finalize
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- LoadFromFile
- LoadFromStream
- MethodAddress
- MethodName
- NewInstance
- Read
- ReadBuffer
- ReadComponent
- ReadComponentRes
- ReadResHeader
- SaveToFile
- SaveToStream
- Seek
- SetSize
- Truncate
- Write

WriteBuffer
WriteComponent
WriteComponentRes
WriteDescendent
WriteDescendentRes

TIBBlobStream.Call

TIBBlobStream See also

Returns an error message based on the error code.

```
function Call(ISC_STATUS; RaiseError: Boolean): ISC_STATUS;
```

Description

Call is an internal method used to make calls to the InterBase API, and gives you the option of raising an exception or returning an error based on the value of RaiseError.

TIBBlobStream.CheckReadable

TIBBlobStream See also

Indicates whether or not a Blob is readable.

```
procedure CheckReadable;
```

Description

Call CheckReadable to determine whether or not a Blob is readable. This method raises an exception if the Blob is not readable.

TIBBlobStream.CheckWritable

TIBBlobStream See also

Indicates whether or not a Blob is write-able.

```
procedure CheckWritable;
```

Description

Call CheckWritable to determine whether or not a Blob is write-able. This method raises an exception if the Blob is not write-able.

TIBBlobStream.Create

TIBBlobStream See also Example

Creates an instance of TIBBlobStream.

```
constructor Create;
```

Description

Call Create to obtain an instance of TIBBlobStream for reading from or writing to a specific TBlobField object.

TIBBlobStream.Destroy

TIBBlobStream See also

Destroys an instance of TIBBlobStream.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead call Free. Free verifies that the TIBBlobStream object is not already freed and only then calls Destroy.

Destroy the TIBBlobStream object by calling Free when it is no longer needed for reading from or writing to the BLOB field.

Destroy triggers an OnDataChange event if the Blob stream was used to overwrite or modify the data in the field. Destroy then frees any buffers that were allocated to handle the data.

TIBBlobStream.Finalize

TIBBlobStream

Creates a Blob on the InterBase server and writes the data from the BlobStream to it.

```
procedure Finalize;
```

Description

Finalize creates a Blob on the InterBase server and writes the data from the BlobStream to the Blob and then closes the Blob.

TIBBlobStream.LoadFromFile

TIBBlobStream See also

Loads a Blob from a file to the field.

```
procedure LoadFromFile(Filename: String);
```

Description

Use LoadFromFile to load the contents of a file into a Blob field. Specify the name of the file to load into the field as the value of the FileName parameter.

TIBBlobStream.LoadFromStream

TIBBlobStream See also

Loads a Blob from a stream into the field.

```
procedure LoadFromStream(Stream: TStream);
```

Description

Use LoadFromStream to copy the contents of a stream into the Blob field. Specify the stream from which the field's value is copied as the value of the Stream parameter.

TIBBlobStream.Read

TIBBlobStream See also

Reads up to Count bytes from the current position in the field's data into Buffer.

```
function Read(var Buffer; Count: Longint): Longint;
```

Description

Call Read to read data from the Blob field when the number of bytes in the field's data is not known. Buffer must have at least Count bytes allocated to hold the data that was read from the field.

Read transfers up to Count bytes from the Blob data into Buffer, starting in the current position, and then advances the current position by the number of bytes actually transferred. Read returns the number of bytes actually transferred (which may be less than the number requested in Count.)

Read checks the Transliterate property of the field, and converts the data into ANSI from the character set specified by the dataset if Transliterate is True.

All the other data-reading methods of a Blob stream (ReadBuffer, ReadComponent) call Read to do their actual reading.

Note: Do not call Read when the TIBBlobStream was created in bmWrite mode.

TIBBlobStream.SaveToFile

TIBBlobStream See also

Saves the contents of the Blob field to a file.

```
procedure SaveToFile(FileName: string);
```

Description

Use SaveToFile to save the contents of the Blob field to a file. Specify the name of the file as the value of the FileName parameter.

TIBBlobStream.SaveToStream

TIBBlobStream See also

Saves the contents of the BLOB field to a stream.

```
procedure SaveToStream(Stream: TStream);
```

Description

Use SaveToStream to copy the contents of a Blob field to a stream. Specify the name of the stream to which the field's value is saved as the value of the Stream parameter.

TIBBlobStream.Seek

TIBBlobStream See also

Resets the current position of the TIBBlobStream object.

```
function Seek(Offset: Longint; Origin: Word): Longint;
```

Description

Use Seek to move the current position within the Blob data by the indicated offset. Seek allows an application to read from or write to a particular location within the Blob data.

The Origin parameter indicates how to interpret the Offset parameter. Origin should be one of the following values:

Value	Meaning
soFromBeginning	• Offset is from the beginning of the Blob data • Seek moves to the position Offset • Offset must be >= 0
soFromCurrent	• Offset is from the current position in the Blob data • Seek moves to Position + Offset
soFromEnd	• Offset is from the end of the Blob data • Offset must be <= 0 to indicate a number of bytes before the end of the Blob

Seek returns the new value of the Position property, the new current position in the Blob data.

TIBBlobStream.SetSize

TIBBlobStream See also

Set the new total size of the Blob.

```
procedure SetSize(NewSize: Long);
```

Description

Call SetSize to set the new total size of the Blob.

TIBBlobStream.Truncate

TIBBlobStream See also

Discards all data in the Blob field from the current position on.

```
procedure Truncate;
```

Description

Use Truncate to limit the size of the Blob data. Calling Truncate when the current position is 0 will clear the contents of the Blob field.

Note: Do not call Truncate when the TIBBlobStream was created in bmRead mode.

TIBBlobStream.Write

TIBBlobStream See also

Writes Count bytes from Buffer to the current position in the field and updates the current position by Count bytes.

```
function Write(const Buffer; Count: Longint): Longint;
```

Description

Use Write to write Count bytes to the Blob field, starting at the current position. The Write method for TIBBlobStream always writes the entire Count bytes, as Blob data does not necessarily include a termination character. Thus, Write is equivalent to the WriteBuffer method.

Write checks the Transliterate property of the field, and converts the data from ANSI into the character set of the dataset if Transliterate is True.

All the other data-writing methods of a Blob stream (WriteBuffer, WriteComponent) call Write to do their actual writing.

Note: Do not call Write when the TIBBlobStream was created in bmRead mode.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TStream

TIBCustomDataSet

Hierarchy Properties Methods Events See also

Encapsulates InterBase Express functionality for descendent dataset objects.

Unit

IBCustomDataSet

Description

TIBCustomDataSet is a dataset object that defines InterBase Express (IBX) functionality for a dataset. Applications never use TIBCustomDataSet objects directly. Instead they use the descendants of TIBCustomDataSet, such as TIBDataSet, TIBQuery, TIBStoredProc, and TIBTable, which inherit its dataset-related properties and methods.

TIBCustomDataSet properties

TIBCustomDataSet Alphabetically Legend

In TIBCustomDataSet

- CachedUpdates
- Database
- DBHandle
- Transaction
- TRHandle
- UpdateObject
- UpdateRecordTypes
- UpdatesPending

Derived fromTDataSet

- Active
- AggFields
- AutoCalcFields
- Bof
- Bookmark
- DatasetField
- DataSource
- DefaultFields
- Designer
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Found
- Modified
- Name
- ObjectView
- SparseArrays
- State

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Owner
- Tag
- VCLComObject

TIBCustomDataSet properties

TIBCustomDataSet By object Legend

- Active
- AggFields
- AutoCalcFields
- Bof
- Bookmark
- CachedUpdates
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- Database
- DataSource
- DBHandle
- DefaultFields
- Designer
- DesignInfo
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Found
- Modified
- Name
- ObjectView
- Owner
- SparseArrays
- State
- Tag
- TRHandle
- Transaction
- UpdateObject
- UpdateRecordTypes
- UpdatesPending
- VCLComObject

TIBCustomDataSet.CachedUpdates

TIBCustomDataSet See also

Specifies whether cached updates are enabled for a dataset.

```
property CachedUpdates: Boolean;
```

Description

CachedUpdates enables or disables the use of cached updates for a dataset. If CachedUpdates is True, cached updates are enabled. If CachedUpdates is False, cached updates are disabled.

When cached updates are enabled, updates to a dataset (such as posting changes, inserting new records, or deleting records), are stored in an internal cache on the client machine instead of being written directly to the dataset's underlying database tables. When changes are complete, an application writes all cached changes to the database in the context of a single transaction.

Cached updates are most useful to client applications in two-tiered applications. The main benefits of enabling cached updates are:

- Fewer transactions and shorter transaction times.
- Minimization of network traffic.

The potential drawbacks of enabling cached updates are:

- Other applications can access and change the actual data on the server while users are editing local copies of the data, resulting in an update conflict when cached updates are applied to the database.
- Other applications cannot access data changes made by an application until its cached updates are applied to the database.

Note: Instead of using cached updates, applications can obtain the same benefits with greater control by using a client dataset.

TIBCustomDataSet.Database

TIBCustomDataSet See also

Identifies the database component for which this dataset represents one or more tables.

```
property Database: TIBDatabase;
```

Description

Use Database to access the properties, events, and methods of the database component associated with this dataset.

TIBCustomDataSet.DBHandle

TIBCustomDataSet See also

Specifies the database handle for the dataset.

```
property DBHandle: PISC_DB_HANDLE;
```

Description

Check DBHandle to determine the database handle for the dataset.

TIBCustomDataSet.Transaction

TIBCustomDataSet See also

Identifies the transaction under which the query executes.

```
property Transaction: TIBTransaction;
```

Description

Use Transaction to determine under which transaction the query executes.

TIBCustomDataSet.TRHandle

TIBCustomDataSet See also

Specifies the transaction handle for the dataset.

```
property TRHandle: PISC_TR_HANDLE;
```

Description

Check TRHandle to determine the transaction handle for the dataset.

TIBCustomDataSet.UpdateObject

TIBCustomDataSet See also

Specifies the update object component used to update a read-only result set when cached updates are enabled.

```
property UpdateObject: TIBDataSetUpdateObject;
```

Description

Use UpdateObject to specify the TIBDataSetUpdateObject component to use in an application that must be able to update a read-only result set.

In some cases, such as a query made against multiple tables, a live result set cannot be returned. In these cases, UpdateObject can be used to specify a TIBUpdateSQL component that performs updates as a separate transaction that is transparent to the application.

TIBCustomDataSet.UpdateRecordTypes

TIBCustomDataSet See also Example

Specifies the type of records visible in a dataset when cached updates are enabled.

```
type TIBUpdateRecordTypes = set of (cusModified, cusInserted, cusDeleted,
  cusUnmodified, cusUninserted);
property UpdateRecordTypes: TIBUpdateRecordTypes;
```

Description

Use UpdateRecordTypes to specify the records that are visible in a dataset when cached updates are enabled. UpdateRecordTypes is a set that can have the following values:

Value	Meaning
cusModified	Modified records are visible.
cusInserted	Inserted records are visible.
cusDeleted	Deleted records are visible.
cusUnmodified	Unmodified records are visible.
cusUninserted	Uninserted records are visible.

By default, a dataset is created with an UpdateRecordTypes set of cusModified, cusInserted, or cusUnmodified, meaning that all existing, edited, or inserted records are visible to the user.

An application that must cycle through a dataset to undelete records may change UpdateRecordTypes as part of an undelete method, so that deleted records are “visible” long enough to restore them to their previously undeleted conditions.

Similarly, an application that must cycle through a dataset to uninsert records may change UpdateRecordTypes as part of an uninsert method, so that uninserted records are “visible” long enough to restore them to their previously inserted conditions.

An application might also use UpdateRecordTypes like a filter to temporarily limit visible records to those added or inserted by the user during the current session.

TIBCustomDataSet.UpdatesPending

TIBCustomDataSet See also

Indicates whether the cached updates buffer contains records that are not yet applied.

```
property UpdatesPending: Boolean;
```

Description

Examine UpdatesPending to check the status of the cached updates buffer. If UpdatesPending is True, then there are edited, deleted, or inserted records to apply to the database. If UpdatesPending is False, there are no records in the cache.

TIBCustomDataSet events

TIBCustomDataSet Alphabetically Legend

In TIBCustomDataSet

- OnUpdateError
- OnUpdateRecord

Derived from TDataSet

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnNewRecord
- OnPostError

TIBCustomDataSet events

TIBCustomDataSet By object Legend

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnNewRecord
- OnPostError
- OnUpdateError
- OnUpdateRecord

TIBCustomDataSet.OnUpdateError

TIBCustomDataSet See also

Occurs if an exception is generated when cached updates are applied to a database.

```
type
  TIBUpdateAction = (uaFail, uaAbort, uaSkip, uaRetry, uaApplied, uaApply);
  TIBUpdateErrorEvent = procedure(DataSet: TDataSet; E: EDatabaseError;
  UpdateKind: TUpdateKind; var UpdateAction: TIBUpdateAction)of object;

property OnUpdateError: TIBUpdateErrorEvent;
```

Description

Write an OnUpdateError event handler to respond to exceptions generated when cached updates are applied to a database.

Because there is a delay between the time a record is first cached and the time cached updates are applied, there is a possibility that another application may change one or more of the same records in the database before the cached changes can be applied. DataSet is the name of the dataset to which updates are applied.

E is a pointer to a EDBEngineError object from which an application can extract an error message and the actual cause of the error condition. An OnUpdateError handler can use this information to determine how to respond to the error condition.

UpdateKind indicates whether the error occurred while inserting, deleting, or modifying a record.

UpdateAction indicates the action to take when the OnUpdateError handler exits. On entry into the handler, UpdateAction is always set to uaFail. If OnUpdateError can handle or correct the error, set UpdateAction to uaRetry before exiting the error handler. The following table lists the possible values for UpdateAction and what they indicate:

Value	Meaning
uaAbort	Aborts the update operation without Returning an error message
uaApply	For internal use only
uaApplied	Not used in error handling routines
uaFail	Aborts the update operation and returns an error message
uaRetry	Repeats the update operation that originally raised the error condition
uaSkip	Skips updating the record that raised the error condition, and leaves the unapplied changes in the cache

The error handler can use the TField.OldValue and TField.NewValue properties to evaluate error conditions and set TField.NewValue to a new value to reapply. In this case, set UpdateAction to uaRetry before exiting.

Note: If a call to ApplyUpdates raises an exception and ApplyUpdates is not called within the context of a try..except block, an error message is Returned. If an OnUpdateError handler cannot correct the error condition and leaves UpdateAction set to uaFail, the error message is Returned twice. To prevent reReturn, set UpdateAction to uaAbort in the error handler.

Important: The code in an OnUpdateError handler must not call any methods that make a different record the current one.

TIBCustomDataSet.OnUpdateRecord

TIBCustomDataSet See also

Occurs when cached updates are applied to a record.

```
type
  TIBUpdateAction = (uaFail, uaAbort, uaSkip, uaRetry, uaApply, uaApplied);
  TIBUpdateRecordEvent = procedure(DataSet: TIBDataSet; UpdateKind:
  TUpdateKind; var UpdateAction: TIBUpdateAction) of object;
property OnUpdateRecord: TIBUpdateRecordEvent;
```

Description

Write an OnUpdateRecord event handler to process updates that cannot be handled by a single update component, such as implementation of cascading updates, insertions, or deletions. This handler is also useful for applications that require additional control over parameter substitution in update components.

DataSet is the name of the dataset to which updates are applied.

UpdateKind whether the current update is the insertion of a record, the deletion of a record, or the modification of a record.

UpdateAction indicates the action taken by the OnUpdateRecord handler before it exits. On entry into the handler, UpdateAction is always set to uaFail. If OnUpdateRecord is successful, it should set UpdateAction to uaApplied before exiting. The following table lists the possible values for UpdateAction and what they indicate:

Value	Meaning
uaAbort	Abort the update operation without Returning an error message.
uaApply	For internal use.
uaApplied	Update is applied. Free update record from cache.
uaFail	Aborts the update operation and Returns an error message.
uaRetry	Not used for record updates.
uaSkip	Update is skipped. Leave update record in the cache.

Note: The code in an OnUpdateRecord handler must not call any methods that make a different record the current one.

TIBCustomDataSet methods

TIBCustomDataSet Alphabetically

In TIBCustomDataSet

- ApplyUpdates
- BatchInput
- BatchOutput
- CachedUpdateStatus
- CancelUpdates
- Create
- CreateBlobStream
- Destroy
- FetchAll
- GetCurrentRecord
- GetFieldData
- Locate
- LocateNext
- Lookup
- RecordModified
- RevertRecord
- Undelete
- UpdateStatus

Derived from TDataSet

- ActiveBuffer
- Append
- AppendRecord
- CheckBrowseMode
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- CursorPosChanged
- Delete
- DisableControls
- Edit
- EnableControls
- FieldByName
- FindField
- FindFirst
- FindLast
- FindNext
- FindPrior
- First
- FreeBookmark
- GetBookmark

GetDetailDataSets
GetDetailLinkFields
GetFieldList
GetFieldNames
GetProviderAttributes
GotoBookmark
Insert
InsertRecord
IsEmpty
IsLinkedTo
Last
MoveBy
Next
Open
Post
Prior
Refresh
Resync
SetFields
Translate
UpdateCursorPos
UpdateRecord

Derived from TComponent

DestroyComponents
Destroying
ExecuteAction
FindComponent
FreeNotification
FreeOnRelease
GetNamePath
GetParentComponent
HasParent
InsertComponent
RemoveComponent
SafeCallException
UpdateAction

Derived from TPersistent

Assign

Derived from TObject

AfterConstruction
BeforeDestruction
ClassInfo
ClassName
ClassNameIs

ClassParent
ClassType
CleanupInstance
DefaultHandler
Dispatch
FieldAddress
Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBCustomDataSet methods

TIBCustomDataSet By object

- ActiveBuffer
- AfterConstruction
- Append
- AppendRecord
- ApplyUpdates
- Assign
- BatchInput
- BatchOutput
- BeforeDestruction
- CachedUpdateStatus
- CancelUpdates
- CheckBrowseMode
- CheckNotUniDirectional
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- Create
- CreateBlobStream
- CursorPosChanged
- DefaultHandler
- Delete
- Destroy
- DestroyComponents
- Destroying
- DisableControls
- Dispatch
- Edit
- EnableControls
- ExecuteAction
- FetchAll
- FieldAddress
- FieldByName
- FindComponent
- FindField
- FindFirst

FindLast
FindNext
FindPrior
First
Free
FreeBookmark
FreeInstance
FreeNotification
FreeOnRelease
GetBookmark
GetCurrentRecord
GetDetailDataSets
GetDetailLinkFields
GetFieldData
GetFieldList
GetFieldNames
GetInterface
GetInterfaceEntry
GetInterfaceTable
GetNamePath
GetParentComponent
GetProviderAttributes
GotoBookmark
HasParent
InheritsFrom
InitInstance
Insert
InsertComponent
InsertRecord
InstanceSize
IsEmpty
IsLinkedTo
Last
Locate
LocateNext
Lookup
MethodAddress
MethodName
MoveBy
NewInstance
Next
Open
Post
Prior
RecordModified

Refresh
RemoveComponent
Resync
RevertRecord
SafeCallException
SetFields
Translate
Undelete
UpdateAction
UpdateCursorPos
UpdateRecord
UpdateStatus

TIBCustomDataSet.ApplyUpdates

TIBCustomDataSet See also

Writes a dataset's pending cached updates to the database.

```
procedure ApplyUpdates;
```

Description

Call ApplyUpdates to write a dataset's pending cached updates to a database. This method passes cached data to the database for storage, but the changes are not committed to the database. An application must explicitly call the TIBTransaction component's Commit method to commit the changes to the database if the write is successful, or call the TIBTransaction component's Rollback method to undo the changes if there is an error.

Note: The preferred method for updating datasets is to call a database component's ApplyUpdates method rather than to call each individual dataset's ApplyUpdates method. The application is responsible for committing or rolling back the transaction.

TIBCustomDataSet.BatchInput

TIBCustomDataSet See also

Executes the parameterized query in SQL for input in the referenced input object.

```
procedure BatchInput(InputObject: TIBBatchInput);
```

Description

Call BatchInput to execute the parameterized query in SQL for input in the referenced input object.

TIBCustomDataSet.BatchOutput

TIBCustomDataSet See also

Outputs the selected query in SQL to the referenced OutputObject.

```
procedure BatchOutput(OutputObject: TIBBatchOutput);
```

Description

Call BatchOutput to output the selected query in SQL to the referenced OutputObject.

TIBCustomDataSet.CachedUpdateStatus

TIBCustomDataSet See also

Returns the status of the cached updates.

```
type TCachedUpdateStatus = (cusUnmodified, cusModified, cusInserted,
  cusDeleted, cusUninserted);
function CachedUpdateStatus: TCachedUpdateStatus;
```

Description

Call CachedUpdateStatus to return the cached update status of the current record in the dataset. TCachedUpdateStatus can be one of the following:

cusDeleted	Record will be deleted
cusInserted	Record will be inserted
cusModified	Record will be modified
cusUninserted	Record was inserted and then deleted
cusUnmodified	Record was not modified

TIBCustomDataSet.CancelUpdates

TIBCustomDataSet See also

Clears all pending cached updates from the cache.

```
procedure CancelUpdates;
```

Description

Call CancelUpdates to clear all pending cached updates from the cache.

When a dataset is closed, or the CachedUpdates property is set to False, CancelUpdates is called automatically.

Note: To undo changes to a single record, call RevertRecord.

TIBCustomDataSet.Create

TIBCustomDataSet See also

Creates an instance of a TDataSet component.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to instantiate a dataset component at runtime. Ordinarily applications instantiate dataset descendants, such as TIBTable, TIBQuery, TIBDataSet, or TIBStoredProc, rather than TIBCustomDataSet. These instantiated objects are handled automatically.

On the other hand, applications that create specialized dataset components, such as custom components, may need to instantiate a TIBCustomDataSet component by calling Create. Create:

- Calls the inherited Create for TDataSet.
- Creates the five query objects.
- Creates the base object to hold the reference to the database and transaction.
- Associates database and transaction related events to the base object component.

TIBCustomDataSet.CreateBlobStream

TIBCustomDataSet See also Example

Returns a TBlobStream object for reading or writing the data in a specified blob field.

```
type TBlobStreamMode = (bmRead, bmWrite, bmReadWrite);
function CreateBlobStream(Field: TField; Mode: TBlobStreamMode): TStream;
```

Description

Call CreateBlobStream to obtain a stream for reading data from or writing data to a binary large object (BLOB) field. The Field parameter must specify a TBlobField component from the Fields property array. The Mode parameter specifies whether the stream will be used for reading, writing, or updating the contents of the field.

TIBCustomDataSet.Destroy

TIBCustomDataSet See also

Destroys the instance of a dataset component.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Usually destruction of datasets is handled automatically by Delphi. If an application creates its own instances of a dataset, however, the application should call Free, which verifies that the dataset component is not already freed before calling Destroy.

Destroy performs the following tasks:

- Frees the associated query objects.
- Frees the base object.
- Frees the associated internal resources.

TIBCustomDataSet.FetchAll

TIBCustomDataSet See also

Retrieves all records from the current cursor position to the end of the file and stores them locally.

```
procedure FetchAll;
```

Description

Call FetchAll to reduce network traffic when using cached updates. FetchAll calls CheckBrowseMode to post any pending changes, and then retrieves all records from the current cursor position to the end of the file, and stores them locally. Ordinarily when cached updates are enabled, a transaction retrieves only as much data as it needs for return purposes.

Note: Using FetchAll is not always appropriate. For example, when an application accesses a database used by many simultaneous clients and there is a high degree of contention for updating the same records, fetching all records at once may not be advantageous because some fetched records may be changed by other applications. Always weigh the advantages of reduced network traffic against the need for reduced record contention.

TIBCustomDataSet.GetCurrentRecord

TIBCustomDataSet See also

Retrieves the current record into a buffer.

```
function GetCurrentRecord(Buffer: PChar): Boolean;
```

Description

Most applications should not need to call GetCurrentRecord. TDataSet automatically allocates a buffer for the active record.

Call GetCurrentRecord to copy the current record into a buffer allocated by the application. Buffer must be at least as big as the record size indicated by the RecordSize property.

TIBCustomDataSet.GetFieldData

TIBCustomDataSet See also

Reads the field data into a buffer.

```
function GetFieldData(FieldNo: Integer; Buffer: Pointer): Boolean;
function GetFieldData(Field: TField; Buffer: Pointer): Boolean;
```

Description

GetFieldData reads field data from a field of a dataset specified by Field or FieldNo into a Buffer. Returns the size of the Buffer.

TIBCustomDataSet.Locate

TIBCustomDataSet See also

Searches the dataset for a specified record and makes that record the current record.

```
function Locate(const KeyFields: string; const KeyValues: Variant; Options:
  TLocateOptions): Boolean;
```

Description

Call Locate to search a dataset for a specific record and position the cursor on it.

KeyFields is a string containing a semicolon-delimited list of field names on which to search.

KeyValues is a variant that specifies the values to match in the key fields. If KeyFields lists a single field, KeyValues specifies the value for that field on the desired record. To specify multiple search values, pass a variant array as KeyValues, or construct a variant array on the fly using the VarArrayOf routine. For example:

```
with CustTable do
Locate('Company;Contact;Phone', VarArrayOf(['Sight Diver', 'P', '408-431-
  1000']), [loPartialKey]);
```

Options is a set that optionally specifies additional search latitude when searching on string fields. If Options contains the loCaseInsensitive setting, then Locate ignores case when matching fields. If Options contains the loPartialKey setting, then Locate allows partial-string matching on strings in KeyValues. If Options is an empty set, or if KeyFields does not include any string fields, Options is ignored.

Locate returns True if it finds a matching record, and makes that record the current one. Otherwise Locate returns False.

Locate uses the fastest possible method to locate matching records. If the search fields in KeyFields are indexed and the index is compatible with the specified search options, Locate uses the index. Otherwise Locate creates a filter for the search.

TIBCustomDataSet.LocateNext

TIBCustomDataSet See also

Searches the dataset for the record after a specified record and makes that record the current record.

```
function LocateNext(const KeyFields: string; const KeyValues: Variant;
  Options: TLocateOptions): Boolean
```

Description

Call LocateNext to search a dataset for a record after the current cursor position

KeyFields is a string containing a semicolon-delimited list of field names on which to search.

KeyValues is a variant that specifies the values to match in the key fields. If KeyFields lists a single field, KeyValues specifies the value for that field on the desired record. To specify multiple search values, pass a variant array as KeyValues, or construct a variant array on the fly using the VarArrayOf routine.

Options is a set that optionally specifies additional search latitude when searching on string fields. If Options contains the loCaseInsensitive setting, then LocateNext ignores case when matching fields. If Options contains the loPartialKey setting, then LocateNext allows partial-string matching on strings in KeyValues. If Options is an empty set, or if KeyFields does not include any string fields, Options is ignored.

LocateNext returns True if it finds a matching record, and makes that record the current one. Otherwise LocateNext returns False.

LocateNext uses the fastest possible method to locate matching records. If the search fields in KeyFields are indexed and the index is compatible with the specified search options, LocateNext uses the index. Otherwise LocateNext creates a filter for the search.

TIBCustomDataSet.Lookup

TIBCustomDataSet See also

Retrieves field values from a record that matches specified search values.

```
function Lookup(const KeyFields: string; const KeyValues: Variant; const
  ResultFields: string): Variant;
```

Description

Call Lookup to retrieve values for specified fields from a record that matches search criteria. KeyFields is a string containing a semicolon-delimited list of field names on which to search.

KeyValues is a variant array containing the values to match in the key fields. To specify multiple search values, pass KeyValues as a variant array as an argument, or construct a variant array on the fly using the VarArrayOf routine.

ResultFields is a string containing a semicolon-delimited list of field names whose values should be returned from the matching record.

Lookup returns a variant array containing the values from the fields specified in ResultFields.

Lookup uses the fastest possible method to locate matching records. If the search fields in KeyFields are indexed, Lookup uses the index. Otherwise Lookup creates a filter for the search.

TIBCustomDataSet.RecordModified

TIBCustomDataSet See also

Sets the record to modified or unmodified.

```
procedure RecordModified(Value: Boolean);
```

Description

Call RecordModified to mark a record as modified or unmodified.

Note: This method is for internal use.

TIBCustomDataSet.RevertRecord

TIBCustomDataSet See also Example

Restores the current record in the dataset to an unmodified state when cached updates are enabled.

```
procedure RevertRecord;
```

Description

Call RevertRecord to undo changes made to the current record when cached updates are enabled.

Note: To undo all changes to all pending updates in the cache, call CancelUpdates.

TIBCustomDataSet.Undelete

TIBCustomDataSet See also

Restores a record deleted from the dataset.

```
procedure Undelete;
```

Description

Call Undelete to restore a record deleted or uninserted from the dataset.

TIBCustomDataSet.UpdateStatus

TIBCustomDataSet See also

Reports the update status for the current record.

```
type TUpdateStatus = (usUnmodified, usModified, usInserted, usDeleted);
function UpdateStatus: TUpdateStatus;
```

Description

Call UpdateStatus to determine the update status for the current record when cached updates are enabled. Update status can change frequently as records are edited, inserted, or deleted. UpdateStatus offers a convenient method for applications to assess the current status before undertaking or completing operations that depend on the update status of records.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TDataSet

TIBDatabase

Hierarchy Properties Methods Events See also

TIBDatabase encapsulates an InterBase database connection.

Unit

IBDatabase

Description

Use TIBDatabase to encapsulate an InterBase database connection. All TIBCustomDataSet descendants and TIBSQL use the TIBDatabase component to gain access to databases.

TIBDatabase properties

TIBDatabase Alphabetically Legend

In TIBDatabase

- DatabaseName
- DBParamByDPB
- DBSQLDialect
- DefaultTransaction
- Handle
- HandleIsShared
- IdleTimer
- IsReadOnly
- Params
- SQLDialect
- SQLObjectCount
- SQLObjects
- TraceFlags
- TransactionCount
- Transactions

Derived from TCustomConnection

- Connected
- DataSetCount
- DataSets
- LoginPrompt

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBDatabase properties

TIBDatabase By object Legend

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- Connected
- DatabaseName
- DataSetCount
- DataSets
- DBParamByDPB
- DBSQLDialect
- DefaultTransaction
- DesignInfo
- Handle
- HandleIsShared
- IdleTimer
- IsReadOnly
- LoginPrompt
- Name
- Owner
- Params
- SQLDialect
- SQLObjectCount
- SQLObjects
- Tag
- TraceFlags
- TransactionCount
- Transactions
- VCLComObject

TIBDatabase.DatabaseName

TIBDatabase See also

Specifies the name of the database to associate with this database component.

```
property DatabaseName: String;
```

Description

Use DatabaseName to specify the name of the database to use with a database component. For local InterBase databases, this can be a filename.

To connect to an InterBase database on a remote server using TCP/IP the syntax is <server_name>:<filename>.

To connect to an InterBase database on a remote server using NetBEUI, the syntax is: \ \<server_name>\<filename>.

To connect to an InterBase database on a remote server using SPX, the syntax is: <server_name>@<filename>.

TIBDatabase.DBParamByDPB

TIBDatabase See also

Specifies the name of the database to associate with this database component.

```
property DBParamByDPB: [const Idx: Integer]: String;
```

Description

Use DBParamByDPB to inspect and set DPB parameters without looking at the Params string list.

For example,

```
DBParamByDPB[isc_dpb_user_name]
```

can be used to set and inspect the user name.

TIBDatabase.DBSQLDialect

TIBDatabase See also

Returns the database SQL dialect.

```
property DBSQLDialect: Integer;
```

Description

Use DBSQLDialect to get the database SQL dialect.

TIBDatabase.DefaultTransaction

TIBDatabase See also

Sets or returns the default database transaction.

```
property DefaultTransaction: TIBTransaction;
```

Description

Use DefaultTransaction to set or return the default database transaction.

A single database connection can manage one or more transactions. DefaultTransaction is a convenient way to specify a default transaction to a database connection.

TIBDatabase.Handle

TIBDatabase See also

Specifies the InterBase API database handle.

```
property Handle: TISC_DB_Handle;
```

Description

Use Handle to make calls directly to the InterBase API. Many of the InterBase API functions require a database handle as one of their arguments. Handle is assigned an initial value when a database is opened.

TIBDatabase.HandleIsShared

TIBDatabase See also

Indicates whether or not a the handle is shared.

```
property HandleIsShared: Boolean;
```

Description

Read HandleIsShared to determine if the handle to the database is shared.

TIBDatabase.IdleTimer

TIBDatabase See also

Specifies how long the database should wait before disconnecting an idle connection.

```
property IdleTimer: Integer;
```

Description

Use IdleTimer to indicate how long the database should wait before automatically terminating the connection.

TIBDatabase.IsReadOnly

TIBDatabase See also

Indicates whether or not the database is set to read-only.

```
property IsReadOnly: Boolean;
```

Description

Read IsReadOnly to determine if the database is read-only.

Note: Read-only databases are an InterBase 6 feature.

TIBDatabase.Params

TIBDatabase See also

Specifies the database parameters to pass to the InterBase server.

```
property Params: TStrings;
```

Description

Use Params to specify the database parameters to pass to the InterBase server.

Database parameters are passed to the server as text in order to establish the connection. For example:

```
user_name=sysdba
password=masterkey
sql_role_name=finance
lc_ctype=WIN1252
```

For more information on character sets, refer to “Character Sets and Collation Orders” in the InterBase Language Reference.

For other information, refer to the InterBase API Guide.

TIBDatabase.SQLDialect

TIBDatabase See also

Sets or returns the SQL dialect used by the client.

```
property SQLDialect: Integer;
```

Description

Use the SQLDialect property to set or return the SQL dialect used by the client. If the connection is active, the SQLDialect property cannot be set to a value greater than the database SQL dialect. If the connection is inactive, then on connect an OnDialectDownGradeWarning event may be fired if the SQLDialect is greater than the database SQL dialect. In such a case, the SQLDialect property will be downgraded to match the database SQL dialect.

TIBDatabase.SQLObjectCount

TIBDatabase See also

Returns the number of SQL objects.

```
property SQLObjectCount: Integer;
```

Description

Use the SQLObjectCount property to return the number of SQL objects in the database.

SQL objects are usually defined as InterBase datasets, IBSQL, and Blobs.

TIBDatabase.SQLObjects

TIBDatabase See also

Returns an SQL object.

```
property SQLObjects[Index: Integer]: TIBBase;
```

Description

Use the SQLObjects property to return an SQL object based on its numeric index.

SQL objects are usually defined as InterBase datasets, IBSQL, and Blobs.

TIBDatabase.TraceFlags

TIBDatabase See also

Specifies the database operations to track with the SQL Monitor at runtime.

```
type
TTraceFlag = (tfQPrepare, tfQExecute, tfQFetch, tfError, tfStmt, tfConnect,
  tfTransact, tfBlob, tfService, tfMisc);
TTraceFlags = set of TTraceFlag;
property TraceFlags: TTraceFlags;
```

Description

Use TraceFlags to specify which database operations the SQL Monitor should track in an application at runtime. TraceFlags is only meaningful for the SQL Monitor, which is provided to enable performance tuning and SQL debugging when working with remote SQL database servers.

Note: Normally trace options are set from the SQL Monitor rather than setting TraceFlags in application code.

The value of a session component's TraceFlags property determines the initial settings of the TraceFlags property for database components associated with the session.

The TTraceFlags type defines the individual values that can be included in the TraceFlags property. The following table summarizes those values:

tfQPrepare	Monitor Prepare statements.
tfQExecute	Monitor ExecSQL statements.
tfQFetch	Monitor Fetch statements.
tfError	Monitor server error messages. Such messages may include an error code.
tfStmt	Monitor all SQL statements.
tfConnect	Monitor database connect and disconnect operations, including allocation of connection handles, and freeing connection handles.
tfTransact	Monitor transaction statements, such as StartTransaction, Commit, and Rollback.
tfBlob	Monitor operations on blob data types.
tfService	Monitor services.
tfMisc	Monitor any statements not covered by other flag options.

Because TraceFlags is a set property, an application can specify different combinations of flags to monitor different combinations of statements. For example, the following statement limits monitoring to database connections and SQL statement preparation:`TraceFlags := [tfConnect, tfQPrepare];`

TIBDatabase.TransactionCount

TIBDatabase See also

Returns the number of transactions associated with the TIBDatabase component.

```
property TransactionCount: Integer;
```

Description

Use TransactionCount to return how many transactions are currently associated with the InterBase database component.

TIBDatabase.Transactions

TIBDatabase See also

Specifies a transaction for the given index.

```
property Transactions [Index: Integer]: TIBTransaction;
```

Description

Given an integer index, Transactions returns the transaction at the given index. This is used internally for broadcasting important messages to attached components.

TIBDatabase events

In TIBDatabase

- OnDialectDowngradeWarning
- OnIdleTimer
- OnLogin

Derived from TCustomConnection

- AfterConnect
- AfterDisconnect
- BeforeConnect
- BeforeDisconnect

TIBDatabase events

TIBDatabase By object Legend

- AfterConnect
- AfterDisconnect
- BeforeConnect
- BeforeDisconnect
- OnDialectDowngradeWarning
- OnIdleTimer
- OnLogin

TIBDatabase.OnDialectDowngradeWarning

TIBDatabase See also

Occurs after the SQL dialect of the client connection is downgraded.

```
property OnDialectDowngradeWarning: TNotifyEvent;
```

Description

Write an OnDialectDowngradeWarning event handler to take specific actions when the SQL dialect is downgraded.

For example, if the SQL dialect for your application is set to 3 and then a connection is made to a dialect 1 database, then the SQL dialect is downgraded to 1 and a OnDialectDowngradeWarning event is fired.

TIBDatabase.OnIdleTimer

TIBDatabase See also

Occurs after a database connection times out.

```
property OnIdleTimer: TNotifyEvent;
```

Description

Write an OnIdleTimer event handler to take specific actions when the connection times out in the time specified by IdleTimer.

TIBDatabase.OnLogin

TIBDatabase See also

Occurs when an application connects to a database.

```
TDatabaseLoginEvent = procedure(Database: TIBDatabase; LoginParams:
  TStrings) of object;
property OnLogin: TDatabaseLoginEvent;
```

Description

Write an OnLogin event handler to take specific actions when an application attempts to connect to a database. By default, a database login is required. The current USER_NAME is read from the Params property, and a standard Login dialog box opens. The dialog prompts for a user name and password combination, and then uses the values entered by the user to set the USER_NAME and PASSWORD values in the Params property. These values are then passed to the remote server.

Applications that provide alternative OnLogin event handlers must set the USER_NAME and PASSWORD values in LoginParams. LoginParams is a temporary string list and is freed automatically when no longer needed.

TIBDatabase methods

TIBDatabase Alphabetically

In TIBDatabase

- AddTransaction
- ApplyUpdates
- Call
- CheckActive
- CheckDatabaseName
- CheckInactive
- CloseDataSets
- Create
- CreateDatabase
- Destroy
- DropDatabase
- FindTransaction
- ForceClose
- GetFieldNames
- GetTableNames
- IndexOfDBConst
- RemoveTransaction
- RemoveTransactions
- SetHandle
- TestConnected

Derived from TCustomConnection

- AddDataSet
- Close
- DoConnect
- DoDisconnect
- GetConnectedt
- GetDataSet
- GetDataSetCount
- Loaded
- Open
- RemoveDataSet
- SendConnectEvent
- SetConnected

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath

GetParentComponent
HasParent
InsertComponent
RemoveComponent
SafeCallException
UpdateAction

Derived from TPersistent

Assign

Derived from TObject

AfterConstruction
BeforeDestruction
ClassInfo
ClassName
ClassNameIs
ClassParent
ClassType
CleanupInstance
DefaultHandler
Dispatch
FieldAddress
Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBDatabase methods

TIBDatabase By object

- AddDataSet
- AddTransaction
- AfterConstruction
- ApplyUpdates
- Assign
- BeforeDestruction
- Call
- CheckActive
- CheckDatabaseName
- CheckInactive
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Close
- CloseDataSets
- Create
- CreateDatabase
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- DoConnect
- DoDisconnect
- DropDatabase
- ExecuteAction
- FieldAddress
- FindComponent
- FindTransaction
- ForceClose
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetConnectedt
- GetDataSet
- GetDataSetCount
- GetFieldNames
- GetInterface

GetInterfaceEntry
GetInterfaceTable
GetNamePath
GetParentComponent
GetTableNames
HasParent
IndexOfDBConst
InheritsFrom
InitInstance
InsertComponent
InstanceSize
Loaded
Open
RemoveDataSet
SendConnectEvent
SetConnected
MethodAddress
MethodName
NewInstance
Open
RemoveComponent
RemoveDataSet
RemoveTransaction
RemoveTransactions
SafeCallException
SendConnectEvent
SetConnected
SetHandle
TestConnected
UpdateAction

TIBDatabase.AddTransaction

TIBDatabase See also

Adds an association between the transaction component and the database component.

```
function AddTransaction(TR: TIBTransaction): Integer;
```

Description

Call AddTransaction to add an association between the transaction component and the database component.

TIBDatabase.ApplyUpdates

TIBDatabase See also

Posts pending cached updates for specified datasets to the database server.

```
procedure ApplyUpdates(const DataSets: array of TIBCustomDataSet);
```

Description

Call ApplyUpdates to post pending cached updates for a specific set of open datasets to the database server. ApplyUpdates is only meaningful if the CachedUpdates property of a specified dataset is True.

DataSets is a list of dataset names specifying the datasets for which to post pending updates. DataSets need not list every currently open dataset. For each listed dataset ApplyUpdates calls the dataset's ApplyUpdates and CommitUpdates methods to post that dataset's pending cached updates.

TIBDatabase.Call

TIBDatabase See also

Returns an error message based on the error code.

```
function Call (ErrCode: ISC_STATUS; RaiseError: Boolean): ISC_STATUS;
```

Description

Call is an internal method used to make calls to the InterBase API, and gives you the option of raising an exception or returning an error based on the value of RaiseError.

TIBDatabase.CheckActive

TIBDatabase See also

Checks to see if the database connection is active.

```
procedure CheckActive;
```

Description

Call CheckActive to return an error if the connection to a database server is inactive.

TIBDatabase.CheckDatabaseName

TIBDatabase See also

Checks to see if the DatabaseName property is not empty.

```
procedure CheckDatabaseName;
```

Description

Call CheckDatabaseName to check if the DatabaseName property is empty, and to return an error if it is.

TIBDatabase.CheckInactive

TIBDatabase See also

Checks to see if the database connection is inactive.

```
procedure CheckInactive;
```

Description

Call CheckInactive to return an error if the connection to a database server is active.

TIBDatabase.CloseDataSets

TIBDatabase See also

Closes all datasets associated with the database component without disconnecting from the database server.

```
procedure CloseDataSets;
```

Description

Call CloseDataSets to close all active datasets without disconnecting from the database server. Ordinarily, when an application calls Close, all datasets are closed, and the connection to the database server is dropped. Calling CloseDataSets instead of Close ensures that an application can close all active datasets without having to reconnect to the database server at a later time.

TIBDatabase.Create

TIBDatabase See also

Creates an instance of a TIBDatabase component.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to instantiate a database component at runtime. An application can create a database component in order to control the component's existence and set its properties and events.

Create instantiates a database component and creates an empty list of dataset components for the DataSets property and an empty string list for the Params property.

TIBDatabase.CreateDatabase

TIBDatabase See also

Creates a database using Params.

```
procedure CreateDatabase;
```

Description

Call CreateDatabase to create a database using Params as the rest of the `CREATE DATABASE` command.

For example, if you wanted to create a local InterBase database, you could do the following:

1. Set the database name to the drive, path, and filename of the database file.
1. Set Params to the parameter for the CREATE DATABASE statement:

```
USER “SYSDBA”
0 PASSWORD “MASTERKEY”
1 PAGE_SIZE 4096
```

1. Set the SQLDialect value.
1. Call the CreateDatabase method.

TIBDatabase.Destroy

TIBDatabase See also

Destroys the instance of the database component.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call Free, which verifies that the database component is not already freed before calling Destroy.

Destroy disconnects from the database server, if necessary. It then frees the string resources allocated for the Params and DataSets properties before calling its inherited destructor.

TIBDatabase.DropDatabase

TIBDatabase See also

Drops a database.

```
procedure DropDatabase;
```

Description

Call DropDatabase to drop a database, which removes the database file from the server.

TIBDatabase.FindTransaction

TIBDatabase See also

Finds the index of a transaction.

```
function FindTransaction (TR: TIBTransaction): Integer;
```

Description

Call FindTransaction to find the index of a specified transaction.

TIBDatabase.ForceClose

TIBDatabase See also

Forces the database connection to close.

```
procedure ForceClose;
```

Description

Use ForceClose to force the database connection to close.

Note: Forcing a database to close attempts to close the connection to the server. Even if the call fails, the database handle is reset to nil.

TIBDatabase.GetFieldNames

TIBDatabase See also

Populates a list with the names of the fields in the table.

```
procedure GetFieldNames(const TableName: string; List: TStrings);
```

Description

Call GetFieldNames to retrieve a list of fields in the associated table.

TIBDatabase.GetTableNames

TIBDatabase See also

Populates a string list with the names of tables in the database.

```
procedure GetTableNames(List: TStrings; SystemTables: Boolean = False);
```

Description

Call GetTableNames to retrieve a list of tables in the associated database.

List is the already-existing string list object into which the tables names are put.

Set SystemTables to indicate whether the list of table names should include the database's system tables.

```
IBDatabase1.GetTableNames(ListBox2.Items, False);
```

Note: Any contents already in the target string list object are eliminated and overwritten by the data produced by GetTableNames.

TIBDatabase.IndexOfDBConst

TIBDatabase See also

Searches for the named parameter in the database parameters list.

```
function IndexOfDBConst(st: String): Integer;
```

Description

Use IndexOfDBConst to locate a parameter in the database parameters list. IndexOfDBConst returns –1 if the parameter is not found.

TIBDatabase.RemoveTransaction

TIBDatabase See also

Disassociates a transaction from the database.

```
procedure RemoveTransaction(Idx: Integer);
```

Description

Call RemoveTransaction to disassociate a specified transaction from the database.

TIBDatabase.RemoveTransactions

TIBDatabase See also

Disassociates all transactions from the database.

```
procedure RemoveTransactions;
```

Description

Call RemoveTransactions to disassociate all transactions from the database.

TIBDatabase.SetHandle

TIBDatabase See also

Sets the handle for the database.

```
procedure SetHandle;
```

Description

Call SetHandle to set the handle for the database.

TIBDatabase.TestConnected

TIBDatabase See also

Tests whether a database is connected.

```
procedure TestConnected: Boolean;
```

Description

Use TestConnected to determine whether a database is connected to the server. TestConnected returns True if the connection is good, and False if it is not.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TCustomConnection

TIBDataLink

Hierarchy Properties Methods See also

TIBDataLink is a helper class used by data-aware objects to coordinate the actions of TIBDataSet and to respond to data events.

Unit

IBCustomDataSet

Description

Use TIBDataLink or one of its descendants in any data-aware object that implements a DataSource property to represent its link to a dataset or that needs to respond to data events.

The constructor of the data-aware object should call the constructor of TIBDataLink, and initialize any relevant properties. The data-aware object can then link to a TDataSource by using the DataSource property of the TIBDataLink.

Data-aware objects that link to a single field in a dataset should use a TFieldDataLink instead.

TIBDataLink properties

TIBDataLink Alphabetically Legend

Derived from TDetailDataLink

- DetailDataSet

Derived from TDataLink

- Active
- ActiveRecord
- BufferCount
- DataSet
- DataSource
- DataSourceFixed
- Editing
- ReadOnly
- RecordCount

TIBDataLink properties

TIBDataLink By object Legend

- Active
- ActiveRecord
- BufferCount
- DataSet
- DataSource
- DataSourceFixed
- DetailDataSet
- Editing
- ReadOnly
- RecordCount

TIBDataLink methods

TIBDataLink Alphabetically Legend

In TIBDataLink

- ActiveChanged
- CheckBrowseMode
- Create
- Destroy
- GetDetailDataSet
- RecordChanged

Derived from TDataLink

- Edit
- ExecuteAction
- UpdateAction
- UpdateRecord

Derived from TPersistent

- Assign
- GetNamePath

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBDataLink methods

TIBDataLink | By object | Legend

- ActiveChanged
- AfterConstruction
- Assign
- BeforeDestruction
- CheckBrowseMode
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- Dispatch
- Edit
- ExecuteAction
- FieldAddress
- Free
- FreeInstance
- GetDetailDataSet
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- RecordChanged
- SafeCallException
- UpdateAction
- UpdateRecord

TIBDataLink.ActiveChanged

TIBDataLink See also

Responds to changes in the Active property.

```
procedure ActiveChanged;
```

Description

The ActiveChanged method defined by TIBDataLink merely provides an interface for a method that can respond to changes in the Active property. Derived objects that do not need to respond to such changes can allow the inherited method to ignore them.

TIBDataLink.CheckBrowseMode

TIBDataLink See also

Indicates the dataset browse mode.

```
procedure CheckBrowseMode;
```

Description

Call CheckBrowseMode to indicate the dataset browse mode.

TIBDataLink.Create

TIBDataLink See also

Creates an instance of TIBDataLink.

```
constructor Create(ADataSet: TIBCustomDataSet);
```

Description

Create is called from the constructor of any data-aware object that uses a TIBDataLink to implement its DataSource property.

After calling the inherited constructor, Create initializes the BufferCount property to 1. Data-aware objects that use a TIBDataLink object to manage their link to a DataSource should change the BufferCount property to the number or records they represent, after calling the inherited constructor.

TIBDataLink.Destroy

TIBDataLink See also

Destroys an instance of TIBDataLink.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call the Free method. Free verifies that the TIBDataLink object is not already freed and only then calls Destroy.

Before calling the inherited destructor, Destroy removes any reference to the TIBDataLink from the data source object.

The TIBDataLink object should be destroyed in the destructor of its Owner, where that Owner calls Create from its constructor.

TIBDataLink.GetDetailDataSet

TIBDataLink See also

Returns dataset details.

```
function GetDetailDataSet: TDataSet;
```

Description

Call GetDetailDataSet to return details of the dataset.

TIBDataLink.RecordChanged

TIBDataLink See also

Indicates whether a record has changed.

```
procedure RecordChanged(Field: TField);
```

Description

The RecordChanged method defined by TIBDataLink merely provides an interface for a method that can respond to changes to the contents of the current record. RecordChanged is called after changes have been posted to the current record in the dataset.

The Field parameter indicates which field of the current record has changed in value. If Field is nil, any number of fields within the current record may have changed.

Derived objects that do not need to respond to such changes can allow the inherited method to ignore them.

Scope

- Published

Accessibility

- Read-only

Scope

- Protected

Hierarchy

TObject

TPersistent

TDataLink

TDetailDataLink

TIBDataSet

Hierarchy Properties Methods Events See also

TIBDataSet executes InterBase SQL statements.

Unit

IBCustomDataSet

Description

Use TIBDataSet to execute InterBase SQL statements. TIBDataSet is primarily intended for use with SQL SELECT statements. TIBDataSet buffers the result set, making it completely scrollable. Since TIBDataSet is a descendant of TDataSet, it works well with all data-aware components.

TIBDataSet properties

TIBDataSet Alphabetically Legend

In TIBDataSet

- BufferChunks
- DeleteSQL
- InsertSQL
- ModifySQL
- Params
- Prepared
- QDelete
- QInsert
- QModify
- QRefresh
- QSelect
- RefreshSQL
- SelectSQL
- StatementType

Derived from TIBCustomDataSet

- Database
- DBHandle
- Transaction
- TRHandle
- UpdateObject
- UpdateRecordTypes
- UpdatesPending

Derived fromTDataSet

- Active
- AggFields
- AutoCalcFields
- Bof
- Bookmark
- CachedUpdates
- DatasetField
- DataSource
- DefaultFields
- Designer
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Found
- Modified
- ObjectView
- RecordCount
- SparseArrays
- State

Derived from TComponent

- ComObject
- ComponentCount

- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBDataSet properties

TIBDataSet By object Legend

- Active
- AggFields
- AutoCalcFields
- Bof
- Bookmark
- BufferChunks
- CachedUpdates
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- Database
- DatasetField
- DataSource
- DBHandle
- DefaultFields
- DeleteSQL
- Designer
- DesignInfo
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Found
- InsertSQL
- Modified
- ModifySQL
- Name
- ObjectView
- Owner
- Params
- Prepared
- QDelete
- QInsert
- QModify
- QRefresh
- QSelect
- RecordCount
- RefreshSQL
- SelectSQL
- SparseArrays
- Statet
- StatementType
- Tag
- Transaction
- TRHandle

- UpdateObject
- UpdateRecordTypes
- UpdatesPending

VCLComObject

TIBDataSet.BufferChunks

TIBDataSet

Sets or returns the dataset buffer chunk size.

```
property BufferChunks: Integer;
```

Description

Use BufferChunks to set or return the dataset buffer chunk size as the number of records in the chunk.

TIBDataSet.DeleteSQL

TIBDataSet See also

Holds the SQL statement used to delete rows from the dataset.

```
property DeleteSQL: TStrings;
```

Description

Use DeleteSQL to delete rows in the dataset.

TIBDataSet.InsertSQL

TIBDataSet See also

Holds the SQL statement used to insert rows into the dataset.

```
property InsertSQL: TStrings;
```

Description

Use InsertSQL to insert rows into the dataset.

TIBDataSet.ModifySQL

TIBDataSet See also

Provides the ability to access the SQL object encapsulating the ModifySQL statement.

```
property ModifySQL: TStrings;
```

Description

Use ModifySQL to access the SQL object that encapsulates the ModifySQL statement.

TIBDataSet.Params

TIBDataSet See also

Provides the ability to specify values for a parameterized query.

```
property Params: TIBXSQLDA;
```

Description

Use Params to specify values for a parameterized query.

For example:

```
DataSet1.Params[0].AsInteger = 24
DataSet1.Params.ByName['Field2'].AsString = 'foo'
```

TIBDataSet.Prepared

TIBDataSet See also Example

Determines whether or not a set of dataset queries is prepared for execution.

```
property Prepared: Boolean;
```

Description

Examine Prepared to determine if a set of queries is already prepared for execution. If Prepared is True, the set of queries is prepared, and if Prepared is False, the set of queries is not prepared. While a set of queries need not be prepared before execution, execution performance is enhanced if the set of queries is prepared beforehand, particularly if it is a parameterized set of queries that is executed more than once using the same parameter values.

TIBDataSet.QDelete

TIBDataSet See also

Provides the ability to directly access the SQL object encapsulating the DeleteSQL statement.

```
property QDelete: TIBSQL;
```

Description

Use QDelete to access the SQL object which encapsulates the Delete SQL statement.

TIBDataSet.QInsert

TIBDataSet See also

Provides the ability to directly access the SQL object encapsulating the InsertSQL statement.

```
property QInsert: TIBSQL;
```

Description

Use QInsert to access the SQL object that encapsulates the InsertSQL statement.

TIBDataSet.QModify

TIBDataSet See also

Provides the ability to directly access the SQL object encapsulating the ModifySQL statement.

```
property QModify: TIBSQL;
```

Description

Use QModify to access the SQL object that encapsulates the ModifySQL statement.

TIBDataSet.QRefresh

TIBDataSet See also

Provides the ability to directly access the SQL object encapsulating the RefreshSQL statement.

```
property QRefresh: TIBSQL;
```

Description

Use QRefresh to access the SQL object that encapsulates the RefreshSQL statement.

TIBDataSet.QSelect

TIBDataSet See also

Provides the ability to directly access the SQL object encapsulating the SelectSQL statement.

```
property QSelect: TIBSQL;
```

Description

Use QSelect to access the SQL object that encapsulates the SelectSQL statement.

TIBDataSet.RefreshSQL

TIBDataSet See also

Provides the ability to directly access the SQL object encapsulating the RefreshSQL statement.

```
property RefreshSQL: TStrings;
```

Description

Use RefreshSQL to access the SQL object that encapsulates the RefreshSQL statement.

TIBDataSet.SelectSQL

TIBDataSet See also

Provides the ability to directly access the SQL object encapsulating the SelectSQL statement.

```
property SelectSQL: TStrings;
```

Description

Use SelectSQL to access the SQL object that encapsulates the SelectSQL statement.

TIBDataSet.StatementType

TIBDataSet See also

Returns the statement type of the QSelect query.

```
type TIBSQLTypes = set of (SQLUnknown, SQLSelect, SQLInsert, SQLUpdate,
SQLDelete, SQLDDL, SQLGetSegment, SQLPutSegment, SQLExecProcedure,
SQLStartTransaction, SQLCommit, SQLRollback, SQLSelectForUpdate,
SQLSetGenerator);

property StatementType: TIBSQLTypes;
```

Description

Use StatementType to determine the statement type of a QSelect query. TIBSQLTypes are:

SQLCommit	Commits an active transaction
SQLDDL	Executes a DDL statement
SQLDelete	Removes rows in a table or in the active set of a cursor
SQLExecProcedure	Calls a stored procedure
SQLGetSegment	Reads a segment from an open Blob
SQLInsert	Adds one or more new rows to a specified table
SQLPutSegment	Writes a Blob segment
SQLRollback	Restores the database to its state prior to the start of the current transaction
SQLSetForUpdate	Stored procedure is set for updating
SQLSetGenerator	Sets a new value for an existing generator
SQLSelect	Retrieves data from one or more tables
SQLStartTransaction	Starts a new transaction against one or more databases
SQLUnknown	Unknown SQL type
SQLUpdate	Changes data in all or part of an existing row in a table, view, or active set of a cursor

TIBDataSet events

TIBDataSet Alphabetically Legend

In TIBDataSet

- DatabaseDisconnected
- DatabaseDisconnecting
- DatabaseFree

Derived from TIBCustomDataSet

- OnUpdateError
- OnUpdateRecord

Derived from TIBDataSet

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll

- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnEditError
- OnFilterRecord
- OnPostError

TIBDataSet events

TIBDataSet | By object | Legend

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- DatabaseDisconnected
- DatabaseDisconnecting
- DatabaseFree
- OnCalcFields
- OnDeleteError
- OnEditError
- OnEditError
- OnFilterRecord
- OnPostError
- OnUpdateError
- OnUpdateRecord
- TransactionEnded
- TransactionEnding
- TransactionFree

TIBDataSet.DatabaseDisconnected

TIBDataSet See also

Occurs after a database has been disconnected.

```
property DatabaseDisconnected: TNotifyEvent;
```

Description

Occurs after a database has been disconnected.

TIBDataSet.DatabaseDisconnecting

TIBDataSet See also

Occurs while a database is being disconnected.

```
property DatabaseDisconnecting: TNotifyEvent;
```

Description

Occurs while a database is being disconnected.

TIBDataSet.DatabaseFree

TIBDataSet See also

Occurs after a database component is freed from memory.

```
property DatabaseFree: TNotifyEvent;
```

Description

Occurs after a database component is freed from memory.

TIBDataSet.TransactionEnded

TIBDataSet See also

Occurs after a transaction has ended.

```
property TransactionEnded: TNotifyEvent;
```

Description

Occurs after a transaction has ended.

TIBDataSet.TransactionEnding

TIBDataSet See also

Occurs before a transaction ends.

```
property TransactionEnding: TNotifyEvent;
```

Description

Occurs before a transaction ends.

TIBDataSet.TransactionFree

TIBDataSet See also

Occurs after a transaction is freed from memory.

```
property TransactionFree: TNotifyEvent;
```

Description

Occurs after a transaction is freed from memory.

TIBDataSet methods

TIBDataSet Alphabetically

In TIBDataSet

- Prepare
- UnPrepare

Derived from TIBCustomDataSet

- ApplyUpdates
- CachedUpdateStatus
- CancelUpdates
- Create
- CreateBlobStream
- Destroy
- FetchAll
- GetCurrentRecord
- GetFieldData
- Locate
- LocateNext
- Lookup
- RecordModified
- RevertRecord
- Undelete
- UpdateStatus

Derived from TDataSet

- ActiveBuffer
- Append
- AppendRecord
- CheckBrowseMode
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- CursorPosChanged
- Delete
- DisableControls
- Edit
- EnableControls
- FieldByName
- FindField
- FindFirst
- FindLast
- FindNext
- FindPrior
- First
- FreeBookmark

GetBookmark
GetDetailDataSets
GetDetailLinkFields
GetFieldList
GetFieldNames
GetProviderAttributes
GotoBookmark
Insert
InsertRecord
IsEmpty
IsLinkedTo
Last
MoveBy
Next
Open
Post
Prior
Refresh
Resync
SetFields
Translate
UpdateCursorPos
UpdateRecord

Derived from TComponent

DestroyComponents
Destroying
ExecuteAction
FindComponent
FreeNotification
FreeOnRelease
GetNamePath
GetParentComponent
HasParent
InsertComponent
RemoveComponent
SafeCallException
UpdateAction

Derived from TPersistent

Assign

Derived from TObject

AfterConstruction
BeforeDestruction
ClassInfo
ClassName

ClassNameIs
ClassParent
ClassType
CleanupInstance
DefaultHandler
Dispatch
FieldAddress
Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBDataSet methods

TIBDataSet By object

- ActiveBuffer
- AfterConstruction
- Append
- AppendRecord
- ApplyUpdates
- Assign
- BeforeDestruction
- CachedUpdateStatus
- CancelUpdates
- CheckBrowseMode
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- Create
- CreateBlobStream
- CursorPosChanged
- DefaultHandler
- Delete
- Destroy
- DestroyComponents
- Destroying
- DisableControls
- Dispatch
- Edit
- EnableControls
- ExecuteAction
- FetchAll
- FieldAddress
- FieldByName
- FindComponent
- FindField
- FindFirst
- FindLast
- FindNext
- FindPrior

First
Free
FreeBookmark
FreeInstance
FreeNotification
FreeOnRelease
GetBookmark
GetCurrentRecord
GetDetailDataSets
GetDetailLinkFields
GetFieldData
GetFieldList
GetFieldNames
GetInterface
GetInterfaceEntry
GetInterfaceTable
GetNamePath
GetParentComponent
GetProviderAttributes
GotoBookmark
HasParent
InheritsFrom
InitInstance
Insert
InsertComponent
InsertRecord
InstanceSize
IsEmpty
IsLinkedTo
Last
Locate
LocateNext
Lookup
MethodAddress
MethodName
MoveBy
NewInstance
Next
Open
Post
Prepare
Prior
RecordModified
Refresh
RemoveComponent

Resync
RevertRecord
SafeCallException
SetFields
Translate
UpdateCursorPos
UpdateRecord
Undelete
UnPrepare
UpdateAction
UpdateStatus

TIBDataSet.Prepare

TIBDataSet See also Example

Prepares all queries in the dataset to be executed.

```
procedure Prepare;
```

Description

Call Prepare to prepare all queries in the dataset to be executed.

TIBDataSet.UnPrepare

TIBDataSet See also

Resets the state of a dataset's internal queries.

```
procedure UnPrepare;
```

Description

Call UnPrepare to reset the state of a dataset's internal queries.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TDataSet

TIBCustomDataSet

TIBDataSetUpdateObject

Hierarchy Properties Methods See also

TIBDataSetUpdateObject is the abstract base class for update objects used to update otherwise un-updateable queries when cached updates are enabled.

Unit

IBCustomDataSet

Description

Use TIBDataSetUpdateObject as a base class when creating customized update objects that can be used to update datasets. TIBDataSetUpdateObject declares a single property and some abstract methods, but provides no implementation details: these must be provided by descendant objects.

TIBDataSetUpdateObject properties

TIBDataSetUpdateObject Alphabetically Legend

In TIBDataSetUpdateObject

- DataSet
- RefreshSQL

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBDataSetUpdateObject properties

TIBDataSetUpdateObject By object Legend

- ComObject
  - ComponentCount
  - ComponentIndex
  - Components
  - ComponentState
  - ComponentStyle
- DataSet
- DesignInfo
- Name
  - Owner
- Tag
- VCLComObject

TIBDataSetUpdateObject.DataSet

TIBDataSetUpdateObject See also

Identifies the dataset to which a TIBDataSetUpdateObject component belongs.

```
property DataSet: TIBCustomDataSet;
```

Description

Descendants of TIBDataSetUpdateObject must implement the abstract GetDataSet and SetDataSet methods to implement the DataSet property.

TIBDataSetUpdateObject.RefreshSQL

TIBDataSetUpdateObject See also

Provides the ability to directly access the SQL object encapsulating the RefreshSQL statement.

```
property RefreshSQL: TIBSQL;
```

Description

Use RefreshSQL to access the SQL object that encapsulates the RefreshSQL statement.

TIBDataSetUpdateObject methods

TIBDataSetUpdateObject Alphabetically Legend

In TIBDataSetUpdateObject

- Apply
- GetDataSet
- SetDataSet

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign
- GetNamePath

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName

NewInstance

TIBDataSetUpdateObject methods

TIBDataSetUpdateObject By object Legend

- Apply
  AfterConstruction
  Assign
  BeforeDestruction
  ClassInfo
  ClassName
  ClassNameIs
  ClassParent
  ClassType
- CleanupInstance
- DefaultHandler
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetDataSet
  GetInterface
  GetInterfaceEntry
  GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- RemoveComponent
- SafeCallException
- SetDataSet
  UpdateAction

TIBDataSetUpdateObject.Apply

TIBDataSetUpdateObject See also

Apply applies changes to the dataset specified by the DataSet property.

```
type TUpdateKind = (ukModify, ukInsert, ukDelete)
procedure Apply(UpdateKind: TUpdateKind);
```

Description

Descendants of TIBDataSetUpdateObject must implement the abstract Apply method. This method is intended to perform the updates specified by the update object. Descendants must introduce properties to describe the details of the updates that should be performed. The UpdateKind parameter indicates whether the update object should modify existing records, insert new records, or delete existing records.

TIBDataSetUpdateObject.GetDataSet

TIBDataSetUpdateObject See also

GetDataSet returns the value of the DataSet property.

```
function GetDataSet: TIBCustomDataSet;
```

Description

Override GetDataSet, along with the SetDataSet method, to provide an implementation of the DataSet property. The DataSet property should represent the dataset whose records are updated using the update object.

TIBDataSetUpdateObject.SetDataSet

TIBDataSetUpdateObject See also

SetDataSet sets the value of the DataSet property.

```
procedure SetDataSet(ADataSet: TIBCustomDataSet);
```

Description

Override SetDataSet, along with the GetDataSet method, to provide an implementation of the DataSet property. The DataSet property should represent the dataset whose records are updated using the update object.

Scope

- Protected
- Published
- Read-only

Scope

- Read-only

Scope

- Protected

Hierarchy

TObject

TPersistent

TComponent

TIBDatabaseInfo

Hierarchy Properties Methods

TIBDatabaseInfo returns information about the attached database.

Unit

IBDatabaseInfo

Description

Use a TIBDatabaseInfo to return information about the attached database, such as the version of the online disk structure (ODS) used by the attachment, the number of database cache buffers allocated, the number of database pages read from or written to, or write-ahead log information.

TIBDatabaseInfo properties

TIBDatabaseInfo Alphabetically Legend

In TIBDatabaseInfo

- Allocation
- BackoutCount
- BaseLevel
- CurrentMemory
- Database
- DBFileName
- DBImplementationClass
- DBImplementationNo
- DBSiteName
- DBSQLDialect
- DeleteCount
- ExpungeCount
- Fetches
- ForcedWrites
- InsertCount
- Marks
- MaxMemory
- NoReserve
- NumBuffers
- ODSMajorVersion
- ODSMinorVersion
- PageSize
- PurgeCount
- ReadIdxCount
- ReadOnly
- Reads
- ReadSeqCount
- SweepInterval
- UpdateCount
- UserNames
- Version
- Writes

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBDatabaseInfo properties

TIBDatabaseInfo By object Legend

- Allocation
- BackoutCount
- BaseLevel
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- CurrentMemory
- Database
- DBFileName
- DBImplementationClass
- DBImplementationNo
- DBSiteName
- DBSQLDialect
- DeleteCount
- DesignInfo
- ExpungeCount
- Fetches
- ForcedWrites
- InsertCount
- Marks
- MaxMemory
- Name
- NoReserve
- NumBuffers
- ODSMajorVersion
- ODSMinorVersion
- Owner
- PageSize
- PurgeCount
- ReadIdxCount
- ReadOnly
- Reads
- ReadSeqCount
- SweepInterval
- Tag
- UpdateCount
- UserNames
- VCLComObject
- Version
- Writes

TIBDatabaseInfo.Allocation

TIBDatabaseInfo See also

Returns the number of database pages allocated.

```
property Allocation: Long;
```

Description

Use Allocation to return the number of database pages allocated.

TIBDatabaseInfo.BackoutCount

TIBDatabaseInfo See also

Returns the number of removals of a version of a record.

```
property BackoutCount: TStringList;
```

Description

Use BackoutCount to determine the number of times a version of a database record has been removed.

TIBDatabaseInfo.BaseLevel

TIBDatabaseInfo See also

Returns the database version number.

```
property BaseLevel: Long;
```

Description

Use BaseLevel to return the database version number, which consists of 1 byte containing the number 1, and 1 byte containing the version number.

TIBDatabaseInfo.CurrentMemory

TIBDatabaseInfo See also

Returns the amount of server memory currently in use.

```
property CurrentMemory: Long;
```

Description

Use CurrentMemory to return the amount of server memory (in bytes) currently in use.

TIBDatabaseInfo.Database

TIBDatabaseInfo See also

Sets or returns the database.

```
property Database: TIBDatabase;
```

Description

Use Database to set or return the database on which information is being returned.

TIBDatabaseInfo.DBFileName

TIBDatabaseInfo See also

Returns the database filename.

```
property DBFileName: String;
```

Description

Use DBFileName to return the database filename.

TIBDatabaseInfo.DBImplementationClass

TIBDatabaseInfo See also

Returns the database implementation class number.

```
property DBImplementationClass: Long;
```

Description

Use DBImplementationClass to return the database implementation class number, either 1 or 12.

TIBDatabaseInfo.DBImplementationNo

TIBDatabaseInfo See also

Returns the database implementation number.

```
property DBImplementationNo: Long;
```

Description

Use DBImplementationNo to return the database implementation number.

TIBDatabaseInfo.DBSiteName

TIBDatabaseInfo See also

Returns the database site name.

```
property DBSiteName: String;
```

Description

Use DBSiteName to return the database site name.

TIBDatabaseInfo.DBSQLDialect

TIBDatabaseInfo See also

Returns the SQL dialect.

```
property DBSQLDialect: Long;
```

Description

Use DBSQLDialect to return the SQL dialect.

TIBDatabaseInfo.DeleteCount

TIBDatabaseInfo See also

Returns the number of database deletes since the database was last attached.

```
property DeleteCount: TStringList;
```

Description

Use DeleteCount to return the number of database deletes since the database was last attached.

TIBDatabaseInfo.ExpungeCount

TIBDatabaseInfo See also

Returns the number of removals of a record and all of its ancestors.

```
property ExpungeCount: TStringList;
```

Description

Use ExpungeCount to return the number of removals of a record and all of its ancestors for records whose deletions have been committed.

TIBDatabaseInfo.Fetches

TIBDatabaseInfo See also

Returns the number of reads from the memory buffer cache.

```
property Fetches: Long;
```

Description

Use Fetches to return the number of reads from the memory buffer cache.

TIBDatabaseInfo.ForcedWrites

TIBDatabaseInfo See also

Returns the mode in which database writes are performed.

```
property ForcedWrites: Long;
```

Description

Use ForcedWrites to return the number specifying the mode in which database writes are performed. ForcedWrites returns 0 for asynchronous mode, or returns 1 for synchronous mode

TIBDatabaseInfo.InsertCount

TIBDatabaseInfo See also

Returns number of inserts into the database since the database was last attached.

```
property InsertCount: TStringList;
```

Description

Use InsertCount to return the number of inserts into the database since the database was last attached.

TIBDatabaseInfo.Marks

TIBDatabaseInfo See also

Returns the number of writes to the memory buffer cache.

```
property Marks: Long;
```

Description

Use Marks to return the number of writes to the memory buffer cache.

TIBDatabaseInfo.MaxMemory

TIBDatabaseInfo See also

Returns the maximum amount of memory used at one time since the first process attached to the database.

```
property MaxMemory: Long;
```

Description

Use MaxMemory to return in bytes the maximum amount of memory used at one time since the first process attached to the database.

TIBDatabaseInfo.NoReserve

TIBDatabaseInfo See also

Returns whether or not space is reserved on each database page for holding backup versions of modified records.

```
property NoReserve: Long;
```

Description

Use NoReserve to return whether or not space is reserved on each database page for holding backup versions of modified records. NoReserve will return 0 to indicate that space is reserved (the default) or 1 to indicate that no space is reserved.

TIBDatabaseInfo.NumBuffers

TIBDatabaseInfo See also

Returns the number of memory buffers currently allocated.

```
property NumBuffers: Long;
```

Description

Use NumBuffers to return the number of memory buffers currently allocated.

TIBDatabaseInfo.ODSMajorVersion

TIBDatabaseInfo See also

Returns the on disk structure (ODS) major version number.

```
property ODSMajorVersion: Long;
```

Description

Use ODSMajorVersion to return the ODS major version number for the database. Databases with different major version numbers have different physical layouts.

A database engine can access only databases with a particular ODS major version number; trying to attach to a database with a different ODS number results in an error.

TIBDatabaseInfo.ODSMinorVersion

TIBDatabaseInfo See also

Returns the on disk structure (ODS) minor version number.

```
property ODSMinorVersion: Long;
```

Description

Use ODSMinorVersion to return the (ODS) minor version number. An increase in a minor version number indicates a non-structural change, one that still allows the database to be accessed by databases with the same major version number but possibly different minor version numbers.

TIBDatabaseInfo.PageSize

TIBDatabaseInfo See also

Returns the number of bytes per page of the attached database.

```
property PageSize: Long;
```

Description

Use PageSize to return the number of bytes per page of the attached database. Use with Allocation to determine the size of the database.

TIBDatabaseInfo.PurgeCount

TIBDatabaseInfo See also

Returns the number of removals of fully mature records from the database.

```
property PurgeCount: TStringList;
```

Description

Use PurgeCount to return the number of removals of fully mature records (that is, records committed, resulting in older versions no longer being needed) from the database.

TIBDatabaseInfo.ReadIdxCount

TIBDatabaseInfo See also

Returns the number of reads done via an index since the database was last attached.

```
property ReadIdxCount: TStringList;
```

Description

Use ReadIdxCount to return the number of reads done via an index since the database was last attached.

TIBDatabaseInfo.ReadOnly

TIBDatabaseInfo See also

Indicates whether or not the database is read only.

```
property ReadOnly: Long;
```

Description

Use ReadOnly to determine whether the database is read only or not. ReadOnly returns 1 if the database is read-write and 0 if it is read only.

Note: Read-only databases are an InterBase 6 feature.

TIBDatabaseInfo.Reads

TIBDatabaseInfo See also

Returns the number of page reads from the database.

```
property Reads: Long;
```

Description

Use Reads to return the number of page reads from the database since the current database was first attached, that is, an aggregate of all reads done by all attached processes, rather than the number of reads done for the calling program since it attached to the database.

TIBDatabaseInfo.ReadSeqCount

TIBDatabaseInfo See also

Returns the number of sequential database reads done on each table since the database was last attached.

```
property ReadSeqCount: TStringList;
```

Description

Use ReadSeqCount to return the number of sequential database reads (that is, the number of sequential table scans) done on each table since the database was last attached

TIBDatabaseInfo.SweepInterval

TIBDatabaseInfo See also

Returns the number of transactions that are committed between “sweeps.”

```
property SweepInterval: Long;
```

Description

Use SweepInterval to return the number of transactions that are committed between “sweeps” to remove database record versions that are no longer needed.

TIBDatabaseInfo.UpdateCount

TIBDatabaseInfo See also

Returns the number of database updates since the database was last attached.

```
property UpdateCount: TStringList;
```

Description

Use UpdateCount to return the number of database updates since the database was last attached.

TIBDatabaseInfo.UserNames

TIBDatabaseInfo See also

Returns the names of all users currently attached to the database.

```
property UserNames: TStringList;
```

Description

Use UserNames to return the names of all users currently attached to the database.

TIBDatabaseInfo.Version

TIBDatabaseInfo See also

Returns the version of the database implementation.

```
property Version: String;
```

Description

Use Version to return the version identification string of the database implementation.

TIBDatabaseInfo.Writes

TIBDatabaseInfo See also

Returns the number of page writes to the database.

```
property Writes: Long;
```

Description

Use Writes to return the number of page writes to the current database since it was first attached by any process; that is, an aggregate of all write done by all attached processes, rather than the number of writes done for the calling program since it attached to the database.

TIBDatabaseInfo methods

TIBDatabaseInfo Alphabetically

In TIBDatabaseInfo

- Call
- Create
- Destroy

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName

NewInstance

TIBDatabaseInfo methods

TIBDatabaseInfo By object

- AfterConstruction
- Assign
- BeforeDestruction
- Call
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- RemoveComponent
- SafeCallException
- UpdateAction

TIBDatabaseInfo.Call

TIBDatabaseInfo See also

Returns an error message based on the error code.

```
function Call(ErrCode: ISC_STATUS; RaiseError: Boolean): ISC_STATUS;
```

Description

Call is an internal method used to make calls to the InterBase API, and gives you the option of raising an exception or returning an error based on the value of RaiseError.

TIBDatabaseInfo.Create

TIBDatabaseInfo See also

Creates an instance of a DatabaseInfo component.

```
constructor Create (AOwner: TComponent);
```

Description

Call Create to instantiate a DatabaseInfo component declared in an application.

TIBDatabaseInfo.Destroy

TIBDatabaseInfo See also

Destroys an instance of a DatabaseInfo component.

```
Destructor Destroy;
```

Description

Do not call Destroy directly. Instead call Free to verify that the DatabaseInfo component is not already freed before calling Destroy. Destroy disconnects from the server, frees the parameter list, and calls its inherited Destroy destructor.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TPersistent

TComponent

TIBDSBlobStream

Hierarchy Properties Methods See also

TIBDSBlobStream is an internal object used by the DataSet in the process of creating a Blob stream.

Unit

IBCustomDataSet

Description

TIBDSBlobStream is an internal object used by the DataSet in the process of creating a Blob stream.

TIBDSBlobStream properties

TIBDSBlobStream Alphabetically Legend

Derived from TStream

- Position
- Size

TIBDSBlobStream properties

TIBDSBlobStream By object Legend

- Position
- Size

TIBDSBlobStream methods

TIBDSBlobStream Alphabetically

In TIBDSBlobStream

- Create
- Read
- Seek
- SetSize
- Write

Derived from TStream

- CopyFrom
- ReadBuffer
- ReadComponent
- ReadComponentRes
- ReadResHeader
- WriteBuffer
- WriteComponent
- WriteComponentRes
- WriteDescendent
- WriteDescendentRes

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBDSBlobStream methods

TIBDSBlobStream By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- CopyFrom
- Create
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- Read
- ReadBuffer
- ReadComponent
- ReadComponentRes
- ReadResHeader
- Seek
- SetSize
- Write
- WriteBuffer
- WriteComponent
- WriteComponentRes
- WriteDescendent
- WriteDescendentRes

TIBDSBlobStream.Create

TIBDSBlobStream See also

Resets the stream to the beginning of the Blob.

```
type TBlobStreamMode = (bmRead, bmWrite, bmReadWrite);
constructor Create(AField: TField ABlobStream: TIBBlobStream Mode:
  TBlobStreamMode);
```

Description

Call Create to reset the stream to the beginning of the Blob. Depending on the mode, it also truncates the Blob stream.

TIBDSBlobStream.Read

TIBDSBlobStream See also

Reads the requested number of bytes from the Blob.

```
function Read(var Buffer; Count: Longint): Longint;
```

Description

Call Read to read data from the Blob field when the number of bytes in the field's data is not known. Buffer must have at least Count bytes allocated to hold the data that was read from the field.

Read transfers up to Count bytes from the Blob data into Buffer, starting in the current position, and then advances the current position by the number of bytes actually transferred. Read returns the number of bytes actually transferred (which may be less than the number requested in Count.)

Read checks the Transliterate property of the field, and converts the data into ANSI from the character set specified by the dataset if Transliterate is True.

All the other data-reading methods of a Blob stream (ReadBuffer, ReadComponent) call Read to do their actual reading.

Note: Do not call Read when the TIBDSBlobStream was created in bmWrite mode.

TIBDSBlobStream.Seek

TIBDSBlobStream See also

Resets the current position of the TIBDSBlobStream object.

```
function Seek(Offset: Longint; Origin: Word): Longint;
```

Description

Use Seek to move the current position within the Blob data by the indicated offset. Seek allows an application to read from or write to a particular location within the Blob data.

The Origin parameter indicates how to interpret the Offset parameter. Origin should be one of the following values:

Value	Meaning
soFromBeginning	• Offset is from the beginning of the Blob data • Seek moves to the position Offset • Offset must be >= 0
soFromCurrent	• Offset is from the current position in the Blob data • Seek moves to Position + Offset
soFromEnd	• Offset is from the end of the Blob data • Offset must be <= 0 to indicate a number of bytes before the end of the Blob

Seek returns the new value of the Position property, the new current position in the Blob data.

TIBDSBlobStream.SetSize

TIBDSBlobStream See also

Set the size of the Blob to the requested size.

```
procedure SetSize(NewSize: Long);
```

Description

Call SetSize to set the size of the Blob to the requested size.

TIBDSBlobStream.Write

TIBDSBlobStream See also

Sets the field to be modified.

```
function Write(const Buffer; Count: Longint): Longint;
```

Description

Use Write to set the field to be modified, write the requested number of bytes to the Blob stream, and fire a OnFieldChange event.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TStream

EIBError

Hierarchy Properties Methods See also

The exception class for InterBase errors.

Unit

IB

Description

Use EIBError to raise an exception when a component detects an error in the database or in the component implemenation.

EIBError properties

EIBError Alphabetically Legend

In EIBError

- IBErrorCode
  - SQLCode

Derived from Exception

- HelpContext
- Message

EIBError properties

EIBError By object Legend

HelpContext
IBErrorCode
Message
SQLCode

EIBError.IBErrorCode

EIBError See also

Returns the InterBase error code.

```
property IBErrorCode: Long;
```

Description

Use IBErrorCode to get the InterBase error code.

EIBError.SQLCode

EIBError See also

Translates an InterBase error code in the error status vector to an SQL error number code.

```
property SQLCode: Long;
```

Description

Use SQLCode to translate an InterBase error code in the error status vector to an SQL error number code. Typically, this call is used to populate a program variable with an SQL error number for use in an SQL error-handling routine.

EIBError methods

EIBError Alphabetically

In EIBError

- Create

Derived from Exception

- CreateFmt
- CreateFmtHelp
- CreateHelp
- CreateRes
- CreateResFmt
- CreateResFmtHelp
- CreateResHelp

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

EIBError methods

EIBError By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- CreateFmt
- CreateFmtHelp
- CreateHelp
- CreateRes
- CreateResFmt
- CreateResFmtHelp
- CreateResHelp
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

EIBError.Create

EIBError See also

Calls the inherited Create and sets the SQLCSode and IBErrorCode

```
constructor Create(ASQLCode: Long; Msg: string);
constructor Create(ASQLCode: Long; AIBErrorCode: Long; Msg: string);
```

Description

Use Create to call to the inherited Create and sets the SQL code and IBErrorCode.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

Exception

EDatabaseError

EIBClientError

Hierarchy Properties Methods See also

Used to raise client-specific errors.

Unit

IB

Description

Use EIBClientError to raise an exception for client-specific errors.

EIBClientError properties

EIBClientError Alphabetically Legend

Derived from EIBError

- IBErrorCode
  - SQLCode

Derived from Exception

- HelpContext
- Message

EIBClientError properties

EIBClientError By object Legend

HelpContext
IBErrorCode
Message
SQLCode

EIBClientError methods

EIBClientError Alphabetically

Derived from EIBError

- Create

Derived from Exception

- CreateFmt
- CreateFmtHelp
- CreateHelp
- CreateRes
- CreateResFmt
- CreateResFmtHelp
- CreateResHelp

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

EIBError methods

EIBClientError By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- CreateFmt
- CreateFmtHelp
- CreateHelp
- CreateRes
- CreateResFmt
- CreateResFmtHelp
- CreateResHelp
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

Exception

EDatabaseErrror

EIBErrror

EIBInterBaseError

Hierarchy Properties Methods See also

Used to raise server-specific errors.

Unit

IB

Description

Use EIBInterBaseError to raise an exception for server-specific errors.

EIBInterBaseError properties

EIBInterBaseError Alphabetically Legend

Derived from EIBError

- IBErrorCode
  - SQLCode

Derived from Exception

- HelpContext
- Message

EIBInterBaseError properties

EIBInterBaseError By object Legend

- HelpContext
- IBErrorCode
- Message
- SQLCode

EIBInterBaseError methods

EIBInterBaseError Alphabetically

Derived from EIBError

- Create

Derived from Exception

- CreateFmt
- CreateFmtHelp
- CreateHelp
- CreateRes
- CreateResFmt
- CreateResFmtHelp
- CreateResHelp

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

EIBError methods

EIBInterBaseError By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- CreateFmt
- CreateFmtHelp
- CreateHelp
- CreateRes
- CreateResFmt
- CreateResFmtHelp
- CreateResHelp
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

Exception

EDatabaseErrror

EIBErrror

TIBInputDelimitedFile

Hierarchy Properties MethodsSee also

TIBInputDelimitedFile performs batch input of data from delimited files.

Unit

IBBatch

Description

Use a TIBInputDelimitedFile object to perform batch input of data from delimited files.

TIBInputDelimitedFile properties

TIBInputDelimitedFile Alphabetically Legend

In TIBInputDelimitedFile

- ColDelimiter
- ReadBlanksAsNull
- RowDelimiter
- SkipTitles

Derived from TIBBatch

- Columns
- FileName
- Params

TIBInputDelimitedFile properties

TIBInputDelimitedFile By object Legend

- ColDelimiter
- Columns
- FileName
- Params
- ReadBlanksAsNull
- RowDelimiter
- SkipTitles

TIBInputDelimitedFile.ColDelimiter

TIBInputDelimitedFile See also

Sets the column delimiter for the input file.

```
property ColDelimiter: String;
```

Description

Use ColDelimiter to set the column delimiter (either Tab-Ctrl-F or |~)for the input file.

TIBInputDelimitedFile.ReadBlanksAsNull

TIBInputDelimitedFile See also

Reads blank spaces in the input file as null characters.

```
property ReadBlanksAsNull: Boolean;
```

Description

Set ReadBlanksAsNull to True read blank spaces as null characters in the input file.

TIBInputDelimitedFile.RowDelimiter

TIBInputDelimitedFile See also

Sets the row delimiter for the input file.

```
property RowDelimiter: String;
```

Description

Use RowDelimiter to set the column delimiter (either Tab-Ctrl-F or |~) for the input file.

TIBInputDelimitedFile.SkipTitles

TIBInputDelimitedFile See also

Skips the first record of a delimited file.

```
property SkipTitles: Boolean;
```

Description

Set SkipTitles to True to treat the first record of a delimited file as titles and skip it. Field titles are not useful in batch inputs, and this property allows you to skip them.

TIBInputDelimitedFile methods

TIBBatchInput Alphabetically

In TIBInputDelimitedFile

- Destroy
- GetColumn
- ReadParameters
- ReadyFile

Derived from TIBBatch

- Move

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBInputDelimitedFile methods

AfterConstruction
BeforeDestruction
ClassInfo
ClassName
ClassNameIs
ClassParent
ClassType
CleanupInstance
DefaultHandler
Destroy
Dispatch
FieldAddress
Free
FreeInstance
GetColumn
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
Move
NewInstance
ReadParameters
ReadyFile
SafeCallException

TIBInputDelimitedFile.Destroy

TIBInputDelimitedFile See also

Destroys the instance of TIBInputDelimitedFile.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call Free. Free verifies that the TIBInputDelimitedFile object is not already freed and only then calls Destroy.

TIBInputDelimitedFile.GetColumn

TIBInputDelimitedFile See also

Returns the contents of a column.

```
function GetColumn: var Col: String): Integer;
```

Description

Call GetColumn to return the contents of a column in the extended SQL descriptor area (XSQLDA).

TIBInputDelimitedFile.ReadParameters

TIBInputDelimitedFile See also

Reads the input parameters of the XSQLDA.

```
function ReadParameters: Boolean;
```

Description

Call ReadParameters to read the input parameters of the extended SQL descriptor area (XSQLDA).

TIBInputDelimitedFile.ReadyFile

TIBInputDelimitedFile See also

Prepares the output for the XSQLDA.

```
procedure ReadyFile;
```

Description

Call ReadyFile to prepare the output for the extended SQL descriptor area (XSQLDA).

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TIBBatch

TIBBatchInput

TIBInputRawFile

Hierarchy Properties MethodsSee also

TIBInputRawFile inputs data from a raw file.

Unit

IBBatch

Description

Use a TIBInputRawFile object input data from a raw file. A raw file is the equivalent to InterBase external file output. Raw files are not limited to a straight character format.

TIBInputRawFile properties

TIBInputRawFile Alphabetically Legend

Derived from TIBBatch

- Columns
- FileName
- Params

TIBInputRawFile properties

TIBInputRawFile By object Legend

- Columns
  - FileName
  - Params

TIBInputRawFile methods

TIBInputRawFile Alphabetically

In TIBInputRawFile

- Destroy
- ReadParameters
- ReadyFile

Derived from TIBBatch

- Move

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBInputRawFile methods

TIBBatch By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- Move
- NewInstance
- ReadParameters
- ReadyFile
- SafeCallException

TIBInputRawFile.Destroy

TIBInputRawFile See also

Destroys the instance of TIBInputRawFile.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call Free. Free verifies that the TIBInputRawFile object is not already freed and only then calls Destroy.

TIBInputRawFile.ReadParameters

TIBInputRawFile See also

Reads the XSQLDA input parameters.

```
function ReadParameters: Boolean;
```

Description

Call ReadParameters to read the input parameters of the extended SQL descriptor area (XSQLDA).

TIBInputRawFile.ReadyFile

TIBInputRawFile See also

Prepares the output for the XSQLDA.

```
procedure ReadyFile;
```

Description

Call ReadyFile to prepare the output for the extended SQL descriptor area (XSQLDA).

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TIBBatch

TIBBatchInput

TIBOutputDelimitedFile

Hierarchy Properties MethodsSee also

TIBOutputDelimitedFile performs batch output of data to delimited files.

Unit

IBBatch

Description

Use a TIBOutputDelimitedFile object to perform batch output of data to delimited files.

TIBOutputDelimitedFile properties

TIBOutputDelimitedFile Alphabetically Legend

In TIBOutputDelimitedFile

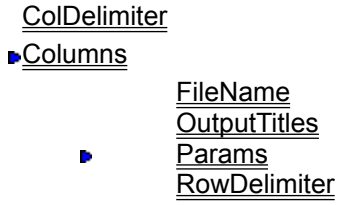
- ColDelimiter
- OutputTitles
- RowDelimiter

Derived from TIBBatch

- Columns
- FileName
- Params

TIBOutputDelimitedFile properties

TIBOutputDelimitedFile By object Legend



TIBOutputDelimitedFile.ColDelimiter

TIBOutputDelimitedFile See also

Sets the column delimiter for the output file.

```
property ColDelimiter: String;
```

Description

Use ColDelimiter to set the column delimiter (either Tab-Ctrl-F or |~)for the output file.

TIBOutputDelimitedFile.OutputTitles

TIBOutputDelimitedFile See also

Outputs the titles at the top of the file.

```
property OutputTitles: Boolean;
```

Description

Set OutputTitles to True to output the titles at the top of the file.

TIBOutputDelimitedFile.RowDelimiter

TIBOutputDelimitedFile See also

Sets the row delimiter for the output file.

```
property RowDelimiter: String;
```

Description

Use RowDelimiter to set the column delimiter (either Tab-Ctrl-F or |~) for the output file.

TIBOutputDelimitedFile methods

TIBBatchOutput Alphabetically

In TIBOutputDelimitedFile

- Destroy
- ReadyFile
- WriteColumns

Derived from TIBBatch

- Move

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBOutputDelimitedFile methods

TIBBatch By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- Move
- NewInstance
- ReadyFile
- SafeCallException
- WriteColumns

TIBOutputDelimitedFile.Destroy

TIBOutputDelimitedFile See also

Destroys the instance of TIBOutputDelimitedFile.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call Free. Free verifies that the TIBOutputDelimitedFile object is not already freed and only then calls Destroy.

TIBOutputDelimitedFile.ReadyFile

TIBOutputDelimitedFile See also

Prepares the output for the XSQLDA.

```
procedure ReadyFile;
```

Description

Call Ready file to prepare the output for the extended SQL descriptor area (XSQLDA).

TIBOutputDelimitedFile.WriteColumns

TIBOutputDelimitedFile See also

Outputs the data in columns in the XSQLDA.

```
function WriteColumns: Boolean;
```

Description

Set WriteColumns to True to output data in columns in the extended SQL descriptor area (XSQLDA).

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TIBBatch

TIBBatchOutput

TIBOutputRawFile

Hierarchy Properties MethodsSee also

TIBOutputRawFile outputs data to a raw file format.

Unit

IBBatch

Description

Use a TIBOutputRawFile object to output data from a raw file. A raw file is the equivalent to InterBase external file output. Raw files are not limited to a straight character format.

TIBOutputRawFile properties

TIBOutputRawFile Alphabetically Legend

Derived from TIBBatch

- Columns
- FileName
- Params

TIBOutputRawFile properties

TIBOutputRawFile By object Legend

- Columns
  - FileName
  - Params

TIBOutputRawFile methods

TIBBatchOuputAlphabetically

In TIBOutputRawFile

- Destroy
- ReadyFile
- WriteColumns

Derived from TIBBatch

- Move

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBOutputRawFile methods

TIBBatch By object

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- Move
- NewInstance
- ReadyFile
- SafeCallException
- WriteColumns

TIBOutputRawFile.Destroy

TIBOutputRawFile See also

Destroys the instance of TIBOutputRawFile.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call Free. Free verifies that the TIBOutputRawFile object is not already freed and only then calls Destroy.

TIBOutputRawFile.ReadyFile

TIBOutputRawFile See also

Prepares the output for the XSQLDA.

```
procedure ReadyFile;
```

Description

Call Ready file to prepare the output for the extended SQL descriptor area (XSQLDA).

TIBOutputRawFile.WriteColumns

TIBOutputRawFile See also

Outputs the data in columns in the XSQLDA.

```
function WriteColumns: Boolean;
```

Description

Call WriteColumns to output data in columns in the extended SQL descriptor area (XSQLDA).

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TIBBatch

TIBBatchOutput

TIBQuery

Hierarchy Properties Methods Events See also

TIBQuery executes an InterBase SQL statement.

Unit

IBQuery

Description

Use TIBQuery to access one or more tables in a database using SQL statements. Use query components with remote InterBase database servers and with ODBC-compliant databases.

Query components are useful because they can

- Access more than one table at a time (called a “join” in SQL).
- Automatically access a subset of rows and columns in its underlying table(s), rather than always returning all rows and columns.

Note: TIBQuery is of particular importance to the development of scalable database applications. If there is any chance that an application built to run against local databases will be scaled to a remote SQL database server in the future, use TIBQuery components from the start to ensure easier scaling later.

TIBQuery properties

TIBQuery Alphabetically Legend

In TIBQuery

GenerateParamNames
ParamCheck
ParamCount
Params
Prepared
RowsAffected
SQL
StmtHandle
Text
UniDirectional
UpdateObject

Derived from TIBCustomDataSet

CachedUpdates
Database
DBHandle
Transaction
TRHandle
UpdateRecordTypes
UpdatesPending

Derived fromTDataSet

Active
AggFields
AutoCalcFields
Bof
Bookmark
Constraints
DatasetField
DataSource
DefaultFields
Designer
Eof
FieldCount
FieldDefList
FieldDefs
FieldList
Fields
FieldValues
Found
Modified
Name
ObjectView
SparseArrays
State

Derived from TComponent

ComObject
ComponentCount
ComponentIndex
Components
ComponentState

- ComponentStyle
- DesignInfo
- Owner
- Tag
- VCLComObject

TIBQuery properties

TIBQuery By object Legend

- Active
- AggFields
- AutoCalcFields
- Bof
- Bookmark
- CachedUpdates
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- Constraints
- Database
- DatasetField
- DataSource
- DBHandle
- DefaultFields
- Designer
- DesignInfo
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Found
- GenerateParamNames
- Modified
- Name
- ObjectView
- Owner
- ParamCheck
- ParamCount
- Params
- Prepared
- RowsAffected
- SparseArrays
- SQL
- State
- StmtHandle
- Tag
- Text
- TRHandle
- Transaction
- UniDirectional
- UpdateObject
- UpdateRecordTypes
- UpdatesPending
- VCLComObject

TIBQuery.GenerateParamNames

TIBQuery See also

Generates a list of parameter names for the query.

```
property GenerateParamNames: Boolean;
```

Description

Set GenerateParamNames to True to have the query generate a list of parameter names.

TIBQuery.ParamCheck

TIBQuery See also

Specifies whether the parameter list for a query is regenerated if the SQL property changes at runtime.

```
property ParamCheck: Boolean;
```

Description

Set ParamCheck to specify whether or not the Params property is cleared and regenerated if an application modifies the query's SQL property at runtime. By default ParamCheck is True, meaning that the Params property is automatically regenerated at runtime. When ParamCheck is True, the proper number of parameters is guaranteed to be generated for the current SQL statement.

This property is useful for data definition language (DDL) statements that contain parameters as part of the DDL statement and that are not parameters for the TIBQuery. For example, the DDL statement to create a stored procedure may contain parameter statements that are part of the stored procedure. Set ParamCheck to False to prevent these parameters from being mistaken for parameters of the TIBQuery executing the DDL statement.

TIBQuery.ParamCount

TIBQuery See also Example

Indicates the current number of parameters for the query.

```
property ParamCount: Word;
```

Description

Inspect ParamCount to determine how many parameters are in the Params property. If the ParamCheck property is True, ParamCount always corresponds to the number of actual parameters in the SQL statement for the query.

TIBQuery.Params

TIBQuery See also Example

Contains the parameters for a query's SQL statement.

```
property Params: TParams;
```

Description

Access Params at runtime to view and set parameter names, values, and data types dynamically (at design time use the collection editor for the Params property to set parameter information). Params is a zero-based array of TParams parameter records. Index specifies the array element to access.

Note: An easier way to set and retrieve parameter values when the name of each parameter is known is to call ParamByName. ParamByName cannot, however, be used to change a parameter's data type or name.

TIBQuery.Prepared

TIBQuery See also Example

Determines whether or not a query is prepared for execution.

```
property Prepared: Boolean;
```

Description

Examine Prepared to determine if a query is already prepared for execution. If Prepared is True, the query is prepared, and if Prepared is False, the query is not prepared. While a query need not be prepared before execution, execution performance is enhanced if the query is prepared beforehand, particularly if it is a parameterized query that is executed more than once using the same parameter values.

Note: An application can change the current setting of Prepared to prepare or unprepare a query. If Prepared is True, setting it to False calls the Unprepare method to unprepare the query. If Prepared is False, setting it to True calls the Prepare method to prepare the query. Generally, however, it is better programming practice to call Prepare and Unprepare directly. These methods automatically update the Prepared property.

TIBQuery.RowsAffected

TIBQuery See also

Returns the number of rows operated upon by the latest query execution.

```
property RowsAffected: Integer;
```

Description

Check RowsAffected to determine how many rows were updated or deleted by the last query operation. If RowsAffected is -1, the query did not update or delete any rows.

TIBQuery.SQL

TIBQuery See also Example

Contains the text of the SQL statement to execute for the query.

```
property SQL: TStrings;
```

Description

Use SQL to provide the SQL statement that a query component executes when its ExecSQL or Open method is called. At design time the SQL property can be edited by invoking the String List editor in the Object Inspector.

The SQL property may contain only one complete SQL statement at a time.

TIBQuery.StmtHandle

TIBQuery

Identifies the statement handle for the query.

```
property StmtHandle: TISC_STMT_HANDLE;
```

Description

Retrieve StmtHandle if an application makes a direct call to the InterBase server, bypassing the methods of TIBQuery. Some API calls require a statement handle as a parameter. Under all other circumstances an application does not need to access this property.

TIBQuery.Text

TIBQuery See also

Points to the actual text of the SQL query.

```
property Text: String;
```

Description

Text is a read-only property that can be examined to determine the actual contents of SQL statement. For parameterized queries, Text contains the SQL statement with parameters replaced by the parameter substitution symbol (?) in place of actual parameter values.

In general there should be no need to examine the Text property. To access or change the SQL statement for the query, use the SQL property. To examine or modify parameters, use the Params property.

TIBQuery.UniDirectional

TIBQuery

Determines whether or not bidirectional cursors are enabled for a query's result set.

```
property UniDirectional: Boolean;
```

Description

Set UniDirectional to control whether or not a cursor can move forward and backward through a result set. By default UniDirectional is False, enabling forward and backward navigation.

Note: If an application does not need bidirectional access to records in a result set, set UniDirectional to True. When UniDirectional is True, an application requires less memory and performance is improved.

TIBQuery.UpdateObject

TIBQuery

Specifies the update object component used to update a read-only result set when cached updates are enabled.

```
property UpdateObject: TIBDataSetUpdateObject;
```

Description

Set UpdateObject to specify the update object component used to update a read-only result set when cached updates are enabled.

TIBQuery events

TIBQuery Alphabetically Legend

Derived from TIBCustomDataSet

- OnUpdateError
- OnUpdateRecord

Derived from TDataSet

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnFilterRecord
- OnNewRecord
- OnPostError

TIBQuery events

TIBQuery By object Legend

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnFilterRecord
- OnNewRecord
- OnPostError
- OnUpdateError
- OnUpdateRecord

TIBQuery methods

TIBQuery Alphabetically

In TIBQuery

- Create
- Destroy
- ExecSQL
- GetDetailLinkFields
- ParamByName
- Prepare
- UnPrepare

Derived from TIBCustomDataSet

- ApplyUpdates
- CachedUpdateStatus
- CancelUpdates
- CreateBlobStream
- BatchInput
- BatchOutput
- FetchAll
- GetCurrentRecord
- GetFieldData
- Locate
- LocateNext
- Lookup
- RecordModified
- RevertRecord
- Undelete
- UpdateStatus

Derived from TDataSet

- ActiveBuffer
- Append
- AppendRecord
- CheckBrowseMode
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- CursorPosChanged
- Delete
- DisableControls
- Edit
- EnableControls
- FieldByName
- FindField
- FindFirst

FindLast
FindNext
FindPrior
First
FreeBookmark
GetBookmark
GetDetailDataSets
GetDetailLinkFields
GetFieldList
GetFieldNames
GetProviderAttributes
GotoBookmark
Insert
InsertRecord
IsEmpty
IsLinkedTo
Last
MoveBy
Next
Open
Post
Prior
Refresh
Resync
SetFields
Translate
UpdateCursorPos
UpdateRecord

Derived from TComponent

DestroyComponents
Destroying
ExecuteAction
FindComponent
FreeNotification
FreeOnRelease
GetNamePath
GetParentComponent
HasParent
InsertComponent
RemoveComponent
SafeCallException
UpdateAction

Derived from TPersistent

Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBQuery methods

TIBQuery By object

- ActiveBuffer
- AfterConstruction
- Append
- AppendRecord
- ApplyUpdates
- Assign
- BeforeDestruction
- CachedUpdateStatus
- CancelUpdates
- CheckBrowseMode
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- Create
- CreateBlobStream
- CursorPosChanged
- DefaultHandler
- Delete
- Destroy
- DestroyComponents
- Destroying
- DisableControls
- Dispatch
- Edit
- EnableControls
- ExecSQL
- ExecuteAction
- BatchInput
- BatchOutput
- FetchAll
- FieldAddress
- FieldByName
- FindComponent
- FindField
- FindFirst

FindLast
FindNext
FindPrior
First
Free
FreeBookmark
FreeInstance
FreeNotification
FreeOnRelease
GetBookmark
GetCurrentRecord
GetDetailDataSets
GetDetailLinkFields
GetFieldData
GetFieldList
GetFieldNames
GetInterface
GetInterfaceEntry
GetInterfaceTable
GetNamePath
GetParentComponent
GetProviderAttributes
GotoBookmark
HasParent
InheritsFrom
InitInstance
Insert
InsertComponent
InsertRecord
InstanceSize
IsEmpty
IsLinkedTo
Last
Locate
LocateNext
Lookup
MethodAddress
MethodName
MoveBy
NewInstance
Next
Open
ParamByName
Post
Prepare

Prior
RecordModified
Refresh
RemoveComponent
Resync
RevertRecord
SafeCallException
SetFields
Translate
Undelete
UnPrepare
UpdateAction
UpdateCursorPos
UpdateRecord
UpdateStatus

TIBQuery.Create

TIBQuery See also

Creates an instance of a query component.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to instantiate a query at runtime. Query components placed in forms or data modules at design time are created automatically.

Create calls its inherited Create constructor, creates an empty SQL statement list, creates an empty parameter list, sets the OnChange event handler for the SQL statement list, sets the ParamCheck property to True, and sets the RowsAffected property to -1.

TIBQuery.Destroy

TIBQuery See also

Destroys the instance of a query.

```
destructor Destroy;
```

Description

Do not call Destroy directly. Instead call Free to verify that the query is not already freed before calling Destroy. Destroy disconnects from the server, frees the SQL statement list and the parameter list, and then calls its inherited destructor.

TIBQuery.ExecSQL

TIBQuery See also Example

Executes the SQL statement for the query.

```
procedure ExecSQL;
```

Description

Call ExecSQL to execute the SQL statement currently assigned to the SQL property. Use ExecSQL to execute queries that do not return a cursor to data (such as INSERT, UPDATE, DELETE, and CREATE TABLE).

Note: For SELECT statements, call Open instead of ExecSQL.

ExecSQL prepares the statement in SQL property for execution if it has not already been prepared. To speed performance, an application should ordinarily call Prepare before calling ExecSQL for the first time.

TIBQuery.GetDetailLinkFields

TIBCustomDataSet See also

Fills lists with the master and detail fields of the link.

```
procedure GetDetailLinkFields(MasterFields, DetailFields: TList);
```

Description

Creates two lists of TFields from the master-detail relationship between two tables; one containing the master fields, and the other containing the detail fields.

TIBQuery.ParamByName

TIBQuery See also Example

Accesses parameter information based on a specified parameter name.

```
function ParamByName(const Value: string): TParam;
```

Description

Call ParamByName to set or use parameter information for a specific parameter based on its name.

Value is the name of the parameter for which to retrieve information.

ParamByName is primarily used to set an parameter's value at runtime. For example, the following statement retrieves the current value of a parameter called "Contact" into an edit box:

```
Edit1.Text := Query1.ParamByName('Contact').AsString;
```

TIBQuery.Prepare

TIBQuery See also Example

Sends a query to the server for optimization prior to execution.

```
procedure Prepare;
```

Description

Call Prepare to have the remote database server allocate resources for the query and to perform additional optimizations. Calling Prepare before executing a query improves application performance.

Delphi automatically prepares a query if it is executed without first being prepared. After execution, Delphi unprepares the query. When a query will be executed a number of times, an application should always explicitly prepare the query to avoid multiple and unnecessary prepares and unprepares.

Preparing a query consumes some database resources, so it is good practice for an application to unprepare a query once it is done using it. The UnPrepare method unprepares a query.

Note: When you change the text of a query at runtime, the query is automatically closed and unprepared.

TIBQuery.UnPrepare

TIBQuery See also

Frees the resources allocated for a previously prepared query.

```
procedure UnPrepare;
```

Description

Call UnPrepare to free the resources allocated for a previously prepared query on the server and client sides.

Preparing a query consumes some database resources, so it is good practice for an application to unprepare a query once it is done using it. The UnPrepare method unprepares a query.

Note: When you change the text of a query at runtime, the query is automatically closed and unprepared.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TDataSet

TIBCustomDataSet

TIBSQL

Hierarchy Properties Methods Events See also

TIBSQL provides an object for executing an InterBase SQL statement with minimal overhead.

Unit

IBSQL

Description

Use a TIBSQL object to execute an InterBase SQL statement with minimal overhead. TIBSQL has no standard interface to data-aware controls and is unidirectional.

TIBSQL properties

TIBSQL Alphabetically Legend

In TIBSQL

- Bof
- Database
- DBHandle
- Eof
- FieldIndex
- Fields
- GenerateParamNames
- GoToFirstRecordOnExecute
- Handle
- Open
- ParamCheck
- Params
- Plan
- Prepared
- RecordCount
- RowsAffected
- SQL
- SQLType
- Transaction
- TRHandle
- UniqueRelationName

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBSQL properties

TIBSQL By object Legend

- Bof
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Database
- DBHandle
- Eof
- FieldIndex
- Fields
- GenerateParamNames
- GoToFirstRecordOnExecute
- Handle
- Name
- Open
- Owner
- ParamCheck
- Params
- Plan
- Prepared
- RecordCount
- RowsAffected
- SQL
- SQLType
- Tag
- Transaction
- TRHandle
- UniqueRelationName
- VCLComObject

TIBSQL.Bof

TIBSQL See also

Indicates whether or not a query is at the beginning of the dataset.

```
property Bof: Boolean;
```

Use the Bof property to determine whether or not a query is at the beginning of the dataset.

TIBSQL.Database

TIBSQL See also

Sets or returns the database associated with the query.

```
property Database: TIBDatabase;
```

Description

Use the Database property to set or return the database associated with the query.

TIBSQL.DBHandle

TIBSQL See also

Specifies the database handle for the query.

```
property DBHandle: PISC_DB_HANDLE;
```

Description

Use the DBHandle property to return the database handle for the query.

TIBSQL.Eof

TIBSQL See also

Indicates whether or not a query is at the end of the dataset.

```
property Eof: Boolean;
```

Description

Use the Eof property to determine whether or not a query is at the end of the dataset and whether or not the query returned any result rows.

In addition, if this property is True immediately after the query is opened, then it means that the dataset is empty.

TIBSQL.FieldIndex

TIBSQL See also

Returns the index of the named field.

```
property FieldIndex: [FieldName: String]: Integer;
```

Description

Use the FieldIndex property to return the index of the name field.

TIBSQL.Fields

TIBSQL See also

Returns the XSQLVAR fields.

```
property Fields[const Idx: Integer]: TIBXSQLVAR;
```

Description

Use the Fields property to return the XSQLVAR fields.

TIBSQL.GenerateParamNames

TIBSQL See also

Generates a list of parameter names for the query.

```
property GenerateParamNames: Boolean;
```

Description

Set GenerateParamNames to True to have the query generate a list of parameter names.

TIBSQL.GoToFirstRecordOnExecute

TIBSQL See also

Goes to the first record in the result set upon opening it.

```
property GoToFirstRecordOnExecute: Boolean;
```

Description

Use the GoToFirstRecordOnExecute property to go to the first record in a result set upon opening it. By default, this property is set to True. GoToFirstRecordOnExecute exists primarily for use in TIBDataSet, which sets this value to False for its internal TIBSQLs.

TIBSQL.Handle

TIBSQL See also

Specifies the handle for the query.

```
property Handle: TISC_STMT_HANDLE;
```

Description

Use the Handle property to get the query handle.

TIBSQL.Open

TIBSQL See also

Determines if the dataset is open.

```
property Open: Boolean;
```

Description

Use the Open property to determine if the dataset is open.

TIBSQL.ParamCheck

TIBSQL See also

Specifies whether the parameter list for an SQL query is regenerated if the SQL property changes at runtime.

```
property ParamCheck: Boolean;
```

Description

This property is useful for data definition language (DDL) statements that contain parameters as part of the DDL statement and that are not parameters for the TIBSQL query. For example, the DDL statement to create a stored procedure may contain parameter statements that are part of the stored procedure. Set ParamCheck to False to prevent these parameters from being mistaken for parameters of the TIBSQL query executing the DDL statement.

An application that does not use parameterized queries may choose to set ParamCheck to False, but otherwise ParamCheck should be True.

TIBSQL.Params

TIBSQL See also

Returns the XSQLDA parameters.

```
property Params: TIBXSQLDA;
```

Description

Use the Params property to return the XSQLDA parameters.

TIBSQL.Plan

TIBSQL See also

Returns the plan for the query.

```
property Plan: String;
```

Description

Use the Plan property to view the query plan once the query has been prepared.

TIBSQL.Prepared

TIBSQL See also Example

Indicates whether or not the query has been prepared.

```
property Prepared: Boolean;
```

Description

Use the Prepared property to determine whether or not a query has yet been prepared.

TIBSQL.RecordCount

TIBSQL See also

Returns the current count of records from the query.

```
property RecordCount: Integer;
```

Description

Use the RecordCount property to see how many records are returned by a query. If the result set is to return 100 rows, RecordCount will only be 100 after all the records have been visited. That is, after looking at the first record, RecordCount is 1, and so forth.

TIBSQL.RowsAffected

TIBSQL See also

Returns the number of rows affected.

```
property RowsAffected: Integer;
```

Description

Use the RowsAffected property to return the number of rows affected by the query. This property is useful for INSERT, DELETE, and UPDATE statements.

TIBSQL.SQL

TIBSQL See also

Sets the SQL query to be executed.

```
property SQL: TStrings;
```

Description

Use the SQL property to write or view the SQL query to be executed.

TIBSQL.SQLType

TIBSQL See also

Returns the type of query to be executed.

```
type TIBSQLTypes = set of (SQLUnknown, SQLSelect, SQLInsert, SQLUpdate,
  SQLDelete, SQLDDL, SQLGetSegment, SQLPutSegment, SQLExecProcedure,
  SQLStartTransaction, SQLCommit, SQLRollback, SQLSelectForUpdate,
  SQLSetGenerator);
property SQLType: TIBSQLTypes read FSQLType;
```

Description

Use the SQLType to determine the type of query to be executed. Query types include:

SQLCommit	Commits an active transaction
SQLDDL	Modifies the database metadata
SQLDelete	Removes rows in a table or in the active set of a cursor
SQLExecProcedure	Calls a stored procedure
SQLGetSegment	Reads a segment from an open Blob
SQLInsert	Adds one or more new rows to a specified table
SQLPutSegment	Writes a Blob segment
SQLRollback	Restores the database to its state prior to the start of the current transaction
SQLSelectForUpdate	Used for positioned updates.
SQLSetGenerator	Sets a new value for an existing generator
SQLSelect	Retrieves data from one or more tables
SQLStartTransaction	Starts a new transaction against one or more databases
SQLUnknown	Unknown SQL type
SQLUpdate	Changes data in all or part of an existing row in a table, view, or active set of a cursor

TIBSQL.Transaction

TIBSQL See also

Sets or returns the transaction to be used by the query.

```
property Transaction: TIBTransaction;
```

Description

Use the Transaction property to set or return the transaction to be used by the query.

TIBSQL.TRHandle

TIBSQL See also

Specifies the transaction handle for the query.

```
property TRHandle: PISC_TR_HANDLE;
```

Description

Use the TRHandle property to return the transaction handle for the query.

TIBSQL.UniqueRelationName

TIBSQL See also

Indicates the unique relation name.

```
property UniqueRelationName: String;
```

Description

Use the UniqueRelationName property to indicate the unique relation name for a query that involves only one base table.

TIBDynSQL events

In TIBSQL

- OnSQLChanging

TIBDynSQL events

TIBSQL By object Legend

- OnSQLChanging

TIBSQL.OnSQLChanging

TIBSQL See also

Occurs when the SQL query is being modified.

```
property OnSQLChanging: TNotifyEvent;
```

Description

Write an OnSQLChanging event handler to take specific actions when a query is being modified. If an exception is raised in this event, the query is not changed.

TIBSQL methods

TIBSQL Alphabetically

In TIBSQL

- BatchInput
- BatchOutput
- Call
- CheckClosed
- CheckOpen
- CheckValidStatement
- Close
- Create
- Current
- Destroy
- ExecQuery
- FieldByName
- FreeHandle
- Next
- Prepare

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler

Dispatch
FieldAddress
Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBSQL methods

TIBSQL By object

- AfterConstruction
- Assign
- BatchInput
- BatchOutput
- BeforeDestruction
- Call
- CheckClosed
- CheckOpen
- CheckValidStatement
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Close
- Create
- Current
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecQuery
- ExecuteAction
- FieldAddress
- FieldByName
- FindComponent
- Free
- FreeInstance
- FreeHandle
- FreeNotification
- FreeOnRelease
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent

InstanceSize
MethodAddress
MethodName
NewInstance
Next
Prepare
RemoveComponent
SafeCallException
UpdateAction

TIBSQL.BatchInput

TIBSQL See also

Executes the parameterized query in SQL for input in the referenced input object.

```
procedure BatchInput(InputObject: TIBBatchInput);
```

Description

Call BatchInput to execute the parameterized query in SQL for input in the referenced input object.

TIBSQL.BatchOutput

TIBSQL See also

Outputs the selected query in SQL to the referenced OutputObject.

```
procedure BatchOutput(OutputObject: TIBBatchOutput);
```

Description

Call BatchOutput to output the selected query in SQL to the referenced OutputObject.

TIBSQL.Call

TIBSQL See also

Returns an error message based on the error code.

```
function Call(ErrCode: ISC_STATUS; RaiseError: Boolean): ISC_STATUS;
```

Description

Call is an internal method used to make calls to the InterBase API, and gives you the option of raising an exception or returning an error based on the value of RaiseError.

TIBSQL.CheckClosed

TIBSQL See also

Raises an exception if the query is not closed.

```
procedure CheckClosed;
```

Description

Call CheckClosed to raise an exception if the query is not closed.

TIBSQL.CheckOpen

TIBSQL See also

Raises an exception if the query is not open.

```
procedure CheckOpen;
```

Description

Call CheckOpen to raise an exception if the query is closed.

TIBSQL.CheckValidStatement

TIBSQL See also

Raises an exception if the query does not have a valid statement.

```
procedure CheckValidStatement;
```

Description

Call CheckValidStatement to raise an exception if the query does not have a valid statement.

TIBSQL.Close

TIBSQL See also

Closes the query.

```
procedure Close;
```

Description

Call Close to close the query.

TIBSQL.Create

TIBSQL See also

Creates an instance of a TIBSQL component.

```
constructor Create(AOwner:TComponent);
```

Description

Call Create to create an instance of a TIBSQL component.

TIBSQL.Current

TIBSQL See also

Returns an extended SQL descriptor for the current record.

```
function Current: TIBXSQLDA;
```

Description

Call Current to get an extended SQL descriptor for the current record.

TIBSQL.Destroy

TIBSQL See also

Frees all resources associated with this instance.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Usually destruction of objects is handled automatically by Delphi. If an application creates its own instance of an update object, however, the application should call Free, which verifies that the update object is not already freed before calling Destroy.

TIBSQL.ExecQuery

TIBSQL See also

Executes an SQL query.

```
procedure ExecQuery;
```

Description

Call ExecQuery to execute the SQL query.

TIBSQL.FieldByName

TIBSQL See also

Returns the XSQLVAR fields by name.

```
function FieldByName[FieldName: String]: TIBXSQLVAR;
```

Description

Use the FieldByName method to return the XSQLVAR fields by name.

TIBSQL.FreeHandle

TIBSQL See also

Frees InterBase resources associated with the query.

```
procedure FreeHandle;
```

Description

Call FreeHandle to free the InterBase resources associated with the query.

TIBSQL.Next

TIBSQL See also

Returns an extended SQL descriptor for the next record.

```
function Next: TIBXSQLDA;
```

Description

Call Next to get an extended SQL descriptor for the next record.

TIBSQL.Prepare

TIBSQL See also Example

Prepares a query for execution.

```
procedure Prepare;
```

Description

Call Prepare to prepare a query for execution.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TIBCustomSQLMonitor

Hierarchy Properties Methods See also

TIBCustomSQLMonitor is the ancestor object from which TIBSQLMonitor and TIBSQLMonitorHook are derived.

Unit

IBSQLMonitor

Description

TIBCustomSQLMonitor is the ancestor object from which TIBSQLMonitor and TIBSQLMonitorHook are derived.

TIBCustomSQLMonitor properties

TIBCustomSQLMonitor Alphabetically Legend

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBCustomSQLMonitor properties

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBCustomSQLMonitor methods

TIBCustomSQLMonitor Alphabetically

In TIBCustomSQLMonitor

- Create
- Destroy

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBCustomSQLMonitor methods

TIBCustomSQLMonitor By object

- AfterConstruction
- Assign
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- RemoveComponent
- SafeCallException
- UpdateAction

TIBCustomSQLMonitor.Create

TIBCustomSQLMonitor See also

Creates an instance of TIBCustomSQLMonitor.

```
constructor Create (AOwner: TComponent);
```

Description

Call Create to create an instance of TIBCustomSQLMonitor. Create also:

- Creates the window
- Registers the event
- Fires the Monitor thread

TIBCustomSQLMonitor.Destroy

TIBCustomSQLMonitor See also

Destroys the instance of TIBCustomSQLMonitor.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, an application should call Free. Free verifies that the service object has not already been freed before it calls Destroy.

Destroy unregisters the event, destroys the window, and kills the Monitor thread.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TIBSQLMonitor

Hierarchy Properties Methods Events See also

TIBSQLMonitor monitors dynamic SQL passed to the InterBase server.

Unit

IBSQLMonitor

Description

Use TIBSQLMonitor to monitor dynamic SQL taking place in InterBase applications. Enable TraceFlags in each TIBDatabase component in order for the SQL monitor to receive status information from each database connection.

TIBSQLMonitor properties

TIBSQLMonitor Alphabetically Legend

Derived from TComponent

- ComObject
  - ComponentCount
  - ComponentIndex
  - Components
  - ComponentState
  - ComponentStyle
  - DesignInfo
  - Name
  - Owner
  - Tag
  - VCLComObject

TIBSQLMonitor properties

TIBSQLMonitor By object Legend

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBSQLMonitor events

TIBSQLMonitor Alphabetically Legend

In TIBSQLMonitor

- OnSQL

TIBSQLMonitor events

TIBSQLMonitor By object Legend

- OnSQL

TIBSQLMonitor.OnSQL

TIBSQLMonitor See also

Reports dynamic SQL activity on InterBase applications.

```
property OnSQL: TSQLEvent;
```

Description

Write an OnSQL event handler to report dynamic SQL activity on InterBase applications. OnSQL is an event of type TSQLEvent, and reports SQL activity through the EventText:

```
TSQLEvent = procedure(EventText: String) of object;
```

You must enable the TraceFlags in each TIBDatabase component in order for the SQL monitor to receive status information from each database connection.

TIBSQLMonitor methods

TIBSQLMonitor Alphabetically

Derived from TIBCustomSQLMonitor

- Create
- Destroy

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBSQLMonitor methods

TIBSQLMonitor By object

AfterConstruction
Assign
BeforeDestruction
ClassInfo
ClassName
ClassNameIs
ClassParent
ClassType
CleanupInstance
Create
DefaultHandler
Destroy
DestroyComponents
Destroying
Dispatch
ExecuteAction
FieldAddress
FindComponent
Free
FreeInstance
FreeNotification
FreeOnRelease
GetInterface
GetInterfaceEntry
GetInterfaceTable
GetNamePath
GetParentComponent
HasParent
InheritsFrom
InitInstance
InsertComponent
InstanceSize
MethodAddress
MethodName
NewInstance
RemoveComponent
SafeCallException
UpdateAction

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TIBCustomSQLMonitor

TIBSQLMonitorHook

Hierarchy Properties Methods Events See also

TIBSQLMonitorHook is an internal object used by the components to output messages for use by TIBSQLMonitor.

Unit

IBSQLMonitor

Description

TIBSQLMonitorHook is an internal object used by the components to output messages for use by TIBSQLMonitor.

TIBSQLMonitorHook properties

TIBSQLMonitorHook Alphabetically Legend

In TIBSQLMonitorHook

TraceFlags

Derived from TComponent

ComObject
ComponentCount
ComponentIndex
Components
ComponentState
ComponentStyle
DesignInfo
Name
Owner
Tag
VCLComObject

TIBSQLMonitorHook properties

TIBSQLMonitorHook By object Legend

- ComObject
  - ComponentCount
  - ComponentIndex
  - Components
  - ComponentState
  - ComponentStyle
  - DesignInfo
- Name
  - Owner
- Tag
  - TraceFlags
  - VCLComObject

TIBSQLMonitorHook.TraceFlags

TIBSQLMonitorHook See also

This is an internal property used by the TIBDatabase component.

```
property TraceFlags: TTraceFlags;
```

Description

Use TraceFlags to specify which database operations the SQL Monitor should track in an application at runtime. TraceFlags is only meaningful for the SQL Monitor, which is provided to enable performance tuning and SQL debugging when working with remote SQL database servers.

Note: Normally trace options are set from the SQL Monitor rather than setting TraceFlags in application code.

TIBSQLMonitorHook events

TIBSQLMonitorHook Alphabetically Legend

Derived from TIBSQLMonitor

- OnSQL

TIBSQLMonitorHook events

TIBSQLMonitorHook By object Legend

- OnSQL

TIBSQLMonitorHook methods

TIBSQLMonitorHook Alphabetically

In TIBSQLMonitorHook

- Create
- DBConnect
- DBDisconnect
- Destroy
- MonitorCount
- ReadSQLData
- RegisterMonitor
- ServiceAttach
- ServiceDetach
- ServiceQuery
- ServiceStart
- SQLExecute
- SQLFetch
- SQLPrepare
- TRCommit
- TRCommitRetaining
- TRRollback
- TRRollbackRetaining
- TRStart
- UnregisterMonitor

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName

ClassNameIs
ClassParent
ClassType
CleanupInstance
DefaultHandler
Dispatch
FieldAddress
Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBSQLMonitorHook methods

TIBSQLMonitorHook By object

- AfterConstruction
- Assign
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DBConnect
- DBDisconnect
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- MethodAddress
- MethodName
- MonitorCount
- NewInstance
- ReadSQLData
- RegisterMonitor
- RemoveComponent
- SafeCallException

ServiceAttach
ServiceDetach
ServiceQuery
ServiceStart
SQLExecute
SQLFetch
SQLPrepare
TRCommit
TRCommitRetaining
TRRollback
TRRollbackRetaining
TRStart
UnregisterMonitor
UpdateAction

TIBSQLMonitorHook.Create

TIBSQLMonitorHook See also

Creates an instance of TIBSQLMonitorHook.

```
constructor Create;
```

Description

Call Create to create an instance of TIBSQLMonitorHook. Create also:

- Creates a mapped memory file
- Creates the event
- Sets the initial state

TIBSQLMonitorHook.DBConnect

TIBSQLMonitorHook See also

Outputs database connect notifications.

```
procedure DBConnect(db: TIBDatabase);
```

Description

Call the DBConnect method to output database connect notifications.

TIBSQLMonitorHook.DBDisconnect

TIBSQLMonitorHook See also

Outputs database disconnect notifications.

```
procedure DBDisconnect(db: TIBDatabase);
```

Description

Call the DBdisconnect method to output database disconnect notifications.

TIBSQLMonitorHook.Destroy

TIBSQLMonitorHook See also

Destroys the instance of TIBSQLMonitorHook.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, an application should call Free. Free verifies that the service object has not already been freed before it calls Destroy. Destroy unmaps the memory-mapped file and closes the event handles.

TIBSQLMonitorHook.MonitorCount

TIBSQLMonitorHook See also

Returns the number of monitors.

```
function MonitorCount: Integer;
```

Description

Call MonitorCount to get the number of active monitors.

TIBSQLMonitorHook.ReadSQLData

TIBSQLMonitorHook See also

Returns the contents of the notification buffer for the enabled trace flags.

```
function ReadSQLData: String;
```

Description

Call ReadSQLData to return the contents of the notification buffer for appropriately enabled trace flags.

TIBSQLMonitorHook.RegisterMonitor

TIBSQLMonitorHook See also

Registers monitors.

```
procedure RegisterMonitor;
```

Description

Call RegisterMonitor to register monitors.

TIBSQLMonitorHook.ServiceAttach

TIBSQLMonitorHook See also

Outputs a service attach notification.

```
procedure ServiceAttach(qry: TIBCustomService);
```

Description

Call ServiceAttach to output a service attach notification.

TIBSQLMonitorHook.ServiceDetach

TIBSQLMonitorHook See also

Outputs a service detach notification.

```
procedure ServiceDetach(qry: TIBCustomService);
```

Description

Call ServiceDetach to output a service detach notification.

TIBSQLMonitorHook.ServiceQuery

TIBSQLMonitorHook See also

Outputs a service query notification.

```
procedure ServiceQuery(qry: TIBCustomService);
```

Description

Call ServiceQuery to output a service query notification.

TIBSQLMonitorHook.ServiceStart

TIBSQLMonitorHook See also

Outputs a service start notification.

```
procedure ServiceStart(qry: TIBCustomService);
```

Description

Call ServiceStart to output a service start notification.

TIBSQLMonitorHook.SQLExecute

TIBSQLMonitorHook See also

Outputs the SQL execute notification.

```
procedure SQLExecute(qry: TIBSQL);
```

Description

Call SQLExecute to output the SQL execute notification, along with the query text and parameters.

TIBSQLMonitorHook.SQLFetch

TIBSQLMonitorHook See also

Outputs the SQL fetch notification.

```
procedure SQLFetch(qry: TIBSQL);
```

Description

Call SQLFetch to output the SQL fetch notification, along with the SQL statement and the status of the fetch (for example, whether EOF has been reached, etc).

TIBSQLMonitorHook.SQLPrepare

TIBSQLMonitorHook See also

Outputs the SQL prepare notification.

```
procedure SQLPrepare(qry: TIBSQL);
```

Description

Call SQLPrepare to output the SQL prepare notification, along with the query, text, and plan.

TIBSQLMonitorHook.TRCommit

TIBSQLMonitorHook See also

Outputs the commit notification.

```
procedure TRCommit(tr: TIBTransaction);
```

Description

Call TRCommit to output the commit notification.

TIBSQLMonitorHook.TRCommitRetaining

TIBSQLMonitorHook See also

Outputs the commit retaining notification.

```
procedure TRCommitRetaining(tr: TIBTransaction);
```

Description

Call TRCommitRetaining to output the commit retaining notification.

TIBSQLMonitorHook.TRRollback

TIBSQLMonitorHook See also

Outputs the rollback notification.

```
procedure TRRollback(tr: TIBTransaction);
```

Description

Call TRRollback to output the rollback notification.

TIBSQLMonitorHook.TRRollbackRetaining

TIBSQLMonitorHook See also

Outputs the rollback retaining notification.

```
procedure TRRollbackRetaining(tr: TIBTransaction);
```

Description

Call TRRollbackRetaining to output the rollback retaining notification.

TIBSQLMonitorHook.TRStart

TIBSQLMonitorHook See also

Outputs the start transaction notification.

```
procedure TRStart(tr: TIBTransaction);
```

Description

Call TRStart to output the transaction start notification.

TIBSQLMonitorHook.UnregisterMonitor

TIBSQLMonitorHook See also

Unregisters the monitor.

```
procedure UnregisterMonitor;
```

Description

Call UnregisterMonitor to unregister the monitor.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TIBCustomSQLMonitor

TIBSQLMonitor

TIBStoredProc

Hierarchy Properties Methods Events See also

TIBStoredProc encapsulates a stored procedure on a database server.

Unit

IBStoredProc

Description

Use a TIBStoredProc object when a client application must use a stored procedure on a database server. A stored procedure is a grouped set of statements, stored as part of a database server's metadata (just like tables, indexes, and domains), that performs a frequently repeated, database-related task on the server and passes results to the client.

Many stored procedures require a series of input arguments, or parameters, that are used during processing. TIBStoredProc provides a Params property that enables an application to set these parameters before executing the stored procedure.

TIBStoredProc reuses the Params property to hold the results returned by a stored procedure. Params is an array of values. A stored procedure will return a single set of values, or none at all.

Note: TIBStoredProc components should be used with InterBase Execute stored procedures only. To use InterBase Select procedures, use TIBQuery or TIBDataSet. Since Execute stored procedures do not return result sets, never use Open or Active on the TIBStoredProc component. Use ExecProc instead.

TIBStoredProc properties

TIBStoredProc Alphabetically Legend

In TIBStoredProc

- NameList
- ParamCount
- Params
- Prepared
- StmtHandle
- StoredProcName

Derived from TCustomDataSet

- CachedUpdates
- Database
- DBHandle
- Transaction
- TRHandle
- UpdateObject
- UpdateRecordTypes
- UpdatesPending

Derived fromTDataSet

- Active
- AggFields
- AutoCalcFields
- Bof
- Bookmark
- DatasetField
- DataSource
- DefaultFields
- Designer
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Found
- Modified
- Name
- ObjectView
- SparseArrays
- State

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Owner
- Tag
- VCLComObject

TIBStoredProc properties

TIBStoredProc By object Legend

- Active
- AggFields
- AutoCalcFields
- Bof
- Bookmark
- CachedUpdates
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- Database
- DataSource
- DBHandle
- DefaultFields
- Designer
- DesignInfo
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Found
- Modified
- Name
- NameList
- ObjectView
- Owner
- ParamCount
- Params
- Prepared
- SparseArrays
- State
- StmtHandle
- StoredProcName
- Tag
- TRHandle
- Transaction
- UpdateObject
- UpdateRecordTypes
- UpdatesPending
- VCLComObject

TIBStoredProc.NameList

TIBStoredProc See also

Returns a list of stored procedures in the database.

```
property NameList: TStrings;
```

Description

NameList is an internal property used to list the stored procedures available in the database.

TIBStoredProc.ParamCount

TIBStoredProc See also Example

Indicates the number of parameters for the stored procedure component.

```
property ParamCount: Word;
```

Description

Examine ParamCount to determine the number of parameters currently stored in the Params property.

TIBStoredProc.Params

TIBStoredProc See also Example

Stores the input and output parameters for a stored procedure.

```
property Params: TParams;
```

Description

Access Params at runtime to set input parameter names, values, and data types dynamically (at design time use the Parameters editor to set parameter information). Params is an array of parameter values.

An application can also access Params after executing a stored procedure to retrieve the output parameters returned to the procedure by the server.

TIBStoredProc.Prepared

TIBStoredProc See also

Determines whether or not a stored procedure is prepared for execution.

```
property Prepared: Boolean;
```

Description

Examine Prepared to determine if a stored procedure is already prepared for execution. If Prepared is True, the stored procedure is prepared, and if Prepared is False, the procedure is not prepared. A stored procedure must be prepared before it can be executed.

Note: Delphi automatically prepares a stored procedure if it is unprepared when the application calls ExecProc. After execution, Delphi automatically unprepares the stored procedure. If a procedure will be executed a number of times, it is more efficient for the application to prepare the stored procedure once, and unprepare it when it is no longer needed.

An application can change the current setting of Prepared to prepare or unprepare a stored procedure. If Prepared is True, setting it to False calls the Unprepare method to unprepare the stored procedure. If Prepared is False, setting it to True calls the Prepare method to prepare the procedure. Generally, however, it is better programming practice to call Prepare and Unprepare directly. These methods automatically update the Prepared property.

TIBStoredProc.StmtHandle

TIBStoredProc

Identifies the statement handle for the stored procedure.

```
property StmtHandle: TISC_STMT_HANDLE;
```

Description

Retrieve StmtHandle if an application makes a direct call to the InterBase server, bypassing the methods of TIBStoredProc. Some API calls require a statement handle as a parameter. Under all other circumstances an application does not need to access this property.

TIBStoredProc.StoredProcName

TIBStoredProc See also

Identifies the name of the stored procedure on the server for which this object is an encapsulation.

```
property StoredProcName: String;
```

Description

Set StoredProcName to specify the name of the stored procedure to call on the server. If StoredProcName does not match the name of an existing stored procedure on the server, then when the application attempts to prepare the procedure prior to execution, an exception is raised.

TIBStoredProc events

TIBStoredProc Alphabetically Legend

Derived from TIBCustomDataSet

- OnUpdateError
- OnUpdateRecord

Derived from TDataSet

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnNewRecord
- OnPostError

TIBStoredProc events

TIBStoredProc By object Legend

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnNewRecord
- OnPostError
- OnUpdateError
- OnUpdateRecord

TIBStoredProc methods

TIBStoredProc Alphabetically

In TIBStoredProc

- CopyParams
- Create
- Destroy
- ExecProc
- ParamByName
- Prepare
- UnPrepare

Derived from TIBCustomDataSet

- ApplyUpdates
- BatchInput
- BatchOutput
- CachedUpdateStatus
- CancelUpdates
- CreateBlobStream
- FetchAll
- GetCurrentRecord
- GetFieldData
- Locate
- LocateNext
- Lookup
- RecordModified
- RevertRecord
- Undelete
- UpdateStatus

Derived from TDataSet

- ActiveBuffer
- Append
- AppendRecord
- CheckBrowseMode
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- CursorPosChanged
- Delete
- DisableControls
- Edit
- EnableControls
- FieldByName
- FindField
- FindFirst

FindLast
FindNext
FindPrior
First
FreeBookmark
GetBookmark
GetDetailDataSets
GetDetailLinkFields
GetFieldList
GetFieldNames
GetProviderAttributes
GotoBookmark
Insert
InsertRecord
IsEmpty
IsLinkedTo
Last
MoveBy
Next
Open
Post
Prior
Refresh
Resync
SetFields
Translate
UpdateCursorPos
UpdateRecord

Derived from TComponent

DestroyComponents
Destroying
ExecuteAction
FindComponent
FreeNotification
FreeOnRelease
GetNamePath
GetParentComponent
HasParent
InsertComponent
RemoveComponent
SafeCallException
UpdateAction

Derived from TPersistent

Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBStoredProc methods

TIBStoredProc By object

- ActiveBuffer
- AfterConstruction
- Append
- AppendRecord
- ApplyUpdates
- Assign
- BatchInput
- BatchOutput
- BeforeDestruction
- CachedUpdateStatus
- CancelUpdates
- CheckBrowseMode
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- CopyParams
- Create
- CreateBlobStream
- CursorPosChanged
- DefaultHandler
- Delete
- Destroy
- DestroyComponents
- Destroying
- DisableControls
- Dispatch
- Edit
- EnableControls
- ExecProc
- ExecuteAction
- FetchAll
- FieldAddress
- FieldByName
- FindComponent
- FindField

FindFirst
FindLast
FindNext
FindPrior
First
Free
FreeBookmark
FreeInstance
FreeNotification
FreeOnRelease
GetBookmark
GetCurrentRecord
GetDetailDataSets
GetDetailLinkFields
GetFieldData
GetFieldList
GetFieldNames
GetInterface
GetInterfaceEntry
GetInterfaceTable
GetNamePath
GetParentComponent
GetProviderAttributes
GotoBookmark
HasParent
InheritsFrom
InitInstance
Insert
InsertComponent
InsertRecord
InstanceSize
IsEmpty
IsLinkedTo
Last
Locate
LocateNext
Lookup
MethodAddress
MethodName
MoveBy
NewInstance
Next
Open
ParamByName
Post

Prepare
Prior
RecordModified
Refresh
RemoveComponent
Resync
RevertRecord
SafeCallException
SetFields
Translate
UpdateCursorPos
UpdateRecord
Undelete
UnPrepare
UpdateAction
UpdateStatus

TIBStoredProc.CopyParams

TIBStoredProc See also

Copies a stored procedure's parameters into another parameter list.

```
procedure CopyParams(Value: TParams);
```

Description

Call CopyParams to copy this stored procedure's parameters into a separate parameter list object. Value is the parameter list into which to assign this stored procedure's parameters. Value can be the parameter list of another stored procedure. For example:

```
TIBStoredProc1.CopyParams(TIBStoredProc2.Params);
```

If the stored procedure is not prepared when an application calls CopyParams, CopyParams calls Prepare before assigning the parameters to the target parameters list, and then calls UnPrepare to return the stored procedure to its previous state.

TIBStoredProc.Create

TIBStoredProc See also

Creates an instance of a stored procedure component.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to instantiate a stored procedure declared in an application. Create calls its inherited Create constructor, creates an empty parameter list for the newly instantiated stored procedure, and initializes its parameter, server, and record buffers to nil.

TIBStoredProc.Destroy

TIBStoredProc See also

Destroys the instance of a stored procedure.

```
destructor Destroy;
```

Description

Do not call Destroy directly. Instead call Free to verify that the stored procedure is not already freed before calling Destroy. Destroy disconnects from the server, frees the parameter list, and calls its inherited Destroy destructor.

TIBStoredProc.ExecProc

TIBStoredProc See also Example

Executes the stored procedure on the server.

```
procedure ExecProc;
```

Description

Call ExecProc to execute a stored procedure on the server. Before calling ExecProc:

1. Provide any input parameters in the Params property. At design time, a developer can provide parameters using the Parameters editor. At runtime an application must access Params directly.
2. Call Prepare to bind the parameters.

If a stored procedure returns output parameters, they are stored in the Params property when ExecProc returns control to the application. An application can access the output parameters by indexing into the Params list, or by using the ParamByName method.

TIBStoredProc.ParamByName

TIBStoredProc See also Example

Accesses parameter information based on a specified parameter name.

```
function ParamByName(const Value: string): TParam;
```

Description

Call ParamByName to return parameter information for a specific parameter based on its name. Value is the name of the parameter for which to retrieve information. Typically ParamByName is used to set an input parameter's value at runtime, or to retrieve the value of an output parameter. The following command line assigns the value "Jane Smith" as the value for the parameter named Contact:

```
StoredProc1.ParamByName('Contact').AsString := 'Jane Smith';
```

TIBStoredProc.Prepare

TIBStoredProc See also Example

Prepares a stored procedure for execution.

```
procedure Prepare;
```

Description

Call Prepare to bind a stored procedure's parameters before calling ExecProc to execute the procedure. Prepare readies a stored procedure's parameters and informs the server of the stored procedure's readiness. These steps allocate system resources and optimize the query for server performance.

Note: If an application attempts to execute a stored procedure that has not been prepared, Delphi automatically prepares the procedure before executing it, and then unprepares it when execution is complete. If a stored procedure will be executed more than once, it is more efficient for an application to call Prepare explicitly once to avoid repeated and unnecessary preparing and unpreparing of the stored procedure, and then call UnPrepare when the stored procedure is no longer needed.

TIBStoredProc.UnPrepare

TIBStoredProc See also

Frees the resources allocated for a previously prepared stored procedure.

```
procedure UnPrepare;
```

Description

Call UnPrepare to free the resources allocated for a previously prepared stored procedure on the server and client sides.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TDataSet

TIBCustomDataSet

TIBStringField

Hierarchy Properties Methods Events See also

TIBStringField allows for strings in excess of 8196 bytes of data.

Unit

IBCustomDataSet

Description

A value of a string field is physically stored as a sequence of characters. Common uses for string fields are to store text, such as names and addresses.

TIBStringField introduces properties to translate between string values and other data types, and to manage language driver conversions. As a descendent of TStringField, TIBStringField inherits many properties, methods, and events that are useful for managing the value and properties of a field in a database. TIBStringField allows for strings in excess of 8196 bytes of data.

TIBStringField properties

TIBStringField Alphabetically Legend

In TIBStringField

- BlanksToNULL

Derived from TStringField

- AsBoolean
- AsDateTime
- AsFloat
- AsInteger
- AsString
- AsVariant
- DataSize
- FixedChar
- Transliterate
- Value

Derived from TField

- Alignment
- AsBoolean
- AsDateTime
- AttributeSet
- AutoGenerateValue
- Calculated
- CanModify
- ConstraintErrorMessage
- CurValue
- CustomConstraint
- DataSet
- DataType
- DefaultExpression
- DisplayLabel
- DisplayName
- DisplayText
- DisplayWidth
- EditMask
- EditMaskPtr
- FieldKind
- FieldName
- FieldNo
- FullName
- HasConstraints
- ImportedConstraint
- Index
- IsIndexField
- IsNull
- KeyFields
- Lookup
- LookupCache
- LookupDataSet
- LookupKeyFields
- LookupList
- LookupResultField

- NewValue
- Offset
- OldValue
- Origin
- ParentField
- ProviderFlags
- ReadOnly
- Required
- Text
- ValidChars
- Visible

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBStringField properties

TIBStringField By object Legend

- Alignment
- AsBoolean
- AsDateTime
- AsFloat
- AsInteger
- AsString
- AsVariant
- AttributeSet
- AutoGenerateValue
- BlanksToNULL
- Calculated
- CanModify
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- ConstraintErrorMessage
- CurValue
- CustomConstraint
- DataSet
- DataSize
- DataType
- DefaultExpression
- DesignInfo
- DisplayLabel
- DisplayName
- DisplayText
- DisplayWidth
- EditMask
- EditMaskPtr
- FieldKind
- FieldName
- FieldNo
- FixedChar
- FullName
- HasConstraints
- ImportedConstraint
- Index
- IsIndexField
- IsNull
- KeyFields
- Lookup
- LookupCache
- LookupDataSet
- LookupKeyFields
- LookupList
- LookupResultField
- Name
- NewValue

- Offset
- OldValue
- Origin
- Owner
- ParentField
- ProviderFlags
- ReadOnly
- Required
- Tag
- Text
- Transliterate
- ValidChars
- Value
- VCLComObject
- Visible

TIBStringField.BlanksToNULL

TIBStringField See also

Converts blank spaces to null.

```
property BlanksToNull: Boolean;
```

Description

Use BlanksToNULL to convert blank spaces to null within a dataset.

TIBStringField methods

TIBStringField Alphabetically

In TIBStringField

- CheckTypeSize
- Create
- GetAsString
- GetAsVariant
- GetValue
- SetAsString

Derived from TField

- Assign
- AssignValue
- Clear
- Destroy
- FocusControl
- GetData
- IsBlob
- IsValidChar
- RefreshLookupList
- SetData
- SetFieldType
- Validate

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent

ClassType
CleanupInstance
DefaultHandler
Dispatch
FieldAddress
Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBStringField methods

TIBStringField By object

- AfterConstruction
- Assign
- AssignValue
- BeforeDestruction
- CheckTypeSize
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Clear
- Create
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- FocusControl
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetAsString
- GetAsVariant
- GetData
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetParentComponent
- GetValue
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- IsBlob
- IsValidChar
- MethodAddress

MethodName
NewInstance
RefreshLookupList
RemoveComponent
SafeCallException
SetAsString
SetData
SetFieldType
UpdateAction
Validate

TIBStringField.CheckTypeSize

TIBStringField See also

Indicates the type size of the string field.

```
class procedure CheckTypeSize(Value: Integer);
```

Description

Call CheckTypeSize to determine the type size of the string field.

All sizes are valid for a TIBString field.

TIBStringField.Create

TIBStringField See also

Creates an instance of a TIBStringField object.

```
constructor Create(AOwner: TComponent);
```

Description

It is seldom necessary to call Create directly, because a string field component is instantiated automatically for all string fields in a dataset.

After calling the inherited constructor, Create sets

- DataType to ftString.
- Size to 20.
- Transliterate to True.
- BlanksToNull to true

TIBStringField.GetAsString

TIBStringField See also

Returns the value of a field as a string.

```
function GetAsString: string;
```

Description

Call GetAsString to return the value of a field as a string.

TIBStringField.GetAsVariant

TIBStringField See also

Returns the value of a field as a variant.

```
function GetAsVariant: Variant;
```

Description

Call GetAsVariant return the value of a field as type Variant.

TIBStringField.GetValue

TIBStringField See also

Returns the value of a field.

```
function GetValue(var Value: string): Boolean;
```

Description

Call GetValue to return the value of a field.

TIBStringField.SetAsString

TIBStringField See also

Sets the value of a field as a string type.

```
procedure SetAsString(const Value: string);
```

Description

Call SetAsString to set the value of a field as a string type.

TIBStringField events

TIBStringField Alphabetically Legend

Derived from TField

- OnChange
- OnGetText
- OnSetText
- OnValidate

TIBStringField events

TIBStringField By object Legend

- OnChange
- OnGetText
- OnSetText
- OnValidate

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TField

TStringField

TIBTable

Hierarchy Properties Methods Events See also

TIBTable is a dataset component that encapsulates a database table.

Unit

IBTable

Description

Use TIBTable to access data in a single table or view. TIBTable provides direct access to every record and field in an underlying InterBase database table. A table component can also work with a subset of records within a database table using filters.

TIBTable properties

TIBTable Alphabetically Legend

In TIBTable

- BufferChunks
- CurrentDBKey
- DefaultIndex
- Exists
- Filter
- Filtered
- IndexDefs
- IndexFieldCount
- IndexFieldNames
- IndexFields
- IndexName
- MasterFields
- MasterSource
- ReadOnly
- StoreDefs
- TableName
- TableNames
- TableTypes
- UniDirectional
- UpdateObject

Derived from TIBCustomDataSet

- CachedUpdates
- Database
- DBHandle
- Transaction
- TRHandle
- UpdateRecordTypes
- UpdatesPending

Derived from TDataSet

- Active
- AggFields
- AutoCalcFields
- BlockReadSize
- Bof
- Bookmark
- Constraints
- DataSetField
- DefaultFields
- Designer
- Eof
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- FilterOptions
- Found
- Modified
- Name

- ObjectView
  RecNo
- RecordCount
  - RecordSize
    SparseArrays
  - State

Derived from TComponent

- ComObject
  - ComponentCount
    ComponentIndex
  - Components
  - ComponentState
  - ComponentStyle
    DesignInfo
- Owner
- Tag
  VCLComObject

TIBTable properties

TIBTable By object Legend

- Active
- AggFields
- AutoCalcFields
- BlockReadSize
- Bof
- Bookmark
- BufferChunks
- CachedUpdates
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- Constraints
- CurrentDBKey
- Database
- DataSetField
- DBHandle
- DefaultFields
- DefaultIndex
- Designer
- DesignInfo
- Eof
- Exists
- FieldCount
- FieldDefList
- FieldDefs
- FieldList
- Fields
- FieldValues
- Filter
- Filtered
- Filter
- FilterOptions
- Found
- IndexDefs
- IndexFieldCount
- IndexFieldNames
- IndexFields
- IndexName
- MasterFields
- MasterSource
- Modified
- Name
- ObjectView
- Owner
- ReadOnly
- RecNo
- RecordCount
- RecordSize

- SparseArrays
- State
- StoreDefs
- TableName
- TableNames
- TableTypes
- Tag
- Transaction
- TRHandle
- UniDirectional
- UpdateObject
- UpdateRecordTypes
- UpdatesPending
- VCLComObject

TIBTable.BufferChunks

TIBTable See also

Indicates the buffer incrementation size.

```
property BufferChunks: Integer;
```

Description

Use the BufferChunks property to indicate the chunk size (in records) used to increment the buffer.

TIBTable.CurrentDBKey

TIBTable See also

Returns the DBKey for the current row in the table.

```
property CurrentDBKey: TIBDBKey;
```

Description

Use CurrentDBKey to return the DBKey for the current row in the table. A DBKey is a unique row identifier for the duration of the current transaction. This property is primarily for internal use.

TIBTable.DefaultIndex

TIBTable See also

Specifies if the data in the table should be ordered on a default index when opened.

```
property DefaultIndex: Boolean;
```

Description

When this property is set to False, an ORDER BY clause is not used when opening a table on the server. When DefaultIndex is True, the data is ordered based on the primary key or a unique index when opening the table. DefaultIndex defaults to True.

TIBTable.Exists

TIBTable See also Example

Indicates whether the underlying database table exists.

```
property Exists: Boolean;
```

Description

Read Exists at runtime to determine whether a database table exists. If the table does not exist, you can create a table from the field definitions and index definitions using the CreateTable method. This property is read-only.

TIBTable.Filter

TIBTable See also

Specifies rows in a dataset that meet the filter conditions.

```
property Filter;
```

Description

Use the Filter property to restrict the rows in the dataset to those that meet the filter conditions. The syntax for Filter is the same as the search condition that appears after a WHERE clause in a Select statment. For example, to view only those records where the value in the Country field contains 'France' or 'Fiji':

Country = 'France' or Country = 'Fiji'

You can use standard SQL wildcards such as percent (%) and underscore (_) in the condition when you use the LIKE operator. The following filter condition retrieves all Countries begining with 'F':

```
Country LIKE 'F%'
```

To view rows that have a NULL value in the Country column and Contact_Name is not NULL, use the IS operator:

```
Country is NULL and Contact_Name is not NULL
```

You can also use complex expression in filter clauses this one thatretrieves rows with Country values that use Francs as currency. Thisstatement gets countries with currencies as 'BFranc', 'SFranc', and'FFranc'

```
Country IN (SELECT Country from Country where Currency = '_Franc')
```

TIBTable.Filtered

TIBTable See also

Specifies whether or not filtering is active for a table.

```
property Filtered: Boolean;
```

Description

Check Filtered to determine whether or not dataset filtering is in effect. If Filtered is True, then filtering is active. To apply filter conditions specified in the Filter property or the OnFilterRecord event handler, set Filtered to True.

TIBTable.IndexDefs

TIBTable See also Example

Contains information about the indexes for a table.

```
property IndexDefs: TIndexDefs;
```

Description

IndexDefs is an array of index items, each of which describes an available index for the table. Ordinarily an application accesses or specifies indexes through the IndexFieldNames or IndexFields properties. If IndexDefs is updated or manually edited, the StoreDefs property becomes True.

Note: The index items in IndexDefs may not always reflect the current indexes available for a table. Before examining IndexDefs, call its Update method to refresh the item list.

TIBTable.IndexFieldCount

TIBTable See also Example

Indicates the number of fields that comprise the current key.

```
property IndexFieldCount: Integer;
```

Description

Examine IndexFieldCount to determine the number of fields that comprise the current key. For indexes based on a single column, IndexFieldCount returns 1. For multi-column indexes, IndexFieldCount indicates the number of fields upon which the index is based.

TIBTable.IndexFieldNames

TIBTable See also

Lists the columns to use as an index for a table.

```
property IndexFieldNames: String;
```

Description

Use IndexFieldNames as an alternative method of specifying the index to use for a table. In IndexFieldNames specify the name of each column to use as an index for a table. Ordering of column names is significant. Separate names with semicolon.

Note: The IndexFieldNames and IndexName properties are mutually exclusive. Setting one clears the other.

TIBTable.IndexFields

TIBTable See also Example

Retrieves or sets a field for an index.

```
property IndexFields [Index: Integer]: TField;
```

Description

IndexFields provides a zero-based array of field objects, each of which corresponds to a field in the current index. Index is an ordinal value indicating the position of a field in the index. The first field in the index is IndexFields[0], the second is IndexFields[1], and so on.

Note: Do not set IndexField directly. Instead use the IndexFieldNames property to order datasets on the fly at runtime.

TIBTable.IndexName

TIBTable See also Example

Identifies an index for the table.

```
property IndexName: String;
```

Description

Use IndexName to specify an index for a table. If IndexName is empty, a table's sort order is based on its primary index.

If IndexName contains a valid index name, then that index is used to determine the order of records.

Note: IndexFieldNames and IndexName are mutually exclusive. Setting one clears the other.

TIBTable.MasterFields

TIBTable See also

Specifies one or more fields in a master table to link with corresponding fields in this table in order to establish a master-detail relationship between the tables.

```
property MasterFields: String;
```

Description

Use MasterFields after setting the MasterSource property to specify the names of one or more fields to use in establishing a detail-master relationship between this table and the one specified in MasterSource.

MasterFields is a string containing one or more field names in the master table. Separate field names with semicolons.

Each time the current record in the master table changes, the new values in those fields are used to select corresponding records in this table for display.

TIBTable.MasterSource

TIBTable See also

Specifies the name of the data source for a dataset to use as a master table in establishing a detail-master relationship between this table and another one.

```
property MasterSource: TDataSource;
```

Description

Use MasterSource to specify the name of the data source component whose DataSet property identifies a dataset to use as a master table in establishing a detail-master relationship between this table and another one.

After setting the MasterSource property, specify which fields to use in the master table by setting the MasterFields property. At runtime each time the current record in the master table changes, the new values in those fields are used to select corresponding records in this table for display.

TIBTable.ReadOnly

TIBTable See also

Specifies whether a table is read-only for this application.

```
property ReadOnly: Boolean;
```

Description

Use the ReadOnly property to prevent users from updating, inserting, or deleting data in the table. By default, ReadOnly is False, meaning users can potentially alter a table's data.

Note: Even if ReadOnly is False, users may not be able to modify or add data to a table. Other factors, such as insufficient SQL privileges for the application or its current user may prevent successful alterations.

To guarantee that users cannot modify or add data to a table,

1. Set the Active property to False.
2. Set ReadOnly to True.

TIBTable.StoreDefs

TIBTable See also

Indicates whether the table's field and index definitions persist with the data module or form.

```
property StoreDefs: Boolean;
```

Description

If StoreDefs is True, the table's index and field definitions are stored with the data module or form. Setting StoreDefs to True makes the CreateTable method into a one-step procedure that creates fields, indexes, and validity checks at runtime.

StoreDefs is False by default. It becomes True whenever FieldDefs or IndexDefs is updated or edited manually; to prevent edited (or imported) definitions from being stored, reset StoreDefs to False.

TIBTable.TableTypes

TIBTable See also

Sets the types of relations displayed in the TableName drop-down list.

```
type TIBTableType = (ttSystem, ttView);
  TIBTableTypes = set of TIBTableType
property TableTypes: TIBTableTypes;
```

Description

Use TableTypes to change which types of relations are displayed in the TableName drop-down list, in addition to user tables. TableTypes are:

ttSystem	System tables and views
ttView	User views

TIBTable.TableName

TIBTable See also

Indicates the name of the database table or view that this component encapsulates.

```
property TableName: String;
```

Description

Use TableName to specify the name of the database relation this component encapsulates. To set TableName to a meaningful value, the Database property should already be set. If Database is set at design time, then select a valid table name from the TableName drop-down list in the Object Inspector.

Note: To set TableName, the Active property must be False.

TIBTable.TableNames

TIBTable See also

Returns a list of table names.

```
property TableNames: TStrings;
```

Description

The TableNames property is an internal property used to display a list of the table and view names in the database.

TIBTable.UniDirectional

TIBTable See also

Determines whether or not bidirectional cursors are enabled for a table.

```
property UniDirectional: Boolean;
```

Description

Use UniDirectional to determine whether or not bidirectional cursors are enabled for a table.

TIBTable.UpdateObject

TIBTable See also

Specifies the update object component used to update a read-only result set when cached updates are enabled.

```
property UpdateObject;
```

Description

Use UpdateObject to specify the TUpdateObject component to use in an application that must be able to update a read-only result set.

In a query made against multiple tables, a live result set cannot be returned. In these cases, UpdateObject can be used to specify a TIBUpdateSQL component that performs updates as a separate transaction that is transparent to the application.

TIBTable events

TIBTable Alphabetically Legend

Derived from TIBCustomDataSet

- OnUpdateError
- OnUpdateRecord

Derived from TDataSet

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnNewRecord
- OnPostError

TIBTable events

TIBTable By object Legend

- AfterCancel
- AfterClose
- AfterDelete
- AfterEdit
- AfterInsert
- AfterOpen
- AfterPost
- AfterRefresh
- AfterScroll
- BeforeCancel
- BeforeClose
- BeforeDelete
- BeforeEdit
- BeforeInsert
- BeforeOpen
- BeforePost
- BeforeRefresh
- BeforeScroll
- OnCalcFields
- OnDeleteError
- OnEditError
- OnNewRecord
- OnPostError
- OnUpdateError
- OnUpdateRecord

TIBTable methods

TIBTable Alphabetically

In TIBTable

- AddIndex
- Create
- CreateTable
- DeleteIndex
- DeleteTable
- Destroy
- EmptyTable
- GetDetailLinkFields
- GetIndexNames
- GotoCurrent

Derived from TIBCustomDataSet

- ApplyUpdates
- CancelUpdates
- CreateBlobStream
- FetchAll
- GetCurrentRecord
- GetFieldData
- Locate
- Lookup
- RevertRecord
- Translate
- UpdateStatus

Derived from TDataSet

- ActiveBuffer
- Append
- AppendRecord
- BookmarkValid
- Cancel
- CheckBrowseMode
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- CursorPosChanged
- Delete
- DisableControls
- Edit
- EnableControls
- FieldByName
- FindField
- FindFirst

FindLast
FindNext
FindPrior
First
GetBlobFieldData
FreeBookmark
GetBookmark
GetDetailDataSets
GetFieldList
GetFieldNames
GetProviderAttributes
GotoBookmark
Insert
InsertRecord
IsEmpty
IsLinkedTo
IsSequenced
Last
MoveBy
Next
Open
Post
Prior
Refresh
Resync
SetFields
UpdateCursorPos
UpdateRecord

Derived from TComponent

DestroyComponents
Destroying
ExecuteAction
FindComponent
FreeNotification
FreeOnRelease
GetNamePath
GetParentComponent
HasParent
InsertComponent
RemoveComponent
SafeCallException
UpdateAction

Derived from TPersistent

Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance

TIBTable methods

TIBTable By object

- ActiveBuffer
- AddIndex
- AfterConstruction
- Append
- AppendRecord
- ApplyUpdates
- Assign
- BeforeDestruction
- BookmarkValid
- Cancel
- CancelUpdates
- CheckBrowseMode
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- ClearFields
- Close
- CompareBookmarks
- ControlsDisabled
- Create
- CreateBlobStream
- CreateTable
- CursorPosChanged
- DefaultHandler
- Delete
- DeleteIndex
- DeleteTable
- Destroy
- DestroyComponents
- Destroying
- DisableControls
- Dispatch
- Edit
- EmptyTable
- EnableControls
- ExecuteAction
- FreeNotification
- FreeOnRelease
- FetchAll

FieldByName
FieldAddress
FindComponent
FindField
FindFirst
FindLast
FindNext
FindPrior
First
Free
FreeBookmark
FreeInstance
GetBlobFieldData
GetBookmark
GetCurrentRecord
GetDetailDataSets
GetDetailLinkFields
GetFieldData
GetFieldList
GetFieldNames
GetIndexNames
GetInterface
GetInterfaceEntry
GetInterfaceTable
GetNamePath
GetParentComponent
GetProviderAttributes
GotoBookmark
GotoCurrent
HasParent
InheritsFrom
InitInstance
Insert
InsertComponent
InsertRecord
InstanceSize
IsEmpty
IsLinkedTo
IsSequenced
Last
Locate
Lookup
MethodAddress
MethodName
MoveBy

Next
NewInstance
Open
Post
Prior
Refresh
RemoveComponent
Resync
RevertRecord
SafeCallException
SetFields
Translate
UpdateAction
UpdateCursorPos
UpdateRecord
UpdateStatus

TIBTable.AddIndex

TIBTable See also Example

Creates a new index for the table.

```
procedure AddIndex(const Name, Fields: string; Options: TIndexOptions const
  DescFields: string = ' ');
```

Description

Call AddIndex to create a new index for the table associated with a dataset. The index created with this procedure is added to the database table underlying the dataset. Name is the name of the new index. Fields is a semicolon-delimited list of the fields to include in the index. Options is a potentially restricted set attributes for the index. It can specify that an index

- Represents the primary index for a dataset. (ixPrimary)
- Contains no duplicate values (ixUnique).
- Sorts records in descending order (isDescending).

Warning: Attempting to create an index using options that are not applicable to the table raises an exception.

TIBTable.Create

TIBTable See also

Creates an instance of a table component.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to instantiate a table declared in an application if it was not placed on a form at design time. Create calls its inherited Create constructor, creates an empty index definitions list, creates an empty data link, and creates an empty list of index files.

TIBTable.CreateTable

TIBTable See also Example

Builds a new table using new structure information.

```
procedure CreateTable;
```

Description

Call CreateTable at runtime to create a table using this dataset's current definition. CreateTable overwrites an existing table's structure and data; to avoid overwriting an existing table, check Exists before calling CreateTable.

If the FieldDefs property contains values, these values are used to create field definitions. Otherwise the Fields property is used. One or both of these properties must contain values in order to recreate a dataset.

If the IndexDefs property contain values, these values are used to create index definitions for the dataset.

TIBTable.DeleteIndex

TIBTable See also

Deletes an index for the table.

```
procedure DeleteIndex(const Name: string);
```

Description

Call DeleteIndex to remove an index for a table. Name is the name of the index to delete. DeleteIndex cannot remove an index used by a constraint.

TIBTable.DeleteTable

TIBTable See also

Deletes an existing database table.

```
procedure DeleteTable;
```

Description

Call DeleteTable to delete an existing database table associated with the table component through its Database and TableName properties. A table must be closed before it can be deleted.

Warning: Deleting a table erases any data the table contains and destroys the table's structure information.

TIBTable.Destroy

TIBTable See also

Destroys the instance of a table.

```
destructor Destroy;
```

Description

Do not call Destroy directly. Instead call Free to verify that the table is not already freed before calling Destroy. Destroy frees the index files list for the table, frees its data link, frees its index definitions, and then calls its inherited Destroy destructor.

TIBTable.EmptyTable

TIBTable See also

Deletes all records from the table.

```
procedure EmptyTable;
```

Description

The EmptyTable method deletes all records from the database table specified by the Database and TableName properties.

Note: Deletion of records can fail if the user lacks sufficient privileges to perform the delete operation.

TIBTable.GetDetailLinkFields

TIBTable See also

Lists the field components that link this dataset as a detail of a master dataset.

```
procedure GetDetailLinkFields(MasterFields, DetailFields: TList);
```

Description

GetDetailLinkFields fills two lists of TFields that define a master-detail relationship between this table and another (master) dataset. The MasterFields list is filled with fields from the master table whose values must equal the values of the fields in the DetailFields list. The DetailFields list is filled with fields from the calling dataset.

TIBTable.GetIndexNames

TIBTable See also

Retrieves a list of available indexes for a table.

```
procedure GetIndexNames(List: TStrings);
```

Description

Call GetIndexNames to retrieve a list of all available indexes for a table. List is a string list object, created and maintained by the application, into which to retrieve the index names.

TIBTable.GotoCurrent

TIBTable See also

Synchronizes the current record for this table with the current record of a specified table component.

```
procedure GotoCurrent(Table: TIBTable);
```

Description

Call GotoCurrent to synchronize the cursor position for this table based on the cursor position in another dataset that uses a different data source component, but which is connected to the same underlying database table. Table is the name of the table component whose cursor position to use for synchronizing.

Note: This procedure works only for table components that have the same Database and TableName properties. Otherwise an exception is raised.

GotoCurrent is mainly for use in applications that have two table components that are linked to the same underlying database table through different data source components. It enables an application to ensure that separate views of the data appear to be linked.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

TDataSet

TIBCustomDataSet

TIBTransaction

Hierarchy Properties Methods Events See also

TIBTransaction provides discrete transaction control over a one or more database connections in a database application.

Unit

IBDatabase

Description

All TIBCustomDataSet descendants and TIBSQL need to use a transaction along with a database component to gain access to data in a database.

Note: In Midas applications, every query must be in its own transaction. You must use one transaction component for each query component.

TIBTransaction properties

TIBTransaction Alphabetically Legend

In TIBTransaction

- Active
- DatabaseCount
- Databases
- DefaultAction
- DefaultDatabase
- Handle
- HandleIsShared
- IdleTimer
- InTransaction
- Params
- SQLObjectCount
- SQLObjects
- TPB
- TPBLength

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBTransaction properties

TIBTransaction By object Legend

- Active
- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DatabaseCount
- Databases
- DefaultAction
- DefaultDatabase
- DesignInfo
- Handle
- HandleIsShared
- IdleTimer
- InTransaction
- Name
- Owner
- Params
- SQLObjectCount
- SQLObjects
- Tag
- DefaultAction
- TPB
- TPBLength
- VCLComObject

TIBTransaction.Active

TIBTransaction See also

Specifies whether or not a transaction is active.

```
property Active: Boolean;
```

Description

Use Active to determine or set a transaction's active state.

TIBTransaction.DatabaseCount

TIBTransaction See also

Indicates the number of databases that are part of the transaction.

```
property DatabaseCount: Integer;
```

Description

Use DatabaseCount to determine the number of databases involved in a transaction.

TIBTransaction.Databases

TIBTransaction See also

Returns the database at the given integer index.

```
property Databases[Index: Integer]: TIBDatabase;
```

Description

Use Databases to return the database at the given integer index.

TIBTransaction.DefaultAction

TIBTransaction See also

Specifies what action a transaction should take upon timing out.

```
type TTransactionAction = (taRollback, taCommit, taRollbackRetaining,
  taCommitRetaining);
property DefaultAction: TTransactionAction;
```

Description

Use DefaultAction to what action the transaction should take when the IdleTimer limit is met. The transaction action can be one of the following:

taRollback	Rolls back the transaction
taCommit	Commits the transaction
taRollbackRetaining	Rolls back the transaction, but retains the current transaction context **Note:** You must install InterBase 6 to use this feature.
taCommitRetaining	Commits the transaction, but retains the current transaction context

TIBTransaction.DefaultDatabase

TIBTransaction See also

Sets or returns the default database for the transaction.

```
property DefaultDatabase: TIBDatabase;
```

Description

Use DefaultDatabase to set or return the default database for the transaction.

TIBTransaction.Handle

TIBTransaction See also

Returns the transaction handle.

```
property Handle: TISC_TR_HANDLE;
```

Description

Use Handle to retrieve a handle to the transaction. Handle is assigned an initial value when a transaction is started.

TIBTransaction.HandleIsShared

TIBTransaction See also

Indicates whether or not a the handle is shared.

```
property HandleIsShared: Boolean;
```

Description

HandleIsShared returns True when the transaction handle is shared by more than one transaction component.

TIBTransaction.IdleTimer

TIBTransaction See also

Specifies how long the transaction should wait before automatically committing or rolling back.

```
property IdleTimer: Integer;
```

Description

Use IdleTimer to indicate how long a transaction should be allowed to remain idle before automatically committing or rolling back the data. Use DefaultAction to determine which action the transaction should take.

TIBTransaction.InTransaction

TIBTransaction See also

Indicates whether a database transaction is in progress or not.

```
property InTransaction: Boolean;
```

Description

Examine InTransaction at run-time to determine if a database transaction is currently in progress. InTransaction is True if a transaction is in progress, False otherwise.

The value of InTransaction cannot be changed directly. Calling StartTransaction sets InTransaction to True. Calling Commit or Rollback sets InTransaction to False.

TIBTransaction.Params

TIBTransaction See also

Returns the transaction parameter buffer associated with the transaction component.

```
property Params: TStrings;
```

Description

Use Params to examine and set parameters in the transaction parameter buffer. Refer to the Interbase API Guide for the names of the parameters to provide.

TIBTransaction.SQLObjectCount

TIBTransaction See also

Returns the number of active datasets associated with the database component.

```
property SQLObjectCount: Integer;
```

Description

Use the SQLObjectCount property to return the number currently active InterBase datasets, TIBSQL objects, and Blobs associated with the database component. As SQL objects are opened and closed, this value changes appropriately.

TIBTransaction.SQLObjects

TIBTransaction See also

Provides an indexed array of all active datasets for a database component.

```
property SQLObjects[Index: Integer]: TIBBase;
```

Description

Use the SQLObjects to access active InterBase datasets, TIBSQL objects, and Blobs associated with the database component.

TIBTransaction.TPB

TIBTransaction See also

Provides a read-only view of the transaction parameter buffer.

```
property TPB: PChar;
```

Description

Use TPB view the transaction parameter buffer. To write to the transaction parameter buffer, use the Params property.

TIBTransaction.TPBLength

TIBTransaction See also

Returns the length of the transaction parameter buffer.

```
property TPBLength: Short;
```

Description

Use TPBLength to retrieve the length of the transaction parameter buffer

TIBTransaction events

In TIBTransaction

- OnIdleTimer

TIBTransaction events

TIBTransaction By object Legend

- OnIdleTimer

TIBTransaction.OnIdleTimer

TIBTransaction See also

Occurs after a transaction has timed out.

```
property OnIdleTimer: TNotifyEvent;
```

Description

Write an OnIdleTimer event handler to take specific actions after a transaction is allowed to remain idle for the number of seconds specified by IdleTimer.

TIBTransaction methods

TIBTransaction Alphabetically

In TIBTransaction

- AddDatabase
- Call
- CheckDatabasesInList
- CheckInTransaction
- CheckNotInTransaction
- Commit
- CommitRetaining
- Create
- Destroy
- FindDatabase
- RemoveDatabase
- RemoveDatabases
- Rollback
- RollbackRetaining
- StartTransaction

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler

Dispatch
FieldAddress
Free
FreeInstance
GetInterface
GetInterfaceEntry
GetInterfaceTable
InheritsFrom
InitInstance
InstanceSize
MethodAddress
MethodName
NewInstance

TIBTransaction methods

TIBTransaction By object

- AddDatabase
- AfterConstruction
- Assign
- BeforeDestruction
- Call
- CheckDatabasesInList
- CheckInTransaction
- CheckNotInTransaction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Commit
- CommitRetaining
- Create
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- FindDatabase
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- MethodAddress
- MethodName

NewInstance
RemoveComponent
RemoveDatabase
RemoveDatabases
Rollback
RollbackRetaining
SafeCallException
UpdateAction
StartTransaction

TIBTransaction.AddDatabase

TIBTransaction See also

Associates a database to the transaction.

```
function AddDatabase(db: TIBDatabase): Integer;
```

Description

Call AddDatabase to associate a database to the transaction.

TIBTransaction.Call

TIBTransaction See also

Returns an error message based on the error code.

```
procedure Call(ErrCode: ISC_STATUS; RaiseError: Boolean): ISC_STATUS;
```

Description

Call is an internal method used to make calls to the InterBase API, and gives you the option of raising an exception or returning an error based on the value of RaiseError.

TIBTransaction.CheckDatabasesInList

TIBTransaction See also

Checks for databases in the list.

```
procedure CheckDatabasesInList;
```

Description

Call CheckDatabasesInList to check if there are any databases in the list. If there are no databases in the list, an exception is raised.

TIBTransaction.CheckInTransaction

TIBTransaction See also

Checks whether the transaction is active and whether there are any databases in the transaction's database list.

```
procedure CheckInTransaction;
```

Description

Call CheckInTransaction to determine whether the transaction is active and whether there are any databases in the transaction's database list. If either condition is False, an exception is raised.

TIBTransaction.CheckNotInTransaction

TIBTransaction See also

Checks that the transaction is not active and that there are no databases in the transaction's database list.

```
procedure CheckNotInTransaction;
```

Description

Call CheckInTransaction to determine that the transaction is not active and that there are no databases in the transaction's database list. If either condition is False, an exception is raised.

TIBTransaction.Commit

TIBTransaction See also Example

Permanently stores updates, insertions, and deletions of data associated with the current transaction, and ends the current transactions.

```
procedure Commit;
```

Description

Call Commit to permanently store to the database server all updates, insertions, and deletions of data associated with the current transaction and then end the transaction. The current transaction is the last transaction started by calling StartTransaction.

Note: Before calling Commit, an application may check the status of the InTransaction property. If an application calls Commit and there is no current transaction, an exception is raised.

TIBTransaction.CommitRetaining

TIBTransaction See also

Commits the active transaction and retains the transaction context after a commit.

```
procedure CommitRetaining;
```

Description

Call CommitRetaining to permanently store to the database server all updates, insertions, and deletions of data associated with the current transaction and then retain the transaction context. The current transaction is the last transaction started by calling StartTransaction.

Note: Before calling CommitRetaining, an application may check the status of the InTransaction property. If an application calls CommitRetaining and there is no current transaction, an exception is raised.

TIBTransaction.Create

TIBTransaction See also

Creates an instance of a transaction component.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to instantiate a transaction component at runtime. An application creates a transaction component in order to control the component's existence and set its properties and events.

Create instantiates a transaction component and creates an empty string list for the Params property.

TIBTransaction.Destroy

TIBTransaction See also

Destroys the instance of the transaction component.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call Free, which verifies that the transaction component is not already freed before calling Destroy.

Destroy disconnects from the database server, if necessary. It then frees the string resources allocated for the Params and SQLObjects properties before calling its inherited destructor.

TIBTransaction.FindDatabase

TIBTransaction See also

Finds the index of the associated database.

```
function FindDatabase (db: TIBDatabase): Integer;
```

Description

Call FindDatabase to find the index of the associated database.

TIBTransaction.RemoveDatabase

TIBTransaction See also

Disassociates a database from the transaction.

```
procedure RemoveDatabase(Idx: Integer);
```

Description

Call RemoveDatabase to disassociate a specified database from the transaction.

TIBTransaction.RemoveDatabases

TIBTransaction See also

Disassociates all databases from the transaction.

```
procedure RemoveDatabases;
```

Description

Call RemoveDatabases to disassociate all databases from the transaction.

TIBTransaction.Rollback

TIBTransaction See also Example

Cancels all updates, insertions, and deletions for the current transaction and ends the transaction.

```
procedure Rollback;
```

Description

Call Rollback to cancel all updates, insertions, and deletions for the current transaction and to end the transaction. The current transaction is the last transaction started by calling StartTransaction.

Note: Before calling Rollback, an application may check the status of the InTransaction property. If an application calls Rollback and there is no current transaction, an exception is raised.

TIBTransaction.RollbackRetaining

TIBTransaction See also

Cancels all updates, insertions, and deletions for the current transaction and retains the transaction context.

```
procedure RollbackRetaining;
```

Description

Call RollbackRetaining to roll back to the database server all updates, insertions, and deletions of data associated with the current transaction and then retain the transaction context. The current transaction is the last transaction started by calling StartTransaction.

Note: Before calling RollbackRetaining, an application may check the status of the InTransaction property. If an application calls RollbackRetaining and there is no current transaction, an exception is raised.

Note: You must install InterBase 6 to use this feature.

TIBTransaction.StartTransaction

TIBTransaction See also Example

Begins a new transaction against the database server.

```
procedure StartTransaction;
```

Description

Call StartTransaction to begin a new transaction against the database server. Before calling StartTransaction, an application should check the status of the InTransaction property. If InTransaction is True, indicating that a transaction is already in progress, a subsequent call to StartTransaction without first calling Commit or Rollback to end the current transaction raises an exception.

Updates, insertions, and deletions that take place after a call to StartTransaction are held by the server until an application calls Commit to save the changes or Rollback is to cancel them.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

IBAlloc procedure

See also

Allocates or de-allocates memory for a given size, and initializes the new memory to zero.

Unit

IB

```
procedure IBAlloc(var P; OldSize, NewSize: Integer);
```

Use IBAlloc to allocate or de-allocate memory for a given size, and initialize the new memory to zero.

CheckStatusVector function

See also

Sets or unsets status vector checking.

Unit

IB

```
function CheckStatusVector(ErrorCodes: array of ISC_STATUS): Boolean;
```

Set CheckStatusVector to True to enable status vector checking.

FreeIBTLGlobals procedure

See also

Frees the allocated thread-local storage.

Unit

IB

```
procedure FreeIBTLGlobals;
```

Description

Use the FreeIBTLGlobals procedure to free the allocated thread-local storage.

InitializeIBTLGlobals procedure

See also

Initializes the thread-local storage.

Unit

IB

```
procedure InitializeIBTLGlobals;
```

Description

Use the InitializeIBTLGlobals procedure to initialize thead-local storage.

Thread-local storage is used to store global variables pertaining to a thread. The global variables are defined in TIBTLGlobals. Currently, it contains the status vector.

IBError procedure

See also

Returns the error message for the specified error code.

Unit

IB

```
procedure IBError(ErrMess: TIBClientError; const Args: array of const);
```

Description

Use the IBError procedure to look up the appropriate error message for a specified error code and raise an EIBClientError exception.

IBDataBaseError procedure

See also

Interprets the SQLCode and IBErrorCode status and passes it to the EIBInterBaseError exception.

Unit

IB

```
procedure IBDataBaseError;
```

Description

Use the IBDatabaseError procedure to look at the status vector, interpret the SQLCode and IBErrorCode status, construct the status string, and pass it to the EIBInterBaseError exception.

SetIBDataBaseErrorMessages procedure

See also

Enables you to choose the error messages you want to see.

Unit

IB

```
procedure SetIBDataBaseErrorMessages(Value: TIBDataBaseErrorMessages);
```

Description

Use the SetIBDataBaseErrorMessages procedure to choose the error messages that you want to use. The available options are defined inTIBDataBaseErrorMessages.

GetIBDataBaseErrorMessages function

See also

Returns the current error message setting.

Unit

IB

```
function GetIBDataBaseErrorMessages: TIBDataBaseErrorMessages;
```

Description

Use the GetIBDataBaseErrorMessages function to return the current error message setting.

StatusVector function

See also

Retrieves the thread-specific status vector from thread-local storage.

Unit

IB

```
function StatusVector: PISC_STATUS;
```

Description

Use the StatusVector function to retrieve the thread-specific status from the thread-local storage.

StatusVectorArray function

See also

Returns a pointer to the status vector array.

Unit

IB

```
function StatusVectorArray: PStatusVector;
```

Description

Use the StatusVectorArray function to return a pointer to the status vector array from the thread-local storage.

StatusVectorAsText function

See also

Gets the status vector and returns it as a formatted string.

Unit

IB

```
function StatusVectorAsText: string;
```

Description

Use the StatusVector function to retrieve the status vector and return it as a formatted string.

LoadIBInstallLibrary procedure

See also

Loads IBInstall.DLL into memory.

Unit

IBIntf

```
procedure LoadIBInstallLibrary;
```

Description

Use the LoadIBInstallLibrary procedure to load the IBInstall.DLL into memory and resolve the respective entry points into to the respective procedure pointer in the unit.

LoadIBLibrary procedure

See also

Loads GDS32.DLL into memory.

Unit

IBIntf

```
procedure LoadIBLibrary;
```

Description

Use the LoadIBLibrary procedure to load the GDS32.DLL into memory and resolve the respective entry points into to the respective procedure pointer in the unit. In addition, it loads the InterBase 6.0 entry points, if they are available.

FreeIBInstallLibrary procedure

See also

Frees the IBInstall.DLL from memory.

Unit

IBIntf

```
procedure FreeIBInstallLibrary;
```

Description

Use the FreeIBInstallLibrary procedure to free the previously loaded the IBInstall.DLL from memory.

FreeIBLibrary procedure

See also

Frees the GDS32.DLL from memory.

Unit

IBIntf

```
procedure FreeIBLibrary;
```

Description

Use the FreeIBInstallLibrary procedure to free the previously loaded the GDS32.DLL from memory.

CheckIBInstallLoaded procedure

See also

Attempts to load IBInstall.DLL into memory if it is not already loaded.

Unit

IBIntf

```
procedure CheckIBInstallLoaded;
```

Description

Use the CheckIBInstallLibrary procedure to load IBInstall.DLL into memory if it is not already loaded. If unsuccessful, this procedure raises an exception.

CheckIBLoaded procedure

See also

Attempts to load GDS32.DLL into memory if it is not already loaded.

Unit

IBIntf

```
procedure CheckIBLoaded;
```

Description

Use the CheckIBInstallLibrary procedure to load GDS32.DLL into memory if it is not already loaded. If unsuccessful, this procedure raises an exception.

GetIBClientVersion function

See also

Returns the major version number of the InterBase client.

Unit

IBIntf

```
function GetIBClientVersion: Integer;
```

Description

Use the GetIBClientVersion function to retrieve the major version number of the InterBase client.

DisableMonitoring procedure

See also

Disables SQL monitoring.

Unit

IBSQLMonitor

```
procedure DisableMonitoring;
```

Description

Use the DisableMonitoring procedure to disable SQL monitoring.

EnableMonitoring procedure

See also

Enables SQL monitoring.

Unit

IBSQLMonitor

```
procedure EnableMonitoring;
```

Description

Use the EnableMonitoring procedure to enable SQL monitoring.

MonitoringEnabled function

See also

Indicates whether or not monitoring in enabled.

Unit

IBSQLMonitor

```
function MonitoringEnabled: Boolean;
```

Description

Use the MonitoringEnabled function to indicate whether or not monitoring in enabled.

MonitorHook function

See also

Returns the reference to the global monitor hook.

Unit

IBSQLMonitor

```
function MonitorHook: TIBSQLMonitorHook;
```

Description

Use the MonitorHook function to return the reference to the global monitor hook. If the monitor hook does not exist, it is created.

GenerateDPB procedure

See also

Populates a database parameter block with the values supplied by a TStrings object.

Unit

IBDatabase

```
procedure GenerateDPB(sl: TStrings; var DPB: string; var DPBLength: Short);
```

Description

Use the GenerateDPB procedure to populate a database parameter block (DPB) with the values supplied by a TStrings object. For more information on the DPB format, refer to the InterBase API Guide.

GenerateTPB procedure

See also

Populates a transaction parameter block with the values supplied by a TStrings object.

Unit

IBDatabase

```
procedure p GenerateTPB(sl: TStrings; var TPB: string; var TPBLength:
  Short);
```

Description

Use the GenerateTPB procedure to populate a transaction parameter block (TPB) with the values supplied by a TStrings object. For more information on the TPB format, refer to the InterBase API Guide.

TIBUpdateSQL

Hierarchy Properties Methods See also

TIBUpdateSQL provides an object for updating read-only datasets when cached updates are enabled.

Unit

IBUpdateSQL

Description

Use a TIBUpdateSQL object to provide SQL statements used to update read-only datasets represented by TIBQuery components when cached updates are enabled. A dataset is read-only either by design or circumstance. If a dataset is read-only by design, the application itself does not provide a user interface for updating data, but may institute a programmatic scheme behind the scenes.

TIBUpdateSQL provides a mechanism for circumventing what some developers consider an SQL-92 limitation. It enables a developer to provide INSERT, UPDATE, DELETE, and REFRESH statements for performing separate update queries on otherwise read-only result sets in such a manner that the separate update queries are transparent to the end user.

In practical application, a TIBUpdateSQL object is placed on a data module or form, and linked to a TIBQuery component through that component's UpdateObject property. If the UpdateObject property points to a valid TIBUpdateSQL object, the SQL statements belonging to the update object are automatically applied when cached updates are applied.

TIBUpdateSQL properties

TIBUpdateSQL Alphabetically Legend

In TIBUpdateSQL

- DataSet
- DeleteSQL
- InsertSQL
- ModifySQL
- Query
- RefreshSQL
- SQL

Derived from TComponent

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DesignInfo
- Name
- Owner
- Tag
- VCLComObject

TIBUpdateSQL properties

TIBUpdateSQL By object Legend

- ComObject
- ComponentCount
- ComponentIndex
- Components
- ComponentState
- ComponentStyle
- DataSet
- DeleteSQL
- DesignInfo
- InsertSQL
- ModifySQL
- Name
- Owner
- Query
- RefreshSQL
- SQL
- Tag
- VCLComObject

TIBUpdateSQL.DataSet

TIBUpdateSQL See also

Identifies the dataset to which a TIBUpdateSQL component belongs.

```
property DataSet;
```

Description

At design time, setting the dataset object's UpdateObject property automatically sets the DataSet property of the specified TIBUpdateSQL object. An application should only need to set this property if it creates a new update component at run time.

TIBUpdateSQL.DeleteSQL

TIBUpdateSQL See also

Specifies the SQL DELETE statement to use when applying a cached deletion of a record.

```
property DeleteSQL: TStrings;
```

Description

Set DeleteSQL to the SQL DELETE statement to use when applying a deletion to a record. Statements can be parameterized queries. To create a DELETE statement at design time, use the UpdateSQL editor to create statements, such as”

```
delete from Employee
where
  Emp_No = :OLD_Emp_No
```

At run time, an application can write a statement directly to this property to set or change the DELETE statement.

Note: As the example illustrates, DeleteSQL supports an extension to normal parameter binding. To retrieve the value of a field as it exists prior to application of cached updates, use the field name with the prefix ‘OLD_’. This is especially useful when doing field comparisons in the WHERE clause of the statement.

TIBUpdateSQL.InsertSQL

TIBUpdateSQL See also

Specifies the SQL INSERT statement to use when applying a cached insertion of a record.

```
property InsertSQL: TStrings;
```

Description

Set InsertSQL to the SQL INSERT statement to use when applying an insertion to a dataset. Statements can be parameterized queries. To create a INSERT statement at design time, use the UpdateSQL editor to create statements, such as”

```
insert into Country
(Country, Currency)
values (:Country, :Currency)
```

At run time, an application can write a statement directly to this property to set or change the INSERT statement.

TIBUpdateSQL.ModifySQL

TIBUpdateSQL See also

Specifies the SQL UPDATE statement to use when applying an update to a record and cached updates is enabled.

```
property ModifySQL: TStrings;
```

Description

Set ModifySQL to the SQL UPDATE statement to use when applying an updated record to a dataset. Statements can be parameterized queries. To create a UPDATE statement at design time, use the UpdateSQL editor to create statements, such as:

```
update Employee
set Last_Name = :Last_Name
where Emp_No = :OLD_Emp_No
```

At run time, an application can write a statement directly to this property to set or change the UPDATE statement.

Note: As the example illustrates, ModifySQL supports an extension to normal parameter binding. To retrieve the value of a field as it exists prior to application of cached updates, the field name with 'OLD_'. This is especially useful when doing field comparisons in the WHERE clause of the statement.

TIBUpdateSQL.Query

TIBUpdateSQL See also

Returns the query object used to perform a specified kind of update.

```
type TUpdateKind = (ukModify, ukInsert, ukDelete)
property Query[UpdateKind: TUpdateKind!ALink(TUpdateKind_Type,1)]: TIBQuery!
  ALink(TIBQuery_Object,1);
```

Description

Query returns the TIBQuery object used to perform a particular form of SQL update. UpdateKind specifies which query object to retrieve. UpdateKind can be one of the following:

Value	Meaning
ukModify	Return the query object used to execute UPDATE statements
ukInsert	Return the query object used to execute INSERT statements
ukDelete	Return the query object used to execute DELETE statements

Each query object executes a particular kind of SQL statement. The contents of the SQL statements executed by these objects can be accessed directly using the ModifySQL, InsertSQL, and DeleteSQL properties.

The main purpose of Query is to provide a way for an application to set the properties for an update query object or to call the query object's methods.

Note: If a particular kind of update statement is not provided, then its corresponding query object is nil. For example, if an application does not provide an SQL statement for the DeleteSQL property, then Query[ukDelete] returns nil.

TIBUpdateSQL.RefreshSQL

TIBUpdateSQL See also

Specifies the SQL SELECT statement to use when refreshing a dataset.

```
property RefreshSQL: TStrings;
```

Description

Set RefreshSQL to the SQL SELECT statement to use when refreshing a dataset. Statements can be parameterized queries. To create a SELECT statement at design time, use the UpdateSQL editor to create statements, such as”

```
SELECT Country, Currency FROM Country WHERE
Country = :Country
```

At run time, an application can write a statement directly to this property to set or change the SELECT statement.

TIBUpdateSQL.SQL

TIBUpdateSQL See also

Returns a specified SQL statement used when applying cached updates.

```
type TUpdateKind = (ukModify, ukInsert, ukDelete)
property SQL[UpdateKind: TUpdateKind!ALink(TUpdateKind_Type,1)]: TStrings!
  ALink(TStrings_Object,1);
```

Description

Returns the SQL statement in the ModifySQL, InsertSQL, or DeleteSQL property, depending on the setting of UpdateKind. UpdateKind can be any of the following:

Value	Meaning
ukModify	Return the SQL statement used to update records in the dataset
ukInsert	Return the SQL statement used to insert new records into the dataset
ukDelete	Return the SQL statement used to delete records in the dataset

TIBUpdateSQL methods

TIBUpdateSQL Alphabetically

In TIBUpdateSQL

- Apply
- Create
- Destroy
- ExecSQL
- SetParams

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from TPersistent

- Assign
- GetNamePath

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize

MethodAddress
MethodName
NewInstance

TIBUpdateSQL methods

TIBUpdateSQL By object

- AfterConstruction
- Apply
- Assign
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecSQL
- ExecuteAction
- FieldAddress
- FindComponent
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- RemoveComponent
- SafeCallException
- SetParams
- UpdateAction

TIBUpdateSQL.Apply

TIBUpdateSQL See also

Sets the parameters for a specified SQL statement type, and executes the resulting statement.

```
type TUpdateKind = (ukModify, ukInsert, ukDelete)
procedure Apply(UpdateKind: TUpdateKind);
```

Description

Call Apply to set parameters for an SQL statement and execute it to update a record. UpdateKind indicates which SQL statement to bind and execute, and can be one of the following values:

Value	Meaning
ukModify	Bind and execute the SQL statement in the ModifySQL property
ukInsert	Bind and execute the SQL statement in the InsertSQL property
ukDelete	Bind and execute the SQL statement in the DeleteSQL property

Apply is primarily intended for manually executing update statements from an OnUpdateRecord event handler.

Note: If an SQL statement does not contain parameters, it is more efficient to call ExecSQL instead of Apply.

TIBUpdateSQL.Create

TIBUpdateSQL See also

Creates an instance of an update object.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to instantiate an update object at run time. You do not need to call Create for update objects placed in a data module or form at design time. Delphi automatically handles these objects.

TIBUpdateSQL.Destroy

TIBUpdateSQL See also

Frees an instance of an update object.

```
constructor Destroy;
```

Description

Do not call Destroy directly in an application. Usually destruction of update objects is handled automatically by Delphi. If an application creates its own instance of an update object, however, the application should call Free, which verifies that the update object is not already freed before calling Destroy.

TIBUpdateSQL.ExecSQL

TIBUpdateSQL See also

Executes a specified type of SQL statement to perform an update for an otherwise read-only results set when cached updates is enabled.

```
type TUpdateKind = (ukModify, ukInsert, ukDelete)
procedure ExecSQL(UpdateKind: TUpdateKind);
```

Description

Call ExecSQL to execute the SQL statement necessary for updating the records belonging to a read-only result set when cached updates is enabled. UpdateKind specifies the statement to execute, and can be one of the following values:

Value	Meaning
ukModify	Execute the SQL statement used to update records in the dataset
ukInsert	Execute the SQL statement used to insert new records into the dataset
ukDelete	Execute the SQL statement used to delete records in the dataset.

If the statement to execute contains any parameters, an application must call SetParams to bind the parameters before calling ExecSQL. To determine if a statement contains parameters, examine the appropriate ModifySQL, InsertSQL, or DeleteSQL property, depending on the statement type intended for execution.

Note: To both bind parameters and execute a statement, call Apply.

TIBUpdateSQL.SetParams

TIBUpdateSQL See also

Binds parameters in an SQL statement prior to statement execution.

```
type TUpdateKind = (ukModify, ukInsert, ukDelete)
procedure SetParams(UpdateKind: TUpdateKind);
```

Description

Call SetParams to bind parameters in an SQL statement associated with the update object prior to executing the statement. UpdateKind indicates the type of statement for which to bind parameters, and can be one of the following values:

Value	Meaning
ukModify	Bind parameters for the SQL statement used to update records
ukInsert	Bind parameters for the SQL statement used to insert new records
ukDelete	Bind parameters for the SQL statement used to delete records

Parameters are indicated in an SQL statement by a colon. Except for the leading colon in the parameter name, the parameter name must exactly match the name of an existing field name for the dataset.

Note: Parameter names can be prefaced by the 'OLD_' indicator. If so, the old value of the field is used to perform the update instead of any updates in the cache.

Scope

- Published

Accessibility

- Read-only

Hierarchy

TObject

TPersistent

TComponent

TDataSetUpdateObject

TIBXSQLDA

Hierarchy Properties MethodsSee also

TIBXSQLDA provides properties and methods for use with the IBSQL component.

Unit

IBSQL

Description

Use a TIBXSQLDA object to provide properties and methods for use with the IBSQL component.

All Dynamic SQL (DSQL) applications must declare one or more extended descriptor areas (XSQLDAs). The XSQLDA is a host language data structure that DSQL uses to transport data to or from a database when processing an SQL statement string. There are two types of XSQLDAs: input descriptors and output descriptors. Both input and output descriptors are implemented using the XSQLDA structure.

TIBXSQLDA properties

TIBXSQLDA Alphabetically Legend

In TIBXSQLDA

- AsXSQLDA
- Count
- Modified
- Names
- RecordSize
- UniqueRelationName
- Vars

TIBXSQLDA properties

TIBXSQLDA By object Legend

- AsXSQLDA

Count

- Modified
- Names
- RecordSize
- UniqueRelationName
- Vars

TIBXSQLDA.AsXSQLDA

TIBXSQLDA See also

Represents the XSQLDA field's value as an XSQLDA value.

```
property AsXSQLDA: PXSQLDA;
```

Description

Use the AsXSQLDA property to read the value of the field's data into an object or variable of type XSQLDA, or to assign an XSQLDA value to the contents of the field.

TIBXSQLDA.Count

TIBXSQLDA See also

Returns the number of XSQLDA fields.

```
property Count: Integer;
```

Description

Use the Count property to return the number of XSQLDA fields.

TIBXSQLDA.Modified

TIBXSQLDA See also

Indicates whether a field has been modified.

```
property Modified: Boolean;
```

Description

Use the Modified property to determine whether a field has been modified.

TIBXSQLDA.Names

TIBXSQLDA See also

Returns the XSQLDA field names.

```
property Names: String;
```

Description

Use the Names property to return the XSQLDA field names.

TIBXSQLDA.RecordSize

TIBXSQLDA See also

Returns the size of the XSQLDA record.

```
property RecordSize: Integer;
```

Description

Use the RecordSize property to return the XSQLDA record size.

TIBXSQLDA.UniqueRelationName

TIBXSQLDA See also

Returns the name of the unique relation.

```
property UniqueRelationName: String;
```

Description

Use the UniqueRelationName property to return the name of the relation if only one relation is involved in the query. Otherwise, it returns nil. This property is primarily used for internal purposes.

TIBXSQLDA.Vars

TIBXSQLDA See also

Returns the XSQLVAR defined for the XSQLDA parameter.

```
property Vars: [Idx: Integer]: TIBXSQLVAR;
```

Description

Use XSQLVAR to return the XSQLVAR defined for the XSQLDA parameter.

TIBXSQLDA methods

TIBXSQLDA Alphabetically

In TIBXSQLDA

- AddName
- ByName
- Create
- Destroy

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBXSQLDA methods

TIBXSQLDA By object

- AddName
- AfterConstruction
- BeforeDestruction
- ByName
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBXSQLDA.AddName

TIBXSQLDA See also

Adds a name to the XSQLDA structure.

```
procedure AddName(FieldName: String; Idx: Integer);
```

Description

Call AddName to add a name to the XSQLDA structure.

TIBXSQLDA.ByName

TIBXSQLDA See also

Returns the XSQLVAR fields by name.

```
function ByName: [Idx: String]: TIBXSQLVAR;
```

Description

Use the ByName function to return the XSQLVAR fields by name.

TIBXSQLDA.Create

TIBXSQLDA See also

Creates an instance of an XSQLDA structure.

```
constructor Create(Query: TIBSQL);
```

Description

Call Create to create an instance of an XSQLDA structure. Create queries the DynamicSQL component for the structure members.

TIBXSQLDA.Destroy

TIBXSQLDA See also

Destroys the XSQLDA structure.

```
destructor Destroy;
```

Description

Do not call Destroy directly. Call Free instead. Free checks to ensure that the object instance is not nil before calling Destroy.

Scope

- Published

Accessibility

- Read-only

Hierarchy
TObject

TIBXSQLVAR

Hierarchy Properties MethodsSee also

TIBXSQLVAR provides properties and methods for use with the IBSQL component.

Unit

IBSQL

Description

Use a TIBXSQLVAR object to provide properties and methods for use with the IBSQL component.

The XSQLVAR structure is a field, sqlvar, in the XSQLDA. The sqlvar is especially important, because one XSQLVAR must be defined for each input parameter or column returned.

Applications do not declare instances of the XSQLVAR ahead of time, but must, instead, dynamically allocate storage for the proper number of XSQLVAR structures required for each DSQL statement before it is executed, then deallocate it, as appropriate, after statement execution.

TIBXSQLVAR properties

TIBXSQLVAR Alphabetically Legend

In TIBXSQLVAR

- AsCurrency
- AsDate
- AsDateTime
- AsDouble
- AsFloat
- AsInt64
- AsInteger
- AsLong
- AsPointer
- AsQuad
- AsShort
- AsString
- AsVariant
- AsXSQLVAR
- Data
- Index
- IsNull
- IsNullable
- Modified
- Name
- Size
- SQLType
- AsTime
- Value

TIBXSQLVAR properties

TIBXSQLVAR By object Legend

- AsCurrency
- AsDate
- AsDateTime
- AsDouble
- AsFloat
- AsInt64
- AsInteger
- AsLong
- AsPointer
- AsQuad
- AsShort
- AsString
- AsVariant
- AsXSQLVAR
- Data
- Index
- IsNull
- IsNullable
- Modified
- Name
- Size
- SQLType
- AsTime
- Value

TIBXSQLVAR.AsCurrency

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a Currency value.

```
property AsCurrency: Currency;
```

Use the AsCurrency property to read the value of the XSQLVAR field's data into an object or variable of type Currency, or to assign a Currency value to the contents of the field.

TIBXSQLVAR.AsDate

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a TDateTime value.

```
property AsDate: TDateTime;
```

Description

Use the AsDate property to read the value of the field's data into an object or variable of type TDateTime, or to assign a TDateTime value to the contents of the field. The Time portion of the TDateTime value is set to zero.

TIBXSQLVAR.AsDateTime

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a TDateTime value.

```
property AsDateTime: TDateTime;
```

Description

Use the AsDateTime property to read the value of the field's data into an object or variable of type TDateTime, or to assign a TDateTime value to the contents of the field.

TIBXSQLVAR.AsDouble

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a Double value.

```
property AsDouble: Double;
```

Description

Use the AsDouble property to read the value of the field's data into an object or variable of type Double, or to assign a Double value to the contents of the field.

TIBXSQLVAR.AsFloat

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a Float value.

```
property AsFloat: Float;
```

Description

Use the AsDouble property to read the value of the field's data into an object or variable of type Float, or to assign a Float value to the contents of the field.

TIBXSQLVAR.AsInt64

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a 64-bit integer.

```
property AsInt64: Int64;
```

Description

Use the AsInt64 property to read the value of the field's data into a 64-bit integer, or to assign an 64-bit integer value to the contents of the field.

TIBXSQLVAR.AsInteger

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a 32-bit integer value.

```
property AsInteger: AsInteger;
```

Description

Use the AsInteger property to read the value of the field's data into an integer, or to assign an integer value to the contents of the field.

TIBXSQLVAR.AsLong

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a Long integer value.

```
property AsLong: Long;
```

Description

Use the AsLong property to read the value of the field's data into a Long integer, or to assign a Long integer value to the contents of the field.

TIBXSQLVAR.AsPointer

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a Pointer value.

```
property AsPointer: Pointer;
```

Description

Use the AsPointer property to read the value of the field's data into an object or variable of type Pointer, or to assign a Pointer value to the contents of the field.

TIBXSQLVAR.AsQuad

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a Quad value.

```
property AsQuad: TISC_QUAD;
```

Description

Use the AsQuad property to read the value of the field's data into an object or variable of type Quad, or to assign a Quad value to the contents of the field.

TIBXSQLVAR.AsShort

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a Short integer value.

```
property AsShort: Short;
```

Description

Use the AsShort property to to read the value of the field's data into a Short integer, or to assign a Short integer value to the contents of the field.

TIBXSQLVAR.AsString

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a string.

```
property AsString: String;
```

Description

Use the AsString property to read the value of the fields data into a String, or to assign a String value to the contents of the field.

TIBXSQLVAR.AsTime

TIBXSQLVAR See also

Represents the XSQLVAR field's value as a TDateTime value.

```
property AsTime: TDateTime;
```

Description

Use the AsTime property to read the value of the field's data into an object or variable of type TDateTime, or to assign a TDateTime value to the contents of the field. The Date portion of the field is set to zero.

TIBXSQLVAR.AsVariant

TIBXSQLVAR See also

Represents the XSQLVAR field's value as type Variant.

```
property AsVariant: Variant;
```

Description

Use the AsVariant property to read the value of the field's data into a Variant, or to assign a Variant value to the contents of the field.

TIBXSQLVAR.AsXSQLVAR

TIBXSQLVAR See also

Represents the XSQLVAR field's value as an XSQLVAR value.

```
property AsXSQLVAR: PXSQLVAR;
```

Description

Use the AsXSQLVAR property to read the value of the field's data into an object or variable of type XSQLVAR, or to assign an XSQLVAR value to the contents of the field.

TIBXSQLVAR.Data

TIBXSQLVAR See also

Accesses the underlying InterBase XSQLVAR structure.

```
property Data: PXSQLVAR;
```

Description

Use the Data property to access the underlying InterBase XSQLVAR structure.

TIBXSQLVAR.Index

TIBXSQLVAR See also

Indicates the position of the XSQLVAR in the XSQLDA.

```
property Index: Integer;
```

Description

Use the Index property to obtain the position of the XSQLVAR in the XSQLDA.

TIBXSQLVAR.IsNull

TIBXSQLVAR See also

Indicates whether the field has a value assigned to it.

```
property IsNull: Boolean;
```

Description

Use the IsNull property to determine if the field contains a value. If IsNull is True, the field is blank. If IsNull is False, the field has a value.

TIBXSQLVAR.IsNullable

TIBXSQLVAR See also

Indicates whether the field can have a value assigned to it.

```
property IsNullable: Boolean;
```

Description

Use the IsNullable property to determine if the field can contain a value. If IsNullable is True, the field can contain a value. If IsNullable is False, the field cannot contain a value.

TIBXSQLVAR.Modified

TIBXSQLVAR See also

Indicates whether a field has been modified.

```
property Modified: Boolean;
```

Description

Use the Modified property to determine whether a field has been modified.

TIBXSQLVAR.Name

TIBXSQLVAR See also

Returns the name of the XSQLVAR.

```
property Name: String;
```

Description

Use the Name property to return the name of the XSQLVAR.

TIBXSQLVAR.Size

TIBXSQLVAR See also

Indicates the maximum size, in bytes, of data in the sqldata field of the XSQLVAR.

```
property Size: Integer;
```

Description

Use the Size property to return the maximum size, in bytes, of data in the sqldata field of the XSQLVAR.

TIBXSQLVAR.SQLType

TIBXSQLVAR See also

Indicates the SQL datatype of parameters or select-list items.

```
property SQLType: Integer;
```

Description

Read the SQLType property to indicate the SQL datatype of parameters or select-list items.

TIBXSQLVAR.Value

TIBXSQLVAR See also

Returns the value of the XSQLVAR field component.

```
property Value: Variant;
```

Description

Use Value to return the value of the XSQLVAR field component as a Variant.

TIBXSQLVAR methods

TIBXSQLVAR Alphabetically

In TIBXSQLVAR

- Assign
- Create
- LoadFromFile
- LoadFromStream
- SaveToFile
- SaveToStream

Derived from TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- SafeCallException

TIBXSQLVAR methods

TIBXSQLVAR By object

- AfterConstruction
- Assign
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance
- InstanceSize
- LoadFromFile
- LoadFromStream
- MethodAddress
- MethodName
- NewInstance
- SafeCallException
- SaveToFile
- SaveToStream

TIBXSQLVAR.Assign

TIBXSQLVAR See also

Assigns another XSQLVAR to the XSQLVAR component.

```
procedure Assign(Source: TIBXSQLVAR);
```

Description

Use Assign to assign another XSQLVAR to the XSQLVAR component. The fields must have compatible data types.

TIBXSQLVAR.Create

TIBXSQLVAR See also

Creates an instance of an XSQLVAR structure.

```
constructor Create(Query: TIBSQL);
```

Description

Call Create to create an instance of an XSQLVAR structure based on a query to the TIBSQL component.

TIBXSQLVAR.LoadFromFile

TIBXSQLVAR See also

Loads the contents of a file to a Blob field.

```
procedure LoadFromFile(const FileName: String);
```

Description

Call LoadFromFile to load the contents of a file to a Blob field.

TIBXSQLVAR.LoadFromStream

TIBXSQLVAR See also

Loads a stream into a Blob field.

```
procedure LoadFromStream(Stream: TStream);
```

Description

Call LoadFromStream to load a stream into a Blob field.

TIBXSQLVAR.SaveToFile

TIBXSQLVAR See also

Saves the contents of a Blob field to a file.

```
procedure SaveToFile(const FileName: String);
```

Description

Call SaveToFile to save the contents of a Blob field to a file.

TIBXSQLVAR.SaveToStream

TIBXSQLVAR See also

Saves the contents of a Blob field to a stream.

```
procedure SaveToStream(Stream: TStream);
```

Description

Call SaveToStream to save the contents of a Blob field to a stream.

Scope

- Published

Accessibility

- Read-only

Hierarchy
TObject

TIBEvents

Hierarchy Properties Methods Events See also

TIBEvents provides a method for applications to respond to posted events.

Unit

IBEvents

Description

Use a TIBEvents component to allow your application to register interest in, and asynchronously handle, events posted by an InterBase server. The InterBase event allows applications to respond to actions and database changes made by other, concurrently running applications, without having to resort to polling the database on a regular basis, or communicating directly with the other applications.

In essence, the TIBEvents component allows an application to say 'I want to be informed when events X, Y and Z occur.” When any of the requested events does occur, the InterBase server notifies the application and OnEventAlert is called.

TIBEvents properties

TIBEvents Alphabetically Legend

In TIBEvents

- Database
- Events
  - Queued
- Registered

Derived from TComponent

- ComObject
  - ComponentCount
  - ComponentIndex
  - Components
  - ComponentState
  - ComponentStyle
  - DesignInfo
  - Name
  - Owner
  - Tag
  - VCLComObject

TIBEvents properties

TIBEvents By object Legend

- ComObject
  - ComponentCount
  - ComponentIndex
  - Components
  - ComponentState
  - ComponentStyle
- Database
- DesignInfo
- Events
- Name
  - Owner
  - Queued
- Registered
- Tag
- VCLComObject

TIBEvents.Database

TIBEvents See also

Specifies the database on which to perform event alerter tasks.

```
property Database: TIBDatabase;
```

Description

Use Database to specify the database on which to perform event alerter tasks.

TIBEvents.Events

TIBEvents See also

Specifies the events to which TIBEvents responds.

```
property Events: TStrings;
```

Description

Use the Events property to list events for which the IBEvents component will respond. A single IBEvents component can handle up to 15 events.

To add an event use the following code:

```
IBEvents.Events.Add('EVENT_NAME')
```

Note: Event names are case-sensitive.

TIBEvents.Queued

TIBEvents See also

Indicates that events are queued.

```
property Queued: Boolean;
```

Description

Use Queued to determine if events are queued.

TIBEvents.Registered

TIBEvents See also

Indicates whether or not the event is registered.

```
property Registered: Boolean;
```

Description

Use Registered to indicate whether events are registered. Set Registered to True to call RegisterEvents, which registers the events listed by the Events property.

TIBEvents events

In TIBEvents

- OnEventAlert

TIBEvents events

TIBEvents By object Legend

- OnEventAlert

TIBEvents.OnEventAlert

TIBEvents See also

Occurs when an InterBase event is received.

```
property OnEventAlert: TEventAlert;
TEventAlert = procedure( Sender: TObject; EventName: String; EventCount:
  longint; var CancelAlerts: Boolean)
```

Description

Write an OnEventAlert event handler to take specific actions when an InterBase event is received. EventName contains the name of the most recently received event. EventCount contains the number of EventName events received since OnEventAlert was last called.

Set CancelAlerts to True to cancel interest in any further events. To start receiving events again, call the QueueEvents method. You cannot call RegisterEvents, UnRegisterEvents, QueueEvents or CancelEvents from within an OnEventAlert event handler.

OnEventAlert runs as a separate thread to allow for true asynchronous event processing, however, the IBEvents component provides synchronization code to ensure that only one OnEventAlert event handler executes at any one time.

TIBEvents methods

TIBEvents Alphabetically

In TIBEvents

- CancelEvents
- Create
- Destroy
- QueueEvents
- RegisterEvents
- UnRegisterEvents

Derived from TComponent

- DestroyComponents
- Destroying
- ExecuteAction
- FindComponent
- FreeNotification
- FreeOnRelease
- GetNamePath
- GetParentComponent
- HasParent
- InsertComponent
- RemoveComponent
- SafeCallException
- UpdateAction

Derived from (TPersistent

- Assign

Derived from (TObject

- AfterConstruction
- BeforeDestruction
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- DefaultHandler
- Dispatch
- FieldAddress
- Free
- FreeInstance
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- InheritsFrom
- InitInstance

InstanceSize
MethodAddress
MethodName
NewInstance

TIBEvents methods

TIBEvents By object

- AfterConstruction
- Assign
- BeforeDestruction
- CancelEvents
- ClassInfo
- ClassName
- ClassNameIs
- ClassParent
- ClassType
- CleanupInstance
- Create
- DefaultHandler
- Destroy
- DestroyComponents
- Destroying
- Dispatch
- ExecuteAction
- FieldAddress
- FindComponent
- Free
- FreeInstance
- FreeNotification
- FreeOnRelease
- GetInterface
- GetInterfaceEntry
- GetInterfaceTable
- GetNamePath
- GetParentComponent
- HasParent
- InheritsFrom
- InitInstance
- InsertComponent
- InstanceSize
- MethodAddress
- MethodName
- NewInstance
- QueueEvents
- RegisterEvents
- RemoveComponent
- SafeCallException
- UnRegisterEvents
- UpdateAction

TIBEvents.CancelEvents

TIBEvents See also

Cancels interest in pending events.

```
procedure CancelEvents;
```

Description

Call CancelEvents to cancel interest in any pending InterBase events. CancelEvents does not unregister the events; call QueueEvents to restore interest in the events again.

TIBEvents.Create

TIBEvents See also

Creates an instance of TIBEvents.

```
constructor Create(AOwner: TComponent);
```

Description

Call Create to create an instance of TIBEvents.

TIBEvents.Destroy

TIBEvents See also

Destroys an instance of TIBEvents.

```
destructor Destroy;
```

Description

Do not call Destroy directly in an application. Instead, call Free. Free verifies that the TIBEvents object is not already freed and only then calls Destroy. Destroy unregisters the events and then frees them.

TIBEvents.QueueEvents

TIBEvents See also

Starts event notification for the application.

```
procedure QueueEvents;
```

Description

Call QueueEvents to allow your application to start receiving event notifications.

You must call RegisterEvents to specify which events you wish to receive before calling QueueEvents. If RegisterEvents has not been called an exception will be raised.

TIBEvents.RegisterEvents

TIBEvents See also

Registers interest in the events listed by the Events property.

```
procedure RegisterEvents;
```

Description

Call RegisterEvents to register interest in the events listed in the Events property with the InterBase Event Manager. RegisterEvents calls the QueueEvents method to start receiving event notifications.

TIBEvents.UnRegisterEvents

TIBEvents See also

Unregisters interest in the events listed by the Events property.

```
procedure UnRegisterEvents;
```

Description

Call UnRegisterEvents to unregister interest in the events in the Events list. UnregisterEvents calls CancelEvents to cancel any pending event notifications. When the IBEvents component is destroyed, UnRegisterEvents is called automatically.

Scope

- Published

Accessibility

- Read-only

Scope

- Published

Hierarchy

TObject

TPersistent

TComponent

IBDatabase Editor dialog box

The Database Editor dialog box sets up the properties of a database that specify the connection that should be made to a database. This dialog box allows you to specify the type of database, the connection parameters, the user name, SQL role, and password, and whether or not a login prompt is required.

These properties of the database component, as well as others, can also be specified using the Object inspector.

To display the Database Editor dialog box, double click on an IBDatabase component.

Dialog box options

Connection

Option	Meaning
Local	Indicates that the database is on the local server. Enables the Browse button, allowing you to search for the database with a Open File dialog.
Remote	Indicates that the database is on a remote server. Activates the Protocol and Server fields
Protocol	Sets the protocol for attaching to the remote server. The protocol can be TCP/IP, Named Pipe, or SPX.
Server	The name of the remote server.
Database	The name of the database.

Database Parameters

Option	Meaning
User Name	The name of the database user.
Password	The password for the database user.
SQLRole	The SQLRole name used to connect to the database.
Character Set	The character set used to connect to the database.
Login Prompt	Indicates whether a login prompt is required to access the database.

Settings	Displays the current parameters and allows you to add other parameters.
	For example:
	`user_name=sysdba`
	`password=masterkey`
	`sql_role_name=finance`
	`lc_ctype=WIN1252`
	For more information on database parameters, see the InterBase 6 API Guide.

IBTransaction Editor dialog box

The Transaction Editor dialog box allows you to set up transaction parameters. This dialog box gives you four default transaction settings, which you can then customize if you wish. Once you modify the default transaction, the radio button is unset.

For a complete list of all the InterBase transaction parameters, refer to “Working with Transactions” in the InterBase 6 API Guide.

These properties of the transaction component, as well as others, can also be specified using the Object inspector.

To display the Transaction Editor dialog box, double click on an IBTransaction component. The following four choices are displayed:

Snapshot

By default, Snapshot is set to concurrency and nowait, which means that the transaction is aware of other transactions, and does not wait for locks to be released, returning an error instead.

Read Committed

By default, Read Committed is set to read_committed, rec_version, and nowait, which means that the transaction reads changes made by concurrent transactions, can read the most recently committed version of a transaction, and does not wait for locks to be released, returning an error instead.

Read-Only Table Stability

By default, Read-Only Table Stability is set to read and consistency, which means that the transaction can read a specified table and locks out other transactions.

Read-Write Table Stability

By default, Read-Write Table Stability is set to write and consistency, which means that the transaction can read and write to a specified table and locks out other transactions.

For a complete list of all the InterBase transaction parameters, refer to “Working with Transactions” in the InterBase 6 API Guide.

IBUpdateSQL Editor dialog box

Use the Update SQL editor to create SQL statements for updating a dataset.

The TIBUpdateSQL object must be associated with a TIBQuery object by setting the TIBQuery property UpdateObject to the name of the TIBUpdateSQL object used to contain the SQL statements. A datasource, and database name must be selected for the TIBQuery object. In addition, the SQL property must include an SQL statement defining a table.

To open the SQL editor:

1. Select the TIBUpdateSQL object in the form.

2. Right-click and choose Update SQL editor.

The Update SQL editor has two pages, the Options page and the SQL page.

The Options page

The Options page is visible when you first invoke the editor.

Table Name	Use the Table Name combo box to select the table to update. When you specify a table name, the Key Fields and Update Fields list boxes are populated with available columns.
Key Fields	The Key Fields list box is used to specify the columns to use as keys during the update. Generally the columns you specify here should correspond to an existing index.
Update Fields	The Update Fields list box indicates which columns should be updated. When you first specify a table, all columns in the Update Fields list box are selected for inclusion. You can multi-select fields as desired.
Get Table Fields	Read the table fields for the table name entered and list the fields.
Dataset Defaults	Use this button to restore the default values of the associated dataset. This will cause all fields in the Key Fields list and the Update Fields list to be selected and the table name to be restored.
Select Primary Keys	Click the Primary Key button to select key fields based on the primary index for a table.
Generate SQL	After you specify a table, select key columns, and select update columns, click the Generate SQL button to generate the preliminary SQL statements to associate with the update component's ModifySQL, InsertSQL, DeleteSQL, and RefreshSQL properties.
Quote Identifiers	Check the box labeled Quote Field Names to specify that all field names in generated SQL be enclosed by quotation marks. This option is disabled in pre-InterBase 6 databases.

The SQL page

To view, modify, and refresh the generated SQL statements, select the SQL page. If you have generated SQL statements, then when you select this page, the statement for the ModifySQL property is already displayed in the SQL Text memo box. You can edit the statement in the box as desired.

Note: Keep in mind that generated SQL statements are intended to be starting points for creating update statements. You may need to modify these statements to make them execute correctly. Test each of the statements directly yourself before accepting them.

Use the Statement Type radio buttons (Modify, Insert, Delete, or Refresh) to switch among generated SQL statements and edit them as desired.

To accept the statements and associate them with the update component's SQL properties, click OK.

AddIndex Example

In the example below, the AddIndex method is used to create an index named NewIndex. This index is based on two fields from the associated table, CustNo and CustName. The index NewIndex incorporates two index options through the TIndexOptions constants ixUnique and ixCaseInsensitive.

```
IBTable1.AddIndex('NewIndex', 'CustNo;CustName', [ixUnique,
  ixCaseInsensitive]);
```

BeforeInsert, Insert, AsInteger, FieldByName Example

This example uses the BeforeInsert event to do data validation; if the StrToInt function raises an exception, the edit control's contents are set to a valid value so the assignment to the INTEGER field in the table will succeed.

```
procedure TForm1.Table1BeforeInsert(DataSet: TDataSet);
begin
  try
  {Make sure edit field can be converted to integer --
   this will raise an exception if it can't }
    StrToInt(Edit1.Text);
  except
    Edit1.Text := '0';
  end;
end;

procedure TForm1.Button1Click(Sender: TObject);
begin
  Table1.Insert;
  Table1.FieldByName('QUANTITY').AsInteger := StrToInt(Edit1.Text);
  Table1.Post;
end;
```

GetBookmark, GotoBookmark, FreeBookmark, FindPrior, Value, OnDataChange, BOF Example

This example uses a button to copy the value of a field in the previous record into the corresponding field in the current record.

```
procedure TForm1.CopyDataClick(Sender: TObject);
var
   SavePlace: TBookmark;
   PrevValue: Variant;
begin
   with Table1 do
   begin
    { get a bookmark so that we can return to the same record }
    SavePlace := GetBookmark;
    { move to prior record}
    FindPrior;
    { get the value }
    PrevValue := Fields[0].Value;
    {Move back to the bookmark
    this may not be the next record anymore
    if something else is changing the dataset asynchronously }
    GotoBookmark(SavePlace);
    { Set the value }
    Fields[0].Value := PrevValue;
    { Free the bookmark }
    FreeBookmark(SavePlace);
  end;
end;
```

To ensure that the button is disabled when there is no previous record, the OnDataChange event of the DataSource detects when the user moves to the beginning of file (BOF property becomes True), and disables the button.

```
procedure TForm1.Table1DataChange(Sender: TObject; Field: TField);
begin
  if Table1.BOF then
    CopyData.Enabled := False
  else
    CopyData.Enabled := True;
end;
```

StartTransaction, Commit, Rollback, RollbackRetaining example

The following procedure illustrates how to apply a dataset's cached updates to a database in response to a button click:

```
procedure TForm1.ApplyButtonClick(Sender: TObject);
begin
  with CustomerQuery do
  begin
  IBDatabase1.Open;
  IBTransaction1.StartTransaction;
  Table1.Insert;
  Table1.FieldByName('QUANTITY').AsInteger := StrToIn(Edit1.Text);
  Table1.Post;
  IBTransaction1.Commit;
  end;
end;
```

In the above example, you could substitute Rollback or RollbackRetaining (an InterBase 6 feature) for Commit.

Create,CreateBlobStream Example

The following example copies the data in the Notes field of IBTable1 to the Remarks field of IBTable2.

```
procedure TForm1.Button1Click(Sender: TObject);
var
  Stream1, Stream2 : TIBBlobStream;
begin
  Stream1 := TIBBlobStream.Create(IBTable1Notes, bmRead);
  try
    IBTable2.Edit;
    { here's a different way to create a blob stream }
    Stream2 := IBTable2.CreateBlobStream(IBTable2.FieldByName('Remarks'),
  bmReadWrite);
    try
      Stream2.CopyFrom(Stream1, Stream1.Size);
      IBTable2.Post;
    finally
      Stream2.Free;
    end;
  finally
    Stream1.Free;
  end;
end;
```

Table Creation Example

The following example shows how to create a table.

```
{ Don't overwrite an existing table }
if not IBTable1.Exists then begin
  with IBTable1 do begin
    { The Table component must not be active }
    Active := False;
    { First, describe the type of table and give }
    { it a name }
    DatabaseName := 'IBDataBase1';
    TableName := 'CustInfo';
    { Next, describe the fields in the table }
    with FieldDefs do begin
      Clear;
      with AddFieldDef do begin
        Name := 'Field1';
        DataType := ftInteger;
        Required := True;
      end;
      with AddFieldDef do begin
        Name := 'Field2';
        DataType := ftString;
        Size := 30;
      end;
    end;
    { Next, describe any indexes }
    with IndexDefs do begin
      Clear;
      with AddIndexDef do begin
        Name := '';
        Fields := 'Field1';
        Options := [ixPrimary];
      end;
      with AddIndexDef do begin
        Name := 'Fld2Indx';
end;
    end;
    { Call the CreateTable method to create the table }
    CreateTable;
  end;
end;
```

Database Example

```
{ Do a transaction }
with Table1.Database do
begin
  StartTransAction;
{ Post some records with Table1 }
  Commit;
end;
```

Prepare, ExecProc Example

The following code executes the stored procedure:

```
IBStoredProc1.Params[0].AsString := Edit1.Text;
IBStoredProc1.Prepare;
IBStoredProc1.ExecProc;
```

Prepare, Prepared Example

```
if not IBDataSet1.Prepared then
begin
  IBDataSet1.Close;
  IBDataSet1.Prepare;
  IBDataSet1.Open
end;
```

Prepare, Prepared Example

```
if not IBSQL1.Prepared then
begin
  IBSQL1.Close;
  IBSQL1.Prepare;
  IBSQL1.Open
end;
```

SQL, ExecSQL Example

```
IBQuery1.Close;
IBQuery1.SQL.Clear;
IBQuery1.SQL.Add('Delete from Country where Name = ''Argentina''');
IBQuery1.ExecSQL;
```

ParamByName, GetData, GetDataSize Example

```
var Buffer: Pointer;
begin
  { Allocate enough space to hold the CustNo data }
  GetMem(Buffer, IBQuery1.ParamByName('CustNo').GetDataSize);
  try
  { Retrieve the data }
    IBQuery1.ParamByName('CustNo').GetData(Buffer);
    {  now do something with the data }
  finally
    FreeMem(MyBuffer);
  end;
end;
```

ParamByName Example

```
StoredProc1.ParamByName('DNO').AsString := Edit1.Text;
StoredProc1.Prepare;
StoredProc1.ExecProc;
Edit2.Text := FloatToStr(StoredProc1.ParamByName('TOT').AsFloat;
```

GetStoredProcNames Example

```
MyStringList := TStringList.Create;
try
  Session.GetStoredProcNames('IB_EMPLOYEE', MyStringList);
  { fill a list box with stored procedure names
   for the user to select from }
  ListBox1.Items := MyStringList;
finally
  MyStringList.Free;
end;
```

IndexDefs, IndexName

This example uses the IndexName property to sort the records in a table on the CustNo and OrderNo fields.

```
IBTable1.Active := False;
{ Get the current available indicies }
IBTable1.IndexDefs.Update;
{ Find one which combines Customer Number ('CustNo') and Order Number
  ('OrderNo') }
for I := 0 to IBTable1.IndexDefs.Count - 1 do
  if Table1.IndexDefs.Items[I].Fields = 'CustNo;OrderNo' then
    { set that index as the current index for the table }
    IBTable1.IndexName := IBTable1.IndexDefs.Items[I].Name;
IBTable1.Active := True;
```

IndexFields, IndexFieldCount Example

The following code calculates the total length of the index and assigns it to the variable TotalLen.

```
TotalLen := 0;
with IBTable1 do
  for I := 0 to IndexFieldCount - 1 do
    Inc(TotalLen, IndexFields[I].DataSize);
```

Mode, AbortOnKeyViol, Execute, MovedCount, KeyViolCount Example

The following code uses the BatchMove component to add records to a table. After the records have been added, the number of new records is reported on the status line.

```
with BatchMove1 do
begin
  Mode := batAppend;
  AbortOnKeyViol := False;
  Execute;
  StatusBar1.SimpleText := IntToStr(MovedCount - KeyViolCount) + ' records
  added';
end;
```

ParamCount, DataType, StrToIntDef, AsXXX Example

This example fills in the parameters of a query from the entries of a list box.

```
var
  I: Integer;
  ListItem: string;
begin
  for I := 0 to IBQuery1.ParamCount - 1 do
  begin
    ListItem := ListBox1.Items[I];
    case IBQuery1.Params[I].DataType of
      ftString:
        IBQuery1.Params[I].AsString := ListItem;
      ftSmallInt:
        IBQuery1.Params[I].AsSmallInt := StrToIntDef(ListItem, 0);
      ftInteger:
        IBQuery1.Params[I].AsInteger := StrToIntDef(ListItem, 0);
      ftWord:
        IBQuery1.Params[I].AsWord := StrToIntDef(ListItem, 0);
      ftBoolean:
        begin
          if ListItem = 'True' then
            IBQuery1.Params[I].AsBoolean := True
          else
            IBQuery1.Params[I].AsBoolean := False;
        end;
      ftFloat:
        IBQuery1.Params[I].AsFloat := StrToFloat(ListItem);
      ftCurrency:
        IBQuery1.Params[I].AsCurrency := StrToFloat(ListItem);
      ftBCD:
        IBQuery1.Params[I].AsBCD := StrToCurr(ListItem);
      ftDate:
        IBQuery1.Params[I].AsDate := StrToDate(ListItem);
      ftTime:
        IBQuery1.Params[I].AsTime := StrToTime(ListItem);
      ftDateTime:
        IBQuery1.Params[I].AsDateTime := StrToDateTime(ListItem);
    end;
  end;
end;
```

ParamCount, Params, ParamType Example

```
{ Set all input parameters to an empty string }
with IBStoredProc1 do
  for I := 0 to ParamCount - 1 do
    if (Params[I].ParamType = ptInput) or
       (Params[I].ParamType = ptInputOutput) then
      Params[I].AsString := '';
```

Params Example

The following code runs an insert query to add a record for Lichtenstein into the country table.

```
IBQuery2.SQL.Clear;
IBQuery2.SQL.Add('INSERT INTO COUNTRY (NAME, CAPITAL, POPULATION)');
IBQuery2.SQL.Add('VALUES (:Name, :Capital, :Population)');

IBQuery2.Params[0].AsString := 'Lichtenstein';
IBQuery2.Params[1].AsString := 'Vaduz';
IBQuery2.Params[2].AsInteger := 420000;
IBQuery2.ExecSQL;
```

Prepared, Prepare Example

```
if not IBQuery1.Prepared then
begin
  IBQuery1.Close;
  IBQuery1.Prepare;
  IBQuery1.Open
end;
```

SetData Example

```
var I: Longint;
begin
  I := Table1.FieldByName('CustID').AsInteger;
{ Set the data }
  Query1.ParamByName('CustNo').SetData(@I);
end;
```

UpdateRecordTypes, RevertRecord example

With minor coding, UpdateRecordTypes and RevertRecord can be used to undelete records when cached updates are enabled, as the following procedure demonstrates:

```
procedure UndeleteAll(DataSet: TIBCustomDataSet);
begin
  with DataSet do
  begin
  UpdateRecordTypes := [cusDeleted]; {make only deleted records visible}
   try
    First; {move to beginning of dataset}
    while not EOF do
      begin
      RevertRecord; {undelete the current record}
      Next; {move to the next record}
      end;
  UpdateRecordTypes := [cusUnInserted];
   try
    First; {move to beginning of dataset}
    while not EOF do
      begin
      UnDeleteRecord; {undelete the current record}
      Next; {move to the next record}
      end;
   finally
    UpdateRecordTypes := [cusDeleted, cusModified, cusInserted,
  cusUninserted, cusUnmodified];
   end;
  end;
end;
```