Module 12:
Data Accessing Using Object Variables

12

Overview

Using the Data Access Objects

Database Variables

Tables, Dynasets, Snapshots

Sorting Records

Selecting Records

Using Queries From the Database

Getting the Structure of a Database

Accessing SQL Server or dBASE Databases

Creating New Databases

12

The Data Object Variables

Database Variables

Recordset Variables

    Table

    Dynaset

    Snapshot

12

The Database Object

Database Declaration

```
Dim db As Database
```

OpenDatabase Function

```
Set db=OpenDatabase("c:\nwind.mdb",
     False, False, dbconnect$)
```

Close Method

```
db.Close
```

12

The Recordset Objects

Recordset variable	Can user modify records?	Reflects adds/deletes by	Result of a query?
Table	Can add, change,	Yes	No
Dynaset	Can add, change,	No	Yes
Snapshot	Fixed	N/A	Yes

12

Table Objects

Table Declaration

```
Dim tb As Table
```

OpenTable Function

```
Set tb = db.OpenTable("Employees")
```

Access Table Data

```
txtLastName.Text = tb![Last Name]
```

12

Requesting Exclusive Use of a Table

```
Const DB_DENYWRITE = &H1

Const DB_DENYREAD = &H2

Dim options As Integer

Dim t As Table

options = DB_DENYREAD + DB_DENYWRITE

Set t = db.OpenTable("Employees", options)
```
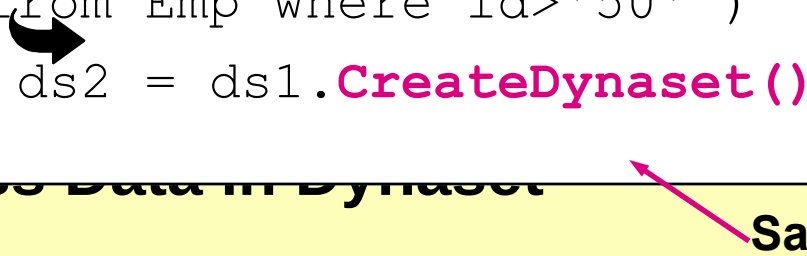
12

Dynaset Objects

Dynaset Declaration

```
Dim ds1 As Dynaset, ds2 as Dynaset
```

Create Dynaset Method

```
Set ds1 = db.CreateDynaset("Employees")
Set ds1 = db.CreateDynaset("Select lname
    from Emp where id>'50'")
Set ds2 = ds1.CreateDynaset()
```

Same as REFRESH

Access Data in Dynaset

```
txtLastName.Text = ds![Last Name]
```

12

Using an External Database to Process a Query

```
Const DB_SQLPASSTHROUGH = &H40

Dim options As Integer

Dim sql As String

Dim ds As Dynaset

options = DB_SQLPASSTHROUGH

sql = "SELECT ....."

Set ds = db.CreateDynaset(sql, options)
```

12

Snapshot Objects

Snapshot Declaration

```
Dim sn As Snapshot
```

CreateSnapshot Method

```
Set sn = db.CreateSnapshot("Employees")
```

Access Data in Snapshot

```
txtLastName.Text = sn![Last Name]
```

12

Comparison of Recordset Objects

Comparison of Table, Dynaset, and Snapshot

Table = Disk Resident Permanently Recorded Data

Dynaset = Dynamically Constructed "Image"

Snapshot = "Fresh Frozen" Dynaset

12

Sorting Records

Sorting a Table — Set Index Property to Existing Index

```
Set t.Index = "lastname"
```

Sorting a Dynaset or Snapshot — Set Sort Property

```
Set ds = db.CreateDynaset ("Employees")

ds.Sort = "[first name]"

Set dsSorted = ds.CreateDynaset ()
```

12

Selecting Records

Create the Dynaset

```
Set ds = db.CreateDynaset ("Employees")
```

Set the Filter Property

```
ds.Filter = "[Title] = 'Clerk'"
```

Recreate the Dynaset **Any Valid SQL "Where ..." Clause**

```
Set dsfilter = ds.CreateDynaset ()
```

12

Using Queries from the Database

Types of Queries

Select queries

Action queries

Using Existing Queries

Creating New Queries

12

Using a Select Query

Declare the QueryDef Variable

```
Dim Q As QueryDef
```

Open the Query

```
Set Q = db.OpenQueryDef ("Employee Sales by Country")
```

Set the Parameters (If Any)

Create a Dynaset Based on the Query

```
Q![beginning date] = txtstartdate.text
```

```
Set ds = Q.CreateDynaset()
```

12

Using Action Queries

Declare the QueryDef Variable

```
Dim Q As QueryDef
```

Create the Query

```
Set Q = db.OpenQueryDef ("UpdatePrices")
```

Execute the Query

```
Q.Execute
```

12

Creating New Queries

Declare the QueryDef Variable
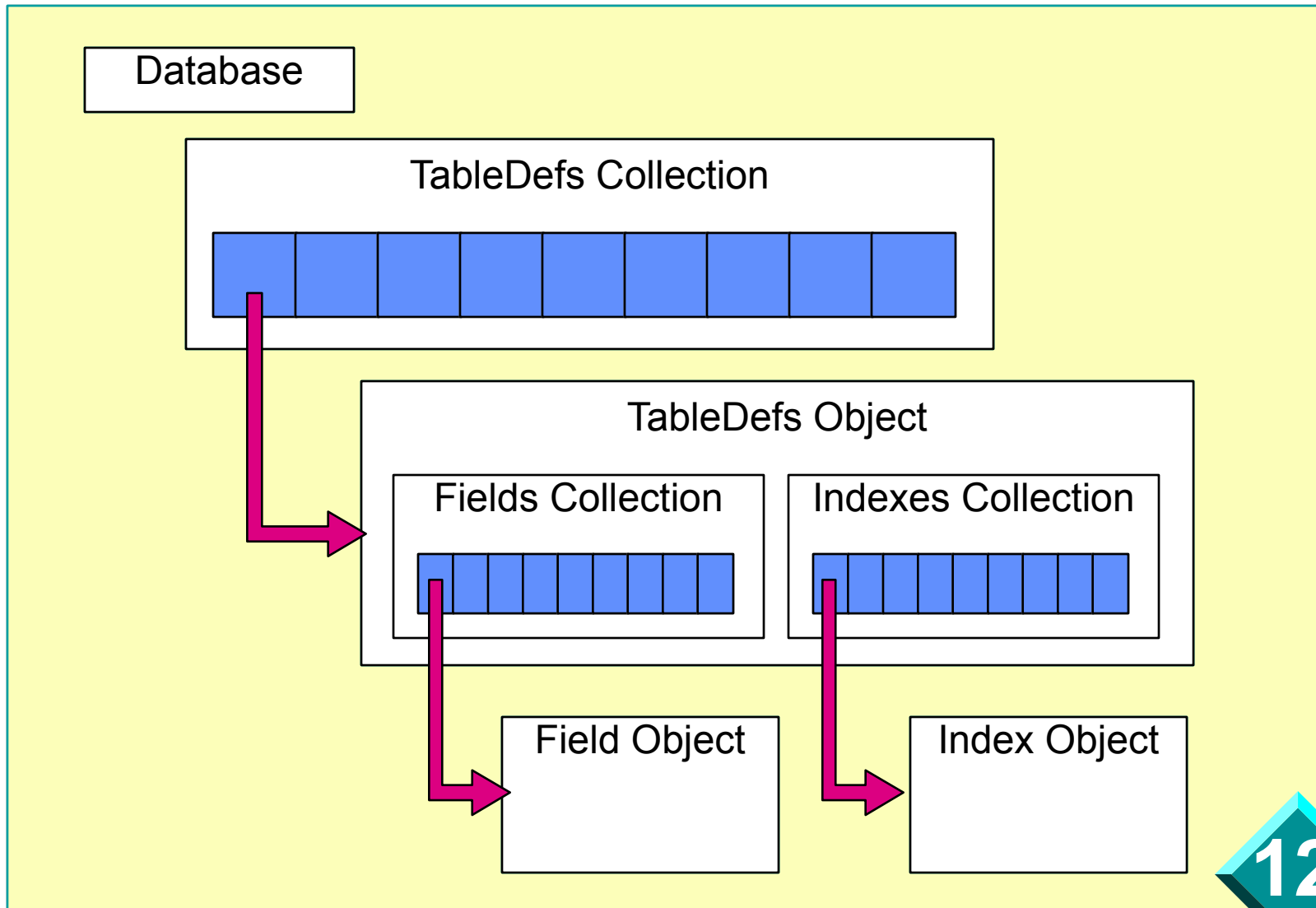
```
Dim Q As QueryDef
```

Create the SQL Definition

```
sql$ = "Select price, quantity, price *
    quantity As Total From Orders"
```

Create the Query Definition

```
Set Q = db.CreateQueryDef ("New Query", sql$)
```

12

Getting the Structure of a Database

Database

TableDefs Collection

TableDefs Object

Fields Collection

Indexes Collection

Field Object

Index Object

12

Accessing dBASE Databases

Specify Directory in OpenDatabase Function

Set Connect Property to "dBASE III;" or "dBASE IV;"

DLLs Listed in VB.INI

.INF File to List Index Files

Create *app*.INI to List DLLs for Executable File

12

Accessing a SQL Server Database

Set Connect Property to Data Source Name

Valid Data Source Names Listed in ODBC.INI

12

Creating New Databases

Use the Data Manager Application (Standard or Professional Edition)

Use the CreateDatabase Function (Professional Edition Only)

12

Summary

Using the Data Access Objects

Database Variables

Tables, Dynasets, Snapshots

Sorting Records

Selecting Records

Using Queries from the Database

Getting the Structure of a Database

Accessing SQL Server or dBASE Databases

Creating New Databases

12