Microsoft Project Database Format

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Working with Projects in a Database

Supported Databases

Microsoft Project supports the following databases through ODBC:

- Microsoft Access 8.0
- Oracle Server, version 7.3 server and client
- Microsoft SQL Server 6.5 with Service Pack 3 or higher.

Microsoft Project can also make the ODBC connection automatically when writing to and reading from Microsoft Access 8.0 databases if you directly select Microsoft Project Database or Access 97 Database as the file type in the File Open and File Save dialog boxes.

Note Saving or loading data is not supported with tables that are linked in Microsoft Access such that the data exists in another application and Microsoft Access is just providing the connection. To access the data you must actually import it into Microsoft Access or connect to the source directly.

Loading Microsoft Project 4.0 and 95 Projects That Were Stored in a Database

You can open a Microsoft Project 4.0 and 95 project saved to database in Microsoft Project 98, but if you save the project to a database again, it will be saved with the Microsoft Project 98 database structure.

Database Permissions and Configuration

Microsoft Project has three levels of operations it performs on a database, each requiring a corresponding set of permissions.

To open a project read-only, and view projects in a database, the user must have SELECT permission.

To modify existing projects in a database, or to save a new project to pre-existing tables in a database, or to delete a project from a database, the user must have the following permissions: SELECT, INSERT, UPDATE, DELETE.

To save a new project to an empty database, or to selectively import and export data, the user must have the following permissions: SELECT, INSERT, UPDATE, DELETE, CREATE TABLE, DROP TABLE.

For all three permission levels above, the user must have the specified permissions on *all* tables created or accessed by Microsoft Project, and at no time should different column-level permissions be used.

If using Oracle Server, Microsoft Project does not support the user ID "internal" for saving and opening projects. When granting permissions to a specified user ID on Oracle, that user ID must have views created pointing to the original tables in order to see the projects. With full privileges, the user ID will be able to open, modify, or create projects through those views.

If using Microsoft SQL Server and the tables are created by the system administrator (SA), permissions can be granted to a specific user ID and no views are required to see the tables. With full privileges, the user ID will be able to open, modify, or create projects. If permissions are granted to allow access to the tables of a specific SQL Server user ID, then views pointing to the original tables must be created in order for that user ID to see the projects. In this case, the projects can only be opened for viewing, as you cannot save or modify projects in the database if you are using views with SQL Server to access any of the Microsoft Project tables.

For databases that support granting privileges on cursors, Microsoft SQL Server requires that the user have execute privileges on keyset driven cursors, while Oracle and other databases require the user to have execute privileges on static cursors.

Oracle users must set the open_cursors, shared_sql_area, and db_block_buffers in the "INITxxx.ORA" file (xxx is the Oracle SID), depending on how many projects need to be accessed at one time. Each open project session by any user on the server requires the following:

- 225K of shared_sql_area
- At least 10 db_block_buffers

For the total number of projects that any single user will open at one time requires the following:

200 open_cursors per project

Examples:

- For a single user to have simultaneous access to a master project and 19 inserted projects requires the following minimum settings:
  open_cursors=4000 (i.e., 20 maximum open projects by any user * 200)
  shared_sql_area=4500 (i.e., 20 projects * 225K)
  db_block_buffers=200 (i.e., 20 projects * 10)

- For 5 users to simultaneously open 5 projects each on a server where no user will ever open more than 10 projects at once requires the following minimum settings:
  open_cursors=2000 (i.e., 10 maximum open projects by any user * 200)
  shared_sql_area=5625 (i.e., 5 users * 5 projects each * 225K)
  db_block_buffers=250 (i.e., 5 users * 5 projects each * 10)

Ensuring Data Integrity in a Project in a Database

Because Microsoft Project writes to and reads from a certain database structure, some changes to a database may cause corruption to a project in a database and prevent Microsoft Project from opening or saving part, or all of the project. The following actions could corrupt a project stored in a database:

- Changing the values of reserved fields and tables.
- Renaming a column or table.
- Deleting a column or table.
- Changing the data type of a column or table to an incompatible data type.

Microsoft Project will perform some data verification when you read a project from a database (or any other external format). The following cases may cause Microsoft Project to display an alert, change data to an appropriate value, or not read the data at all:

- The data type is incompatible.
- The value is out of range.
- The value would create inconsistencies in a project.
- The value is part of an interdependent mathematical relationship.
- The value is a not editable by the user and always calculated by Microsoft Project.

The data in some Microsoft Project fields is stored in binary format in the **Reserved_InternalCompareBits** database field. If you make an external change to a value in a Microsoft Project field, while the project is stored in a database, the binary field will contain the original value that was stored when you last saved the project to a database from Microsoft Project.

Microsoft Project will use the information in the **Reserved_ExternalChangeData** field in the **Assignment_Information** table, **Task_Information** table, **Resource_Information** table, and **Task_Dependencies** table to help determine which fields have been modified in the database, and these modifications will be preserved if they do not cause one of the above listed conditions. Information in the following fields will also be stored in binary format in the **Reserved_ExternalChangeData** field:

Task Fields

% Complete
% Work Complete
Actual Cost
Actual Duration
Actual Finish
Actual Start
Actual Work
Constraint Date
Constraint Type
Cost
Duration
Finish
Fixed Cost
Fixed Cost Accrual
ID
Leveling Delay
Remaining Duration
Remaining Work
Start

Stop
Work

Resource Fields

Accrue At
Available From
Available To
ID

Assignment Fields

Actual Cost
Actual Finish
Actual Overtime Work
Actual Start
Actual Work
Assignment Delay
Assignment Units
Finish
Leveling Delay
Overtime Work
Regular Work
Remaining Overtime Work
Remaining Work
Start
Work

Constraint Fields (in the **Task_Dependencies** table)

LinkLag
LinkType

Precedence for Field Calculations When Importing Data

When you import data from any source, Microsoft Project will recalculate the fields in the project data based upon an order of precedence. If there are inconsistent values in any set of two interdependent fields, Microsoft Project maintains the value in the field with the highest precedence, and recalculates the values of the other field. If there are three interdependent fields with inconsistent values, Microsoft Project will maintain the values of the two fields with the highest precedence, and recalculate the value of the third.

When opening a full project from a database, Microsoft Project will first verify if any external changes to the data can be preserved by looking at the binary data in the **Reserved_ExternalChangeData** field. If the data in this field indicates that more than one interdependent value has changed and the new values are not consistent, then the order of the precedence listed below will be used to resolve the inconsistencies.

If the data in an Assignment field and the corresponding Task field is inconsistent, the data in the Assignment field will take precedence.

The order of precedence listed below always applies when you open an entire project from a database with Microsoft Project. If you open only part of a project from a database, there may be other factors that

determine which fields take precedence in resolving inconsistencies between interdependent fields.

The order of precedence follows:

Assignment Fields

Actual Start
Actual Finish
Start
Finish
Overtime Work
Work
Actual Work
Remaining Work
Assignment Units
Assignment Delay
Leveling Delay

The order of precedence for the **Finish** and **Start** fields is reversed for projects scheduled from a finish date.

Task Fields

Actual Start
Actual Finish
Leveling Delay
Start
Finish
% Complete
Constraint Date
Constraint Type
Work
Actual Work
Remaining Work
Actual Cost
Fixed Cost
Cost
Actual Duration
Duration
Remaining Duration
% Work Complete
Stop

The order of precedence for the **Finish** and **Start** fields is reversed for projects scheduled from a finish date.

Cross-Language Usage and the Text Conversion Tables

To enable different language versions of Microsoft Project to read a project in a database, the contents of some fields will be converted to numeric constants. Microsoft Project writes two tables to the database containing the conversion information for those fields, **Intl_FieldReferences**, which contains the mapping between the enumerated field categories and the field name, and **Intl_TextConversions**, which contains the mapping between the numeric constants and the possible text values for each field. The

following field categories are converted to numeric constants:

Field Category	Fields in this Category	From Table
Weekday	Weekday	Calendar_Working_Times
Schedule Start	ScheduleFrom	Project_Information
Accrual	AccrueAt	Resource_Information
	FixedCostAccrual	Task_Information
	DefaultFixedCostAccrual	Project_Information
Link Type	LinkType	Task_Dependencies
Display Units	LinkLagDisplayUnits	Task_Dependencies
	DelayDisplayUnits	Assignment_Information
	DurationDisplayUnits	Task_Information
	BaselineDurationDisplayUnits	Task_Information
	DelayDisplayUnits	Task_Information
	DurationDisplayUnits	Custom_Duration_Fields
Cost Rate Units	StandardRateDisplayUnits	Resource_Information
	OvertimeRateDisplayUnits	Resource_Information
	StandardRateDisplayUnits	Resource_Rates
	OvertimeRateDisplayUnits	Resource_Rates
Work Contour Type	WorkContour	Assignment_Information
Constraint Type	ConstraintType	Task_Information
Priority	Priority	Task_Information
Task Type	Type	Task_Information
	DefaultTaskType	Project_Information
Calendar Working	Working	Calendar_Working_Times
	Working	Calendar_Exceptions
Container Type	ContainerType	Custom_Duration_Fields
	ContainerType	Custom_Date_Fields
	ContainerType	Custom_Number_Fields
	ContainerType	Text_Fields
Field ID	FieldID	Text_Fields
	FieldID	Custom_Number_Fields
	FieldID	Custom_Date_Fields
	FieldID	Custom_Duration_Fields
Workgroup Messages	Workgroup	Resource_Information
Currency Symbol Position	CurrencyPosition	Project_Information

The **Intl_FieldReferences** and **Intl_TextConversions** tables are described in detail below, under **Microsoft Project Database Structure**.

You can store projects from different language versions of Microsoft Project into the same database, although only the text conversion strings for the first language version saved will be stored in the **Intl_TextConversions** table.

In order to read a project from a database saved with a different language version of Microsoft Project you need to have the correct NLS code page installed. The NLS code page value that Microsoft Project stores in **Reserved_NLSCodePage**, in the **Project_Information** table is the NLS (Code) page that the language requires. Here are the code page values for each set of languages:

Windows code page	Description
1250	Windows Latin 2 (Central Europe)
1251	Windows Cyrillic (Slavic)

1252	Windows Latin 1 (ANSI)
1253	Windows Greek
1254	Windows Latin 5 (Turkish)
1257	Windows Latin 4 or Baltic
932	Japanese
949	Korean
936	Simplified Chinese
950	Traditional Chinese
1200	Unicode (UTF-8)

If you selectively save partial project data to a database, Microsoft Project will create the **Intl_FieldReferences** and **Intl_TextConversions** tables in the database, if they do not already exist in the database. It will not create them if they do exist.

Microsoft Project uses English for the names of the fields and tables in the database, in each language version. If you change the name of a table in a database you will likely corrupt the database, and Microsoft Project will not be able to read that table, and perhaps the entire project.

Adding and Changing Records in the Database

Working with Microsoft Project Data in the Database

When working with Microsoft Project data in a database, you should always follow the guidelines described in the sections below.

Microsoft Project Tables

You should never delete any tables created by Microsoft Project, and you should never delete any of the table columns. You also should not change the data type of any database field. A number of tables and fields created by Microsoft Project have names that begin with the word "Reserved." You should never alter these tables or fields in any way.

You may notice that some of the tables Microsoft Project created in the database contain some records with large negative values in the **UniqueID** field. These records usually appear at the top of a table or at the beginning of each project and the values are -65536, -65535, and -65534. These records are used internally by Microsoft Project and should never be edited or deleted.

If you create the tables yourself (see the section "Creating the Microsoft Project Database (MPD) Structure"), you should never make any of the fields a required field.

Specifying Times with Dates

When you enter a date value directly in the database, you should always include the time with the date. Since database date and time fields use a default time when you don't specify the time, relying on the default can lead to unexpected results. The database fields usually default to 12:00 AM, which is normally non-working time in most calendars. When Microsoft Project encounters 12:00 AM, it "rounds" the time to the *next* closest working time for start times and to the *last* working time for finish times.

Thus, if you specify dates without times, it can result in the following situation: You create what you think is a 5-day task in the database by specifying the task start as Monday's date and the task finish as Friday's date. The Monday time in the database is really Monday at 12:00 AM, so Microsoft Project

treats this as Monday 8:00 AM (per the calendar default start time), which works fine. For Friday's time, though, the default is Friday at 12:00 AM, which are rolled back to Thursday at 5:00 PM (the calendar default finish time). Thus, your 5-day task becomes only 4 days when it is read in by Microsoft Project. By explicitly specifying the time in each date/time field, you can always avoid this problem.

Duration Values, Work Values, and Rate Values

Microsoft Project saves all duration and rate fields to two separate fields in the database. The first field is the duration value, work value, or rate value, and the second field is the corresponding **DisplayUnits** field. If you change the value in a **DisplayUnits** field in the database, it will have no effect on the value of the corresponding duration, work, rate or cost field, which Microsoft Project saves as absolute values. The **DisplayUnits** field simply indicates which unit label Microsoft Project will use to display the value.

Because duration, work, rate and cost values can be displayed using different units, Microsoft Project saves each using a standard multiple:

- Duration values are saved as minutes * 10. Eight hours would be saved as 4800 (i.e., 8*60*10).
- Work values are saved as minutes * 1000. Eight hours would be saved as 480000 (i.e., 8*60*1000).
- Rate values are saved as dollars per hour. Fifteen dollars an hour would be saved as 15.
- Cost fields are saved as dollars * 100. Seventy dollars and twenty-five cents would be saved as 7025.

Creating the Microsoft Project Database Structure

If you have a need to create a Microsoft Project database from scratch, the easiest method is to save out an empty project using Microsoft Project and then delete the project from the database with the **DeleteFromDatabase** method, which will retain the table structure. If you do not want to use Microsoft Project to facilitate the process, you will need to create an empty database through the ODBC driver and then create all of the appropriate tables. Creating all of the tables manually would be an extensive undertaking, as you would need to use this document as a reference and ensure that you have exactly the right table and column names for every table and the correct data types for every field. So, to facilitate table creation, Microsoft Project includes three script files with the SQL statements necessary to set up all of the tables for Microsoft Access, Microsoft SQL Server, or Oracle Server. These script files are called MPDtable.sql, SQLtable.sql, and OraTable.sql, and can be found on the Microsoft Project 98 installation CD in the Database subdirectory under the ValuPack.

Before using the script for Oracle or SQL Server, you must open the file in a text editor and replace all occurrences of the string "<owner>" (without the quotation marks) with the name of the owner for the Microsoft Project tables. Also note that in all three scripts, the SQL statements that populate the Intl_FieldReferences and Intl_TextConversion tables are for the English conversion values and, therefore, will need to be modified for other languages.

Deleting a Project from a Database

To delete a project from a database, you can use the **DeleteFromDatabase** method. For more information about this method, and other Microsoft Visual Basic for Applications objects, methods and properties, look for the appropriate topic in Microsoft Project 98 VBA Help.

DSN Requirements for Multiple Users and Projects

If multiple users will be accessing project files in the same database, each user making changes to the data must use the same Data Source name (DSN) for connecting to the database. Microsoft Project combines the DSN and project name (in "*<DSN>\projectname*" format) as the identifier to locate a

project. If someone uses a DSN with a different name, it will result in unresolved references for items such as inserted projects, cross-project links, and sharer projects utilizing the same resource pool.

This also applies to projects that are stored in a Microsoft Access database (as an MPD or MDB file). If multiple users will be modifying the database, then those users should all access the database with a same-named DSN and not do any saves by selecting the MPD or MDB file-type from the "Save as type" list in the File Save dialog.

Because of the way Microsoft Project caches login passwords and other connection information, the same DSN cannot be used by more than one user ID on a single machine for different simultaneous logins to the database. Once a DSN connection is established, that connection will be reused even if a different login name and/or password is entered at login time. To login through a different user ID, you must first close all projects opened with the DSN or, for simultaneous connections, you must create additional alternate DSNs to use with each different user ID.

ODBC now supports the use of File DSNs in addition to traditional Machine DSNs, but Microsoft Project does not support the use of File DSNs in any situation where another project is referenced. Whenever Microsoft Project must refer to another project, certain information must be stored to be able to later locate that project. File DSNs do not provide the amount of information that is needed to be able to retrieve a project. Therefore, you should not use File DSNs when using features where other projects are referenced (e.g., project consolidation, cross-project linking, resource sharing links, and OLE links).

Concurrent Usage and Project Locking

If you open a project in a database through Microsoft Project, and that project is not in use by another user, you will be given full read/write access. Until you finish your session with the project, you or any other user will only be able to open that project from that database as read-only.

The read/write access permission and some other properties used in managing concurrent usage are all maintained in a number of fields in the **Project_Information** table in the database. These project-locking fields are in effect only when users are using Microsoft Project to read or update the database. Microsoft Project does not provide any kind of locking when a database is being read or updated directly by a user using a database program or tool. Thus, any program or tool written to read or update the database should follow the same conventions to ensure consistent data access. Each of the project-locking fields is described below.

If you have the project open with read/write access through Microsoft Project, then Microsoft Project will store a value of "1" in the **Project_ReadWrite** field. When you finish your session and close the database, the field value will be set to "0" which is the default. You should temporarily set the value of this field to "1" to prevent other users from updating the project through Microsoft Project if you want to make updates to the database directly.

While any users are currently in the process of opening a project read-only from a database through Microsoft Project, Microsoft Project will store in the **Reserved_ReadCount** field the number of users actively reading in data at that moment.

While Microsoft Project is writing to a database, it will set the value of the **Project_Locked** field to "1". While this field has a value of "1", the project may not be opened by any user, not even read-only. You can temporarily set the value of this field to "1" to prevent other users from opening a project in the database, but you should not set it unless the **Reserved_ReadCount** field is at "0" (and you should not modify **Reserved_ReadCount** yourself). Before you set the **Project_Locked** field, the **Project_ReadWrite** field should be set to "1".

Microsoft Project stores a string in the **UserMachineID** field in the database, which identifies the machine that has the project open with read/write access through Microsoft Project at any one time. If you access the project through a data source name, then Microsoft Project will store a string in the **Reserved_DataSourceName** field, identifying the data source name.

It's recommended that, after setting **Project_ReadWrite** to "1", you enter an appropriate string in the **UserMachineID** field so that any user attempting to open the project through Microsoft Project will get an appropriate message informing them that the project is currently opened for read/write by the correct name, otherwise Microsoft Project can't identify to the user who has the project open for read/write access. The name should be an identifier for the user opening the project, or the program opening the project. When you are ready to allow read/write access to the project again, you should set the **UserMachineID** field back to a null string right before you reset the **Project_ReadWrite** field to "0".

Microsoft Project will store the time of the last update to a database in the **Reserved_LastUpdateTimestamp** field.

If a user has read/write access to a project in a database through Microsoft Project, and another user changes data in that project directly in the database, that change will not be reflected in Microsoft Project for the first user. In addition, if the first user saves project data back to the database, that data will overwrite any changes made directly in the database by the second user.

Creating a New Task

To create a new task in the database, you must add a new record to the Task_Information table and enter values for at least the following fields:

Table	Fields	Notes
Task_Information Project_Information	ProjectID	Must refer to a valid project in the table.
	TaskUniqueID	Must be unique within the project.
	TaskID	Must be unique within the project.
	Name	The name of the new task.
	Duration	The duration of the new task.

Example:

Assume your current project has 22 tasks with **TaskUniqueIDs** 1 to 22 and **TaskIDs** 1 to 22. If you want to create a new 1-week task named "Research Competitors" and you want this task to be the eighth task in the project, you would add the following record to the Task_Information table:

ProjectID	TaskUniqueID	TaskID	Name	Duration
3	23	8	Research Competitors	24000

Obtain the correct **ProjectID** from the **Project_Information** table. For the **TaskUniqueID**, use 23 because it is the next available number. Set **TaskID** to 8, to make this task eighth in the list, but this also requires that the **TaskIDs** of each subsequent record be adjusted by one to make room (since **TaskIDs** must be unique). So, while not shown here, the original records with **TaskIDs** 8 to 22 must be renumbered with **TaskIDs** 9 to 23. Set the Duration to 24000, since one 8-hour day is specified as 4800 in the database and 5*4800=24000.

Creating a New Resource

To create a new resource in the database, you must add a new record to the **Resource_Information** table and enter values for at least the following fields:

Table	Fields	Notes
Resource_Information	ProjectID	Must refer to a valid project in the Project_Information table.
	ResourceUniqueID	Must be unique within the project.
	ResourceID	Must be unique within the project.
	Name	The name of the new resource.

Creating a New Assignment

To create a new assignment in the database, you must add a new record to the **Assignment_Information** table and make sure certain values are set for the associated task record in the **Task_Information** table. You must enter values for at least the following fields:

Table	Fields	Notes
Assignment_Information	ProjectID	Must refer to a valid project in the Project_Information table.
	AssignmentUniqueID	Must be unique within the project.
	TaskUniqueID	Must refer to a valid record for the same ProjectID in the Task_Information table.
	ResourceUniqueID	Must refer to a valid record for the same ProjectID in the Resource_Information table.
	StartDate	The assignment start date and time.
	FinishDate	The assignment finish date and time.
Task_Information	StartDate	The task start date and time.
	ConstraintType	The constraint type for the task. The values can be obtained from the ConversionValue field in the Intl_TextConversions table where the FieldValue equals 20 (e.g., As Soon As Possible = 0).

Creating Task Dependencies

To create a new task link dependency in the database, you must add a new record to the **Task_Dependencies** table and enter values for at least the following fields (which will give you a simple Finish-to-Start link with zero lag):

Table	Fields	Notes
Task_Dependencies	ProjectID	Must refer to a valid project in the Project_Information table.
	DependencyUniqueID	Must be unique within the project.
	PredecessorTaskUniqueID	Must refer to a valid record for the same ProjectID in the Task_Information table.
	SuccessorTaskUniqueID	Must refer to a valid record for the same ProjectID in the Task_Information table.

If you want to specify lag when you create a link, then you must specify both of the following fields:

Table	Fields	Notes
Task_Dependencies	LinkLag	The amount of lag, specified as a duration value (i.e., minutes * 10).
	LinkLagDisplayUnits	The value representing the units to use when the LinkLag is displayed inside Microsoft Project. The range of values can be obtained from the ConversionValue field in the records in the Intl_TextConversions table where the FieldType is 9.

Note It is not possible to create cross-project links in the database; you must create them inside Microsoft Project.

Creating a New Project

To create an entirely new project in the database, you must add a new record to the **Project_Information** table and create a project summary task in the **Task_Information** table. You must enter values for at least the fields specified below. Then, to add the associated tasks, resources, and assignments to the project, you must create the task, resource, and assignment records as described above.

Table	Fields	Notes
Project_Information	ProjectID	Must be unique within the table.
	ProjectName	Must be unique within the table.
	StartDate	The project start date and time.
Task_Information	ProjectID	Specify the same ProjectID value as in the Project_Information table.
	TaskUniqueID	This value must be zero for a project summary task.
	TaskID	This value must be zero for a project summary task.
Task_Information Resource_Information Assignment_Information	[various]	For the specific fields and their values, see the respective sections on creating tasks, resources, and assignments.

Notes

- If you only enter the minimal values specified above when creating a new project in the database, Microsoft Project will display a message upon opening the project that says the Standard calendar is missing. To prevent this warning from being displayed, you must also create a Standard calendar when creating a new project.

- For a new project created in the database, all of the Microsoft Project option settings will default to False, not to the normal Microsoft Project default values. To ensure Microsoft Project behaves in the desired way once the project is opened, all of the option values in the **Project_Information** table should be set to the desired settings.

Specifying the Value of a Custom Field

Custom flag fields are stored in the database in the respective **Task_Information**,

Resource_Information, and **Assignment_Information** tables and can be set directly in those tables. All other custom fields are stored in four special tables that are based on the custom field type. To specify the value of a custom field, you must add a new record to the appropriate custom field table and set a corresponding flag in the **Project_Information** table. To specify custom field values for a project summary task, the procedure is identical, but you must use the special **TaskUniqueID** of zero.

Specifying Custom Text Fields

You must enter values in the following database fields to specify a custom text field:

Table	Fields	Notes
Text_Fields	ProjectID	This value must refer to a valid project in the Project_Information table.
	ContainerType	The ContainerType is 0 for task fields, 1 for resource fields, or 3 for assignment fields.
	UniqueID	Depending on the ContainerType, specify the corresponding TaskUniqueID, ResourceUniqueID, or AssignmentUniqueID value of the record for which the custom field is being set.
	FieldID	The field identifier of the custom field, which can be obtained from the ConversionValue field in the Intl_TextConversions table.
	TextValue	The custom text value.
Project_Information	Text_Field_Set	Set this value to True.

Specifying Custom Number Fields

You must enter values in the following database fields to specify a custom number field:

Table	Fields	Notes
Custom_Number_Fields	ProjectID	This value must refer to a valid project in the Project_Information table.
	ContainerType	The ContainerType is 0 for task fields, 1 for resource fields, or 3 for assignment fields.
	UniqueID	Depending on the ContainerType, specify the corresponding TaskUniqueID, ResourceUniqueID, or AssignmentUniqueID value of the record for which the custom field is being set.
	FieldID	The field identifier of the custom field, which can be obtained from the ConversionValue field in the Intl_TextConversions table.
	NumberValue	The custom number value.
Project_Information	Custom_Number_ Field_Set	Set this value to True.

Specifying Custom Date Fields

You must enter values in the following database fields to specify a custom date field:

Table	Fields	Notes
Custom_Date_Fields	ProjectID	This value must refer to a valid project in the Project_Information table.
	ContainerType	The ContainerType is 0 for task fields, 1 for resource fields, or 3 for assignment fields.
	UniqueID	Depending on the ContainerType, specify the corresponding TaskUniqueID, ResourceUniqueID, or AssignmentUniqueID value of the record for which the custom field is being set.
	FieldID	The field identifier of the custom field, which can be obtained from the ConversionValue field in the Intl_TextConversions table.
	DateValue	The custom date/time value.
Project_Information	Custom_Date_ Field_Set	Set this value to True.

Specifying Custom Duration Fields

You must enter values in the following database fields to specify a custom duration field:

Table	Fields	Notes
Custom_Duration_Fields	ProjectID	This value must refer to a valid project in the Project_Information table.
	ContainerType	The ContainerType is 0 for task fields, 1 for resource fields, or 3 for assignment fields.
	UniqueID	Depending on the ContainerType, specify the corresponding TaskUniqueID, ResourceUniqueID, or AssignmentUniqueID value of the record for which the custom field is being set.
	FieldID	The field identifier of the custom field, which can be obtained from the ConversionValue field in the Intl_TextConversions table.
	DurationValue	The custom duration value.
	DurationDisplayUnits	The units to use when displaying this duration in Microsoft Project.
Project_Information	Custom_Duration	Field_Set Set this value to

Example:

Let's say you want to enter the value 226 into the **Number3** field for a particular resource that already exists in the database. Assume that the record for the resource in the **Resource_Information** table includes the following information:

```
ProjectID   ResourceUniqueID   Name
-----------------------------------
    42             17          Bob
```

To set the **Number3** field for this resource to 226, add the following record to the

Custom_Number_Fields table:

ProjectID	ContainerType	UniqueID	FieldID	NumberValue
42	1	17	205521010	226

The **ProjectID** must match the resource record. The **ContainerType** is 1 in this case, because we are setting a resource custom field. The **UniqueID** is taken directly from the **ResourceUniqueID** field in the Resource_Information table. The **FieldID** value is taken from the **ConversionValue** field in the **Intl_TextConversion** table from the record where the **ConversionText** field equals "Resource Number3." The **NumberValue** field contains the actual data.

In order for Microsoft Project to read this record, you must set the **Custom_Number_Field_Set** flag in the **Project_Information** table to True.

Specifying Other Task and Resource Text Values

Three text data fields containing task information and three text data fields containing resource information are stored in the **Text_Fields** table rather than in the respective **Task_Information** and **Resource_Information** tables. One task field is **SubprojectFile**, which is covered in a separate section on creating inserted projects below. The other two task fields are **WBS** and **Contact**, and the three resource fields are **Code**, **EmailAddress**, and **ResourceGroup**. These five fields are handled the same way as the custom text fields. You must enter values in the following database fields to specify one of these task or resource fields:

Table	Fields	Notes
Text_Fields	ProjectID	This value must refer to a valid project in the Project_Information table.
	ContainerType	The ContainerType is always 0 (task) for the WBS and Contact fields, or 1 (resource) for Code, EmailAddress, or ResourceGroup.
	UniqueID	Specify the corresponding TaskUniqueID (for WBS or Contact) or ResourceUniqueID (for Code, EmailAddress, or ResourceGroup) of the record for which the value is being set.
	FieldID	Specify the appropriate field identifier (from the ConversionValue field in the Intl_TextConversion table): WBS: 188743696 Contact: 188743792 Code: 205520906 EmailAddress: 205520931 ResourceGroup: 205520899
	TextValue	The string to store in the field.
Project_Information	Text_Field_Set	Set this value to True.

Note The only WBS values that are stored internally in Microsoft Project (and, therefore, the only ones that will ever be written out) are WBS values that have been changed from the default values that are automatically assigned by Microsoft Project.

Example:

Let's say you want to enter the values 3.2.4 and 3.2.5 into the WBS fields for two existing tasks in the database. Assume that the records for the tasks in the **Task_Information** table include the following information:

ProjectID	TaskUniqueID
3	24
3	25

To set the WBS fields for these tasks, the add the following records to the **Text_Fields** table:

ProjectID	ContainerType	UniqueID	FieldID	TextValue
3	0	24	188743696	3.2.4
3	0	25	188743696	3.2.5

The **ProjectID** values must match the Task records. The **ContainerType** is zero in this case, because we are setting a task text field. The **UniqueID** values are taken directly from the **TaskUniqueID** field in the **Task_Information** table. The **FieldID** value is taken from the **ConversionValue** field in the **Intl_TextConversion** table from the record where the **ConversionText** field equals "Task WBS." The **TextValue** field gets the actual WBS strings.

In order for Microsoft Project to read these records, you must set the **Text_Field_Set** flag in the **Project_Information** table to True.

Creating an Inserted Project

The process for creating an inserted project in the database is a combination of the procedures for creating a new task and specifying the value of a custom text field. You must add new records to the **Task_Information** and **Text_Fields** tables with values for at least the following fields, as well as setting the flag in the Project_Information table:

Table	Fields	Notes
Task_Information	ProjectID	This value must refer to a valid project in the Project_Information table. This is the ID of the master project, not the inserted project.
	TaskUniqueID	Must be unique within the master project. This is the unique ID of the inserted project task.
	TaskID	Must be unique within the master project. This is the ID of the inserted project task.
Text_Fields	ProjectID	Specify the same ProjectID value as in the Task_Information table.
	ContainerType	The ContainerType is always 0 (task) for inserted projects.
	UniqueID	Specify the same TaskUniqueID value used for the inserted project task in the Task_Information table.
	FieldID	The FieldID is always 188743706 for inserted projects.
	TextValue	The full name of the inserted project (i.e., path and filename or database and project name).
Project_Information	Text_Field_Set	Set this value to True.

Example:

Let's say you have two projects stored in a database and you want to make one of them an inserted project of the other. Assume the two projects are in an MPD file that you access with a data source (DSN) called "Projects" and the project names are "Master Project" and "The Subproject." First you need to create a task in Master Project to hold the inserted project. This record in the **Task_Information** table would appear as follows:

ProjectID	TaskID	TaskUniqueID	Name
1	5	5	My subproject

The **TaskID** and **TaskUniqueID** used here are just chosen for demonstration purposes and have no significance. The important issue to remember is that they must be unique among all the IDs for the current project. Once you have this task, you need to specify the name of the inserted project file, and this is done the same as the custom text fields described earlier. This is the record that you need to add to the **Text_Fields** table:

ProjectID	ContainerType	UniqueID	FieldID	TextValue
1	0	5	188743706	<Projects>\The Subproject

The **ProjectID** value must match the Task record. The **ContainerType** is zero in this case, because we are setting a task text field. The **UniqueID** value is taken directly from the **TaskUniqueID** field in the **Task_Information** table. The **FieldID** value is taken from the ConversionValue field in the **Intl_TextConversion** table from the record where the **ConversionText** field equals "Task SubprojectFile." The **TextValue** field gets the actual project name, which, in this case, is specified in the *<DSN>\ProjectName* syntax for a project in a database.

In order for Microsoft Project to read this record, you must set the **Text_Field_Set** flag in the **Project_Information** table to True.

Creating (or Modifying) an Assignment Remaining Work Contour

To create or modify an assignment remaining work contour, you must add one or more records to the **Assignment_Remaining_Work** table. Each record represents a segment of the contour with a consistent unit value. When the units change, a new segment is required. The order of the work contour segments is dependent on the actual order of the **UniqueIDs**. If you add or insert a new segment, it may require renumbering of the existing values in the **UniqueID** field. Anytime you add or modify a record in a contour table, you must set a bit in the Flags field to indicate that a change has been made.

When the **WorkValue** and **Units** are both non-zero, the **WorkingDuration** field is not required. If either **WorkValue** or **Units** is zero, **WorkingDuration** must contain a value for how much working time the segment covers. Creating a split in an assignment is simply a matter of creating a record with a zero WorkValue and specifying the length of the split in the **WorkingDuration** field.

To create a new assignment remaining work contour segment, you must enter values for the following fields:

Table	Fields	Notes
Assignment_Remaining_Work	ProjectID	Must refer to a valid project in the

	Project_Information table.
UniqueID	A unique ID for this segment of the contour (must be unique within the project). All segments that make up a contour will be ordered by ascending UniqueIDs, so they must be numbered accordingly (sequential numbering is not required).
AssignmentUniqueID	Must refer to a valid record for the same ProjectID in the Assignment_Information table.
FromDate	This field is not read by Microsoft Project, but is a useful reference when setting up a contour.
WorkValue	The total work for this segment of the contour.
Units	The units for this segment of the contour.
WorkingDuration	The duration of this segment if units or work are zero (e.g., specifying the length of a split).
Flags	The second bit of this value must be set (see "Setting the Contour Table Flags" below). If creating a new record, just set the value of this field to 2.

Note Contour records are applied on top of calendars to get the actual contour, thus the contour flows around non-working time. This is why there is only one record, for instance, for a task that occurs on Friday and Monday with the weekend off in-between. It is also the reason the **FromDate** field is for reference only – the real **FromDate** is calculated based on the calendar and all of the previous segments.

Example:

Assume a project contains the following assignment contours:

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun 2	Mon 2	Tue 2
Assignment 6 :		4h	4h	4h	4h					
Assignment 8 :				8h	8h	4h			4h	

Microsoft Project saves these contours in the database in the **Assignment_Remaining_Work** table as follows (note that the Row # field is for reference in this example only and does not exist in the database):

Row #	Project ID	Unique ID	Assignment UniqueID	From Date	Work Value	Units	Wrkng Duration	Flags
6-1	3	17	6	Mon 8:00AM	960000	0.5	19200	0
8-1	3	19	8	Wed 8:00AM	960000	1	9600	524288
8-2	3	20	8	Thu 5:00PM	480000	0.5	9600	0

Let's say you now want to modify the first contour to assign 8 hours of work on Tuesday, instead of 4, and in the second contour, you need to create a one-day split on Thursday. First, let's look at the contour for Assignment 6. The modified **Assignment_Remaining_Work** table records appear as follows (all new and modified values are displayed in bold):

Row #	Project ID	Unique ID	Assignment UniqueID	From Date	Work Value	Units	Wrkng Duration	Flags
6-1	3	17	6	Mon 8:00AM	**240000**	0.5		**2**
6-2(new)	**3**	**18**	**6**	**Tue 8:00AM**	**480000**	**1**		**2**

6-3(new)	**3**	**21**	**6**	**Wed 8:00AM**	**480000**	**0.5**		**2**

Since the **Units** value needs to change to 100% on Tuesday, it means a new record (6-2) needs to be added. Furthermore, the insertion of that new record means you need to change the **Units** back to the previous level on Wednesday. So, you must add another record (6-3), for a total of three records to cover all of Assignment 6. Remember, the **FromDate** is strictly for reference and will not be read by Microsoft Project.

The **WorkValue** in 6-1 is reduced to reflect just 4 hours of work and the **Flags** field bit is set, making that value 2. In 6-2, the **UniqueID** 18 is used, since it's the next available number. The **WorkValue** and **Units** are set to reflect 8 hours on one day and the **Flags** field bit is set. In 6-3, the **Unique** ID is set to 21, since 19 and 20 are already in use (by Assignment 8). The **WorkValue** is set to 8 hours and the **Units** is set to 50% to make the work occur over two days. Lastly, the 6-3 **Flags** field bit is set.

For Assignment 8, to add a one-day split on Thursday, the modified **Assignment_Remaining_Work** table records appear as follows (again, the additions and changes are marked in bold):

Row #	Project ID	Unique ID	Assignment UniqueID	From Date	Work Value	Units	Wrkng Duration	Flags
8-1	3	19	8	Wed 8:00AM	**480000**	1		**524290**
8-1a(new)	**3**	**22**	**8**	**Thu 8:00AM**	**0**	**0**	**4800**	**2**
8-1b(new)	**3**	**23**	**8**	**Fri 8:00AM**	**480000**	**1**		**2**
8-2	3	**24**	8	**Mon2 8:00AM**	480000	0.5		**2**

To create the split, a new record (8-1a) with no work must be created for Thursday. This record for the split must specify **WorkingDuration** for the length of the split (8 hours in this case), since the **WorkValue** and Units cannot be used in determining the contour. The **UniqueID** used for 8-1a is 22, since 21 was used above when making Assignment 6 changes. The insertion of record 8-1a means that record 8-1 now represents only one day of work, so its **WorkValue** must be set to 8 hours. Record 8-1b must be newly created to contain the second day of work at 100% Units that was originally included in 8-1 before the split was inserted. The **UniqueID** for 8-1b is set to 23, since that's the next available number.

The **WorkValue** and **Units** in record 8-2 don't need to change. Because of the split, the start date moves out to after the weekend, so **FromDate** is updated to make things clear, but it has no effect on the actual contour. Since the **UniqueID** fields must contain ascending values to specify the order of the segments in the contour, the **UniqueID** for 8-2 is no longer acceptable and must be changed from its original value of 20 to 24 (or higher). So, the only real change for 8-2 is the **UniqueID**, but that's enough to require that the **Flags** bit be set.

In fact, all four Assignment 8 records are new or modified, so the Flags field bit must be set for each one. In 8-1, the **Flags** value was typical of the sort of large value that Microsoft Project may save out when a number of other bits representing internally used flags have already been set. Regardless of the original value, setting the bit just requires performing an OR with 2.

Creating Splits in Scheduled Work

Creating a split in scheduled work is just a specific case of modifying the assignment remaining work contour such that one segment of the contour does not contain any work. This entails creating a record in the **Assignment_Remaining_Work** table with zero in **WorkValue** and the length of the split in **WorkingDuration**. This is covered in the "Creating (or Modifying) an Assignment Remaining Work Contour" section and example above.

Tasks without resources assigned go into the **Assignment_Remaining_Work** table as assignments for the Unassigned Resource. Thus, a split created in a task with no assignments will still appear in the **Assignment_Remaining_Work** table. So, if you are creating a project from scratch in the database and you need to add splits to unassigned tasks, the only difference in this case is that you must use the value -65535 for the **ResourceUniqueID** on the assignment records, since -65535 is always the unique ID for the Unassigned Resource.

Note In the case of "stop/resume" splits, where the split immediately follows actual work, the split information is stored in the **Task_Information** table in the **Stop** and **Resume** fields, not in the **Assignment_Remaining_Work** table. Stop/resume splits are often created by leveling, and they can also be created by dragging out the remaining portion of a task that is already marked with a partial percent complete.

Example:

Assume you have an existing 2-day task that has no resource assigned and you want to insert a 3-day split in the middle. The task is originally represented by a single record in the **Task_Information** table such as the following:

ProjectID	TaskID	TaskUniqueID	Duration	StartDate	FinishDate
6	7	5	9600	Mon 8:00AM	Tue 5:00PM

To create the split, you need to create a contour in the **Assignment_Remaining_Work** table, which, in turn, relies on having an assignment record in the **Assignment_Information** table. Since there is no resource assigned to the task, you need to create the assignment under the Unassigned Resource. Because the task already exists in the database, the assignment already exists as well and you just need to reference it, but if you were actually creating everything from scratch, this is the record that would need to be added to the **Assignment_Information** table:

Project ID	Assignment UniqueID	Task UniqueID	Resource UniqueID	Start Date	Finish Date
6	59	5	-65535	Mon 8:00AM	Fri 5:00PM

The **ProjectID** is the same as the task record. The **AssignmentUniqueID** is just a value that is not already in use for this project. The **TaskUniqueID** value is taken directly from the task record in the **Task_Information** table. The **ResourceUniqueID** value is set to -65535 to indicate the Unassigned Resource. The **StartDate** is the same as the task record, but the **FinishDate** represents the new finish with the split incorporated (since the assignment takes precedence over the task, changing the **FinishDate** in the task record is not required).

To create the actual contour and indicate the length and position of the split, these are the records that you need to add to the **Assignment_Remaining_Work** table:

Project ID	Unique ID	Assignment UniqueID	From Date	Work Value	Units	Working Duration	Flags
6	43	59	Mon 8:00AM	480000	1		2
6	44	59	Tue 8:00AM	0	0	14400	2
6	45	59	Fri 8:00AM	480000	1		2

In all three records, the **ProjectID** just matches the other tables and the **AssignmentUniqueID** is taken directly from the record just created in the **Assignment_Information** table. The sequence of the

UniqueIDs determines the ordering of the contour segments, so the three **UniqueIDs** are chosen such that they are in ascending order and they don't duplicate any others in the project. All three records also need to have the bit in the Flags field set so that they will be read by Microsoft Project.

The first record covers the 8 hours of work on Monday. The second record covers the split, hence the **WorkValue** and **Units** are set to zero and the **WorkingDuration** must contain the value to indicate 3 days. The third record covers the 8 hours of work on Friday.

Creating (or Modifying) an Assignment Actual Work Contour

Creating or modifying an assignment actual work contour is identical to the procedure described above for the remaining work contours, but there is an additional requirement if any of the work occurred during non-working time (e.g., on the weekend). In that case you must add exception records for the non-working time.

When actual work is entered in the **Assignment_Actual_Work** table, Microsoft Project will decrease the work a complementary amount in the **Assignment_Remaining_Work** table contours upon reading the data (unless the bit in their Flags field is set, in which case Microsoft Project will retain whatever is in the remaining work contour as well).

Notes

- With exceptions in the **Assignment_Actual_Exceptions** table, the **FromDate** and **ToDate** fields do determine the actual range, so these values must both be entered. **UniqueID** ordering has no effect.

- It is important to make sure the Units values are correct for each segment of the contour when entering actual work in the database. If Microsoft Project has stored out some actuals, the Units value of the last segment of the contour may appear incorrect because there may have been additional remaining work on the last day. In that case, Microsoft Project sets the Units at a higher value so that any additional remaining work entered will start from the last day with actuals, rather than from the next day (i.e., the first day without actuals). If you add additional actual work contour segments in the database following a record with the inflated Units value, you should first set the Units of that segment to the correct value. By the same token, if you want to have some remaining work appear on the last day of the contour where you already have some actual work entered, you can increase the Units above the normal amount.

Example:

Assume your calendar covers the normal Monday-Friday 8:00 to 5:00 working time and you have a 2-day task that starts on Friday and ends on Monday. Assume also that there is only one resource assigned to this task and he decides to work 4 hours each day on Friday, Saturday, Sunday, and Monday, rather than the scheduled 8 hours each on Friday and Monday. If you want to create records to show the actual work exactly as it occurred, you not only need to create an actual work contour in the **Assignment_Actual_Work** table, you must also indicate the weekend hours in the **Assignment_Actual_Exceptions** table. These are the records that you must create in the **Assignment_Actual_Work** table:

Project ID	Unique ID	Assignment UniqueID	From Date	Work Value	Units	Flags
1	11	20	Fri 8:00AM	240000	0.5	2
1	12	20	Sat 12:00AM	480000	0.1667	2
1	13	20	Mon 8:00AM	240000	0.5	2

This is the exception record that you need to create in the **Assignment_Actual_Exceptions** table:

ProjectID	UniqueID	Assignment UniqueID	FromDate	ToDate	Flags
1	11	20	Sat 12:00AM	Mon 12:00AM	2

Since the work was evenly distributed on Saturday and Sunday, only one exception record is needed to cover the whole weekend. The **FromDate** and **ToDate** fields reflect this range.

In the actual work contour records above, the first and third records cover the 4 hours of actual work on Monday and Friday. The second record covers the 8 hours of actual work for both weekend days. The Units value is set to 16.67% to force 4 hours of actual work to be assigned to each day. The Units is determined by taking the actual work (8 hours) and dividing it by the total exception period (48 hours). Thus, 8 divided by 48 gives .1667 (fractional unit values should be entered to four decimal places to insure accuracy). All the records in both tables need to have the bit in the **Flags** field set so that they will be read by Microsoft Project.

If the actual work amounts were different on Saturday and Sunday and you wanted to represent them exactly as they occurred, separate actual work contour records would be required for each of the weekend days.

Creating (or Modifying) Cost Contours

To create or modify an assignment actual cost contour, you must add one or more records to the **Assignment_Actual_Cost** table. In order for Microsoft Project to actually read the cost data, you must set a flag in the **Project_Information** table that indicates that costs are not to be calculated automatically by Microsoft Project.

Each record in the contour normally represents a segment of the contour with a consistent cost value. When the cost changes, a new segment is required. When creating contour segments itself, Microsoft Project creates records based on how the data was entered -- a database record is created for each timephased value entered – so there may be multiple individual segments for a period even though the costs are uniform. For instance, entering $1000 at the weekly level will result in one record in the cost table, while entering $200 per day over the work week will result in five records in the cost table. In both cases, the cost values displayed inside Microsoft Project are the same, even though they are saved out to the database differently.

The order of cost contour segments is determined by the **FromDate** and **ToDate** fields, so segments do not need to be ordered by **UniqueID** values like work contours. Again, anytime a record in a contour table is added or modified, a bit must be set in the **Flags** field to indicate that a change has been made.

This information applies to all other cost contour tables as well (**Assignment_Baseline_Cost**, **Resource_Baseline_Cost**, **Task_Baseline_Cost**). Values are required in all of the following fields for each segment of the contour:

Table	Fields	Notes
Assignment_Actual_Cost	ProjectID	Must refer to a valid project in the Project_Information table.
	UniqueID	A unique ID for this segment of the contour (must be unique within the project).

	AssignmentUniqueID	Must refer to a valid record for the same ProjectID in the Assignment_Information table.
	FromDate	The start of this contour segment.
	ToDate	The end of this contour segment.
	Cost	The cost for this segment of the contour.
	Flags	The second bit of this value must be set (see "Setting the Contour Table Flags" below). If creating a new record, just set the value of this field to 2.
Project_Information	AutoCalcActualCosts	This value must be set to False for the data to be read.

Note The **AssignmentUniqueID** field listed above will actually be a different field for some of the other cost contour tables. It will be **ResourceUniqueID** (from the Resource_Information table) for the **Resource_Baseline_Cost** table and it will be **TaskUniqueID** (from the **Task_Information** table) for the **Task_Baseline_Cost** table.

Example:

Assume you have a 3-day assignment that starts on Tuesday and you want to enter actual costs of $60.00 on Tuesday and $80.00 on both Wednesday and Thursday. These are the records that must be created in the **Assignment_Actual_Cost** table:

Project ID	Unique ID	Assignment UniqueID	From Date	To Date	Cost	Flags
1	3	2	Tue 8:00AM	Tue 5:00PM	6000	2
1	4	2	Wed 8:00AM	Thu 5:00PM	16000	2

The **FromDate** and **ToDate** fields determine the exact range for each contour segment. Since the first day has a different cost value, it requires a separate segment. Wednesday and Thursday have the same cost value, so one segment can be created for both days with the total cost entered into the **Cost** field. For Microsoft Project to read these records, the bit must be set in both **Flags** fields and the **AutoCalcActualCosts** field in the **Project_Information** table must be set to False.

Creating (or Modifying) Task Percent Complete Contours

To create or modify a task percent complete contour, you must add one or more records to the **Task_Percent_Complete** table. Working with percent complete is identical to working with cost contours, except that each record represents a segment of the contour with a consistent percent complete value, rather than cost. When the percent complete changes, a new segment is required. Values are required in all of the following fields for each segment of the contour:

Table	Fields	Notes
Task_Percent_Complete	ProjectID	Must refer to a valid project in the Project_Information table.
	UniqueID	A unique ID for this segment of the contour (must be unique within the project).
	TaskUniqueID	Must refer to a valid record for the same ProjectID in the Task_Information table.
	FromDate	The start of this contour segment.
	ToDate	The end of this contour segment.

PercentCompleted	The percent complete for this segment of the contour.
Flags	The second bit of this value must be set (see "Setting the Contour Table Flags" below). If creating a new record, just set the value of this field to 2.

Note Percent values are stored in the database as whole numbers from 0 to 100 (i.e., to enter 27% you would just enter the value 27).

Setting the Contour Table Flags

Whenever a record in any of the contour tables in the database is modified, a bit in the **Flags** field must be set to let Microsoft Project know which records have changed. In most cases, setting the flag should be a simple matter, but the complexity depends on the method used to access the **Flags** field and whether it needs to be updated directly in the database.

The bit to be set is the second bit from the right (i.e., the twos bit in binary). The simplest case involves retrieving the existing value of the **Flags** field and performing a bitwise OR operation with the number 2, then substituting the result back into the **Flags** field. For example, setting a bit can be done in VBA as follows:

```
Flags = Flags OR 2
```

If you need to set the flag directly in the database, it can be done via the following SQL statement:

```
UPDATE <table name> SET Flags = Flags + 2
WHERE <condition to identify record> AND ((Flags - ((Flags / 4) * 4)) <=1)
```

If the database supports the MOD operator, the above SQL statement can be simplified to:

```
UPDATE <table name> SET Flags = Flags + 2
WHERE <condition to identify record> AND ((Flags / 2) MOD 2 = 0)
```

Creating a New Calendar

To create a new calendar in the database, you must add a new record to the **Calendars** table and enter values for at least the following fields:

Table	Fields	Notes
Calendars	ProjectID	Must refer to a valid project in the Project_Information table.
	CalendarUniqueID	Must be unique within the project.
	IsBaseCalendar	Set this value to True for new base calendars.
	BaseCalendarUniqueID	Specifies the base calendar when IsBaseCalendar is False. Must refer to a valid record for the same ProjectID in this table.
	CalendarName	The name of the new calendar.

You are not required to specify working time for the new calendar because working time is determined by the base calendar, or is set to the default for new base calendars. If you want to specify working times, you can add records to the **Calendar_Working_Times** table with values for at least the following fields:

Table	Fields	Notes

Calendar_Working_Times	ProjectID	Must refer to a valid project in the Project_Information table.
	UniqueID	Must be unique within the project.
	CalendarUniqueID	Must refer to a valid record for the same ProjectID in the Calendars table.
	DayOfWeek	Specify the appropriate DayOfWeek value (from the Intl_TextConversion table): Sunday: 1 Thursday: 5 Monday: 2 Friday: 6 Tuesday: 3 Saturday: 7 Wednesday: 4
	Working	Set this flag to 0 if the day is non-working or 1 if it is working. When set to 1, at least one start and end time must be specified (in the FromTime1/ToTime1 fields). For resource calendars, you can also use 2, which defaults to the base calendar settings.
	FromTime1	If Working is set to 1, the starting time is required.
	ToTime1	If Working is set to 1, the end time is required.

To specify specific time ranges for the working time, values can be entered for up to three ranges per day in the FromTime1/ToTime1, FromTime2/ToTime2, and FromTime3/ToTime3 field pairs. Because the database only supports a combined time and date format, you will need to enter the date along with the time, but Microsoft Project will ignore the date in these fields and only use the time portion.

Note Microsoft Project creates records in the **Calendars** and **Calendar_Working_Times** tables for the resource with **UniqueID** zero (these records usually have a **CalendarUniqueID** value of 2). These records should never be modified or deleted.

Example:

Assume you want to create a new base calendar for a part-time shift that works 9:00 AM to 1:00 PM Monday through Thursday and 8:00 AM to 12:00 PM on Friday. This is the record that needs to be added to the **Calendars** table:

ProjectID	CalendarUniqueID	IsBaseCalendar
2	4	1

The **CalendarUniqueID** is just a value that is not already in use for this project. Since we are creating a new base calendar, the **IsBaseCalendar** field is set to True and the **BaseCalendarUniqueID** does not need to be specified.

These are the records that need to be added to the Calendar_Working_Times table:

Project ID	Unique ID	Calendar UniqueID	DayOf Week	Working	From Time1	To Time1
2	15	4	1	0		
2	16	4	2	1	*<date>* 9:00AM	*<date>* 1:00PM
2	17	4	3	1	*<date>* 9:00AM	*<date>* 1:00PM
2	18	4	4	1	*<date>* 9:00AM	*<date>* 1:00PM
2	19	4	5	1	*<date>* 9:00AM	*<date>* 1:00PM

```
2        20        4         6        1    <date> 8:00AM  <date> 12:00PM
2        21        4         7        0
```

The **UniqueID** values are selected such that they are unique for the project. The **CalendarUniqueID** value is taken directly from the record just created in the **Calendars** table. The **DayOfWeek** values are 1 to 7, corresponding to Sunday through Saturday. Working is set to False on the Sunday and Saturday, and True the rest of the days. The <*date*> portion of the FromTime1 and ToTime1 fields is required by most databases, but it will be ignored by Microsoft Project, so any date can be entered. The time portion of these fields is set for each working day.

Creating Calendar Exceptions

There are two kinds of calendar exceptions. One is where a particular day of the week always has the same exception, while the other is a one-time occurrence for a specific date and time. To create the first kind (e.g., Saturday morning is always working or Tuesday is always non-working), the exception needs to be created in the **Calendar_Working_Times** table. A record should be added with values for the fields described above with **Workday** set to the day of the exception and the **FromTime** and **ToTime** fields filled in as necessary.

To create a specific calendar exception in the database (e.g., December 26th is non-working), you must add a new record to the **Calendar_Exceptions** table and enter values for at least the following fields:

Table	**Fields**	**Notes**
Calendar_Exceptions	ProjectID	Must refer to a valid project in the Project_Information table.
	UniqueID	Must be unique within the project (See the note below about the ordering of UniqueID values).
	CalendarUniqueID	Must refer to a valid record for the same ProjectID in the Calendars table.
	FromDate	The starting date of the exception.
	ToDate	The ending date of the exception.
	Working	Set this flag to 0 if the exception is non-working time, 1 if it is working time.

As with the **Calendar_Working_Times** table, to specify a specific time range for an exception, values can be entered for up to three ranges per record in the FromTime1/ToTime1, FromTime2/ToTime2, and FromTime3/ToTime3 field pairs. Because the database only supports a combined time and date format, you will need to enter the date along with the time, but Microsoft Project will ignore the date in these fields and only use the time portion.

Notes

- The order of the calendar exception records is important and is determined by the **UniqueID** values. The ascending order of the **UniqueIDs** must sequence the exceptions in chronological order. If a new exception record is added or inserted, it may require renumbering of the existing values in the **UniqueID** field. Exceptions that are not placed in the proper chronological order by **UniqueID** will be ignored.

- If calendar exceptions conflict, one will be ignored, so exception records should not overlap. For example, if you wanted to make the month of July non-working, except for July 10th, you would need to create one non-working exception record for July 1-9 and one for July 11-31. You cannot

create a non-working exception for July 1-31 and then another working exception for July 10th.

Modifying Resource Rates

To set resource rates in the database, you must add one or more records to the Resource_Rates table and enter values for at least the following fields. The UniqueIDs and FromDates must be in ascending order in the database.

Table	Fields	Notes
Resource_Rates	ProjectID	Must refer to a valid project in the Project_Information table.
	UniqueID	Must be unique within the project and in ascending order.
	ResourceUniqueID	Must refer to a valid record for the same ProjectID in the Resource_Information table.
	RateTable	Specify a value from 0 to 4, representing the respective rate table A to E in Microsoft Project.
	FromDate	The first date on which the rate is effective, and must be in ascending order.
	StandardRate	The standard rate for the period.

Creating a Recurring Task

While it is possible to create a recurring task in the database, it's preferable to create recurring tasks inside Microsoft Project because the Recurring Task dialog in Microsoft Project will not reflect the actual recurring task settings for a recurring task created directly in the database. For recurring tasks created in the database, the Recurring Task dialog in Microsoft Project will always default to showing a weekly recurring task that occurs on Mondays with a 1d duration.

To create a recurring task in the database, you must add records to the **Task_Information** table for the summary recurring task and each of the reoccurring subtasks. The minimum set of values required is specified below. Most of the required values are the same for both kinds of recurring tasks, but summary recurring tasks require setting an additional flag, while recurring subtasks require constraint information.

Table	Fields	Notes
Task_Information	ProjectID	Must refer to a valid project in the Project_Information table.
	TaskUniqueID	Must be unique within the project.
	TaskID	Must be unique within the project.
	Name	The name of the summary or sub recurring task.
	Duration	This value is required for each recurring subtask.
	OutlineLevel	The OutlineLevel of recurring summary tasks should be one less than that of the recurring subtasks.
	Recurring	This flag should be set for both recurring summary tasks and subtasks.
	RecurringTaskSummary	This flag should only be set for recurring summary tasks.
	Rollup	This flag should be set for both recurring summary tasks and subtasks.
	StartDate	The start of the summary task or the subtask.
	ConstraintType	Required for recurring subtasks. Usually set to 4

	(SNET).
ConstraintDate	Required for recurring subtasks.
HideBar	This flag should be set for recurring summary tasks to have them display properly.

Example:

Assume your project runs 4 weeks and you want to create a recurring task for a meeting that occurs every week on Wednesday from 3:00 to 4:00 PM. These are the records that need to be added to the **Task_Information** table to create the recurring task:

ProjectID	TaskID	Task UniqueID	Name	Duration	StartDate
4	14	14	Weekly Meeting	600	Wed1 3:00PM
4	15	15	Weekly Meeting 1	600	Wed1 3:00PM
4	16	16	Weekly Meeting 2	600	Wed2 3:00PM
4	17	17	Weekly Meeting 3	600	Wed3 3:00PM
4	18	18	Weekly Meeting 4	600	Wed4 3:00PM

(records continued…)

TaskID	Outline Level	Recurring	Recurring TaskSummary	Rollup	Constraint Type	Constraint Date	Hide Bar
14	1	1	1	1			1
15	2	1		1	4	Wed1 3:00PM	
16	2	1		1	4	Wed2 3:00PM	
17	2	1		1	4	Wed3 3:00PM	
18	2	1		1	4	Wed4 3:00PM	

The record with **TaskID** 14 is the summary recurring task. The **OutlineLevel** is 1 in this case, but could be something else, as long as the recurring subtasks are at one outline level higher. The **Recurring**, **RecurringTaskSummary**, **Rollup**, and **HideBar** flags are all set to True for the summary recurring task.

The remaining records represent the 4 weekly subtasks and all are at OutlineLevel 2 in this case, since the summary reccurring task was at level 1. Each has an SNET **ConstraintType** with an associated **ConstraintDate** to space the tasks out to occur in successive weeks. Only the **Recurring** and **Rollup** flags need to be set to True for the subtasks.

Using the Text Conversion Tables

If you want to display strings and values the same as they are displayed in Microsoft Project, you can extract the appropriate text strings from the text conversion tables. The **Intl_FieldReferences** table contains the categories of conversion text (e.g., duration units, weekday names, constraint types) and the **Intl_TextConversions** table contains the actual strings for each constant (e.g., Sunday, Monday, As Soon As Possible, Must Finish On).

The query required to extract the appropriate text is dependent upon the particular data in the database that you need to access. For example, the following query displays the task name, duration (as it is stored in the database) and the duration units as they would be displayed in Microsoft Project:

```
SELECT TASKS.Name, TASKS.Duration, TEXT.ConversionText
FROM Task_Information TASKS, Intl_TextConversions TEXT
```

```
WHERE TASKS.DurationDisplayUnits = TEXT.ConversionValue
AND TEXT.FieldType = (SELECT FieldType
        FROM Intl_FieldReferences
        WHERE FieldName = 'Display Units')
```

For a task that has 2 day duration and appears as "2d" in Microsoft Project, the query will return "9600" and "d". To actually show this as "2d", you would need to divide the 9600 by 4800 (since 1 day is normally 4800 in the database) and then concatenate the label string. In reality, you would probably want to create a table with multiplication values based on the values of the **ConversionText** field in the **Intl_TextConversions** table and do multiplications on the duration. This will also need to be based off of the **DefaultMinutesPerDay** value stored in the **Project_Information** table.

Accessing and/or Modifying Other Data in the Database

As opposed to having a minimal set of required field values that need to be specified in all of the cases above where new records are being created (or contours are being modified), making modifications to most other data in an existing project in the database usually consists of little more than entering a new value in place of the existing value. But there are still some specific scenarios where there are additional values required to be able to successfully modify database data. This section covers some of those cases as well as some other helpful information about extracting certain information from the database.

Entering Total Actual Work on an Assignment or Task

If, instead of entering one or more assignment actual work contours, you want to enter a single value in the database for the total actual work for an assignment, you must enter data into several other task and assignment fields in addition to entering the actual work value into the **ActualWork** field in the **Assignment_Information** table. If the actual work entered will make the task 100% complete, you must also enter values for **ActualStart** and **ActualFinish** in the **Task_Information** table. If the amount of actual work being entered will not complete the task, you should enter values for **ActualStart** and **StopDate** in the **Task_Information** table and also make sure the **ScheduledWork** field in the **Assignment_Information** table contains an appropriate value.

Entering total actual work on a task (rather than on an assignment) will only work if there are no assignments on the task; otherwise, you must always enter the actual work on the assignment to have Microsoft Project read it in correctly. When entering actual work on a task with no assignments, you still need to enter values for the start and finish times of the actual work (i.e., **ActualStart** and either **ActualFinish** or **StopDate**) in the **Task_Information** table.

Outlining with Summary Tasks and Subtasks

When creating summary tasks and subtasks in the **Task_Information** table in the database, the **TaskID** order comes into play. To create subtasks, the **OutlineLevel** should be set to one greater than the desired summary task, the summary task should have a lower **TaskID** value than all of the subtasks, and no other tasks at the same level of the summary task should have a **TaskID** that falls between the **TaskIDs** of the summary and the associated subtasks. In addition, the **Summary** flag should be set in the record for the desired summary task.

Editing Work on a Summary Task Assignment

If you have a resource assigned to a summary task and you want to edit the work on that assignment in the **Assignment_Information** table in the database, you must specify values for both the **ScheduledWork** and **Units** fields in order for the edit to take effect.

Reading and Writing Notes Fields in the Database

Microsoft Project writes the contents of the Rich Text Format notes fields to a non-editable binary field called **Reserved_BinaryProperties**, which also includes other binary information about the project. The first 255 characters of the notes field, or up to the first line end or first object, are also written to the **Notes** field corresponding to the type of note. If you make changes to that field they will be lost when you read the project back into Microsoft Project, since they will be over written by the notes information in the **Reserved_BinaryProperties**.

To extract the contents of Rich Text Format notes from a binary field, you can use the following Microsoft Access Basic code:

```
Option Compare Database
Option Explicit

Sub getrtf()
Dim db As Database
Dim rs As Recordset
Dim bytBuffer() As Byte
Dim strData As String, strExtracted As String
Dim intSize As Integer, intOffset As Integer

   'This macro will look for Task Notes and extract the rtf.  This rtf can then be written to file
   '(that Word will understand), or displayed in a richedit control.

   'Open the Task_Information table to look for Task Notes
   Set rs = CurrentDb.OpenRecordset("Task_Information", dbOpenTable)

   'Enumerate across the recordset looking for notes
   With rs
   Do While Not .EOF
      If !Reserved_hasnotes <> 0 Then

         ' Extract string
         strData = StrConv(rs!Reserved_BinaryProperties, vbUnicode) ' Put binary column data into text
                                                                    string
         intSize = GetIntegerFromPosition(strData, 1)    ' Size starts at position 1
         intOffset = GetIntegerFromPosition(strData, 5)  ' Offset starts at 5
         strExtracted = Mid(strData, intOffset + 1, intSize)
         Debug.Print strExtracted


      End If
      .MoveNext
   Loop
   .Close
   End With

End Sub
Function GetIntegerFromPosition(s As String, p As Long) As Integer
Dim i As Long, intResult As Integer
   For i = p + 3 To p Step -1
```

```
        intResult = intResult * 255  ' Shift one byte
        intResult = intResult + Asc(Mid(s, i, 1))
    Next i
    GetIntegerFromPosition = intResult
End Function
```

Getting the Names of Sharer Files

Obtaining the names of sharer files from a resource pool stored in a database requires some programmatic manipulation of the data, which can be accomplished with the following code sample if you are working in Microsoft Access Basic:

```
Option Compare Database
Option Explicit

Sub getSharers()
Dim db As Database
Dim rs As Recordset
Dim bytBuffer() As Byte
Dim strData As String, strExtracted As String
Dim intSize As Integer, intOffset As Integer

    'This macro will look for Pool projects and extract the name of the sharers
    '(which will be semicolon delimited).

    'Open the Project_Information table to look for Pool projects
    Set rs = CurrentDb.OpenRecordset("Project_Information", dbOpenTable)

    'Enumerate across the recordset looking for notes
    With rs
    Do While Not .EOF
        If !ResourcePool <> 0 Then

            'Extract string
            strData = StrConv(rs!Reserved_BinaryProperties, vbUnicode) ' This is the trick you have to do to
extract ANSI....
            intSize = GetIntegerFromPosition(strData, 1)    ' Size starts at position 1
            intOffset = GetIntegerFromPosition(strData, 5)  ' Offset starts at 5
            strExtracted = Mid(strData, intOffset + 1, intSize)
            Debug.Print strExtracted

        End If
        .MoveNext
    Loop
    .Close
    End With

End Sub
Function GetIntegerFromPosition(s As String, p As Long) As Integer
Dim i As Long, intResult As Integer
    For i = p + 3 To p Step -1
        intResult = intResult * 255  ' Shift one byte
        intResult = intResult + Asc(Mid(s, i, 1))
```

```
    Next i
    GetIntegerFromPosition = intResult
End Function
```

Retrieving Workgroup Message Status

The task and resource workgroup message status fields (Update Needed, Confirmed, Response Pending, and TeamStatus Pending) are not saved out to the database, so if you want to obtain status information about messages that have been sent out to the team, you have to extract the information from the assignment fields. By looking at all of the associated assignment records for a given task or resource, the values of the task or resource status can be determined.

For example, to determine if a task has been confirmed, you must check the **Confirmed** field of all assignments on that task. If the **Confirmed** field for every assignment is True, then **Confirmed** for the task is True. To determine if an update is needed on a task, you must check the **UpdateNeeded** field of all assignments on that task. If any one of the assignment **UpdateNeeded** fields is True, then **UpdateNeeded** for the task is True.

Microsoft Project Database Structure

Export-Only Fields

Some fields contain data that is written by Microsoft Project upon exporting to a database, but is not read while importing project data into Microsoft Project. Usually, this data is the result of calculations or settings in Microsoft Project. If you edit this data directly in the database, the changes will not be reflected when you import the data in Microsoft Project. These fields are indicated as "Export-Only " in the table descriptions.

How Calendar Information is Stored

Microsoft Project saves calendar information for a project into three different tables. The **Calendars** table
contains the information which identifies the calendar, and the resources for which it is a base calendar. The **Calendar_Working_Times** table contains the working and non-working time information for each day of the week, and the shift start and finish times. The **Calendar_Exceptions** table contains any exceptions to the work schedule defined in the calendar, such as vacations and holidays. For more information, see the detailed descriptions of each table below.

How External Project Links are Stored

Microsoft Project saves information about links to external projects in the **CrossProjectLink** field in the **Task_Dependencies** table and **ExternalTask** field in the **Task_Information** table. The **CrossProjectLink** field indicates that there is a cross-project link, and the **ExternalTask** field indicates that the task in an external task, These fields are read-only and should not edited. You can't create external project links directly in the database. You must create them in Microsoft Project.

Field Types

The following field types are used in the Microsoft Project database structure. The field type for each field is indicated in the tables below.

Field Type	Description
Number - Double	Floating point number, in Oracle this is Number
Number - Long	Long integer, in Oracle this is Number
Number - Integer	Integer, in Oracle this is Number
Char	Text, 255 characters unless otherwise indicated
Longtext	Longest text field available, in Microsoft Access this is 64K, in Oracle this is 255 characters
Binary - Long	Binary data, greater than 255 bytes
Binary - Short	Binary data, less than 255 bytes
Number - Bit	Boolean where supported, Integer in database where Boolean is not supported
Date	Date, including time

Where Microsoft Project needs to store a time value, but not a date value, it will store the project start date as a date, with the desired time value in a Date field. When you read the project from the database, the date values in these particular fields will be ignored.

The following tables detail the database structure that is created when you save a whole project to a database. The fields which are the key for each table are indicated in the Key column.

Project_Information Table

This table contains Project level data. Project summary task information, such as duration and percent complete, is not saved in the **Project_Information** table, but rather in the **Task_Information** table under the **UniqueID** number 0.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
	ProjectName	Char	No	The project name. The project name together with the Source name can't exceed 255 characters
	Data			
	Author	Longtext	No	The author of the project
	Category	Longtext	No	The category of the project
	Company	Longtext	No	The company name for the project
	CurrentDate	Date	Yes	The current date in the project
	FinishDate	Date	No	The project finish date
	Keywords	Longtext	No	The keywords for the project
	LastSaved	Date	No	The last date the project was saved
	Manager	Longtext	No	The manager for the project
	OriginalFileName	Longtext	No	The original file name of the project
	OriginalSave	Date	No	The original save date of the project
	ProjectCalendarName	Longtext	No	The name of the project calendar
	ResourcePool	Number - Bit	No	Whether the project is a resource pool project or the sharer of a resource pool
	PoolFileName	Char	Yes	The resource pool file name
	ScheduleFrom	Number - Integer	No	Whether the project is scheduled

			from a start date or a finish date
StartDate	Date	No	The project start date
StatusDate	Date	No	The project status date
Subject	Longtext	No	The subject of the project
Title	Longtext	No	The title of the project
Version	Number - Long	No	The version of the project
CurrencySymbol	Char (20)	No	The currency symbol used in the project
CurrencyPosition	Number - Integer	No	The position of the currency symbol
CurrencyDigits	Number - Integer	No	The number of digits after the decimal, in currencies
DefaultStandardRate	Number - Double	No	The default standard rate for new resources
DefaultOvertimeRate	Number - Double	No	The default overtime rate for new resources
DefaultTaskType	Number - Integer	No	The default type of the task
DefaultEffortDriven	Number - Bit	No	Whether new tasks are effort driven by default
UpdateTaskUpdateResource	Number - Bit	No	Whether updates to tasks update resources
SplitInProgressTasks	Number - Bit	No	Whether in-progress tasks can be split
HonorConstraints	Number - Bit	No	Whether tasks honor their constraint dates
DefaultFixedCostAccrual	Number - Integer	No	The default accrual of task fixed costs
SpreadPercentToStatus	Number - Bit	No	Whether %Complete is spread to the status date
SpreadActualCostsToStatus	Number - Bit	No	Whether actual costs are spread to the status date
AutoCalcActualCosts	Number - Bit	No	Whether actual costs are calculated by Microsoft Project, or are entered by the user
MultipleCriticalPaths	Number - Bit	No	Whether multiple critical paths are calculated
CriticalSlack	Number - Long	No	Number of days slack is less than or equal for tasks to be critical
DurationEnteredIn	Number - Integer	No	The default duration unit
WorkEnteredIn	Number - Integer	No	The default work unit
DefaultMinutesPerDay	Number - Long	No	The default number of minutes per day
DefaultMinutesPerWeek	Number - Long	No	The default number of minutes per week
DefaultStartTime	Date - Time	No	The default start time of new tasks
DefaultFinishTime	Date - Time	No	The default finish time of new tasks
Custom_Number_Field_Set	Number - Bit	No	Whether the user edited a record in the Custom_Number_Fields table
Custom_Duration_Field_Set	Number - Bit	No	Whether the user edited a record in the Custom_Duration_Fields table
Custom_Date_Field_Set	Number - Bit	No	Whether the user edited a record in

			the Custom_Date_Fields table
Text_Field_Set	Number - Bit	No	Whether the user edited a record in the Text_Fields table
Project_Locked	Char (4)	No	Whether a user is writing to a table
Project_ReadWrite	Char (4)	No	Whether the project is open for write
Reserved_LanguageID	Number - Long	Yes	The language ID for the language in which the project is saved
Reserved_NLSCodePage	Number - Long	Yes	The NLS code page for the project
Reserved_Project_FormatID	Char (40)	Yes	The FormatID of the project - for use by future versions of Microsoft Project
Reserved_DataSourceName	Char (128)	Yes	The Data Source Name for the project. Used when Microsoft Project checks for concurrent usage
Reserved_Project_ReadOnly	Char (10)	Yes	Whether the project is read-only
Reserved_ReadCount	Char (10)	Yes	How many users have one or more project tables open read-only
Reserved_LastUpdateTimestamp	Char (50)	Yes	Time of the last update made to the project
UserMachineID	Char (100)	No	Machine ID of the user who is opening the project
Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project.

Task_Information Table

This table contains task data. Microsoft Project will write 3 records to this table with **UniqueIDs** of -65536, -65535, -65534. These records are used internally by Microsoft Project. You should not edit or delete these records.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	TaskUniqueID	Number - Long	No	The unique ID for the task in the project
	TaskID	Number - Long	No	The task ID
	ActualCost	Number - Double	No	The actual cost
	ActualDuration	Number - Long	No	The actual duration
	ActualFinish	Date	No	The actual finish date
	ActualFixedCost	Number - Double	No	The actual fixed cost
	ActualOvertimeCost	Number - Double	No	The actual overtime cost
	ActualOvertimeWork	Number - Double	No	The actual amount of overtime work
	ActualStart	Date	No	The actual start date
	ActualWork	Number - Double	No	The actual amount of work
	ACWP	Number - Double	Yes	Actual cost of work performed
	BaselineCost	Number - Double	No	The baseline cost
	BaselineDuration	Number - Long	No	The baseline duration
	BaselineDurationDisplayUnits	Number - Integer	No	The units in which the baseline duration is displayed in Microsoft Project

BaselineFinish	Date	No	The baseline finish date
BaselineStart	Date	No	The baseline start date
BaselineWork	Number - Double	No	The amount of baseline work
BCWP	Number - Double	Yes	Budgeted cost of work performed
BCWS	Number - Double	Yes	Budgeted cost of work scheduled
ConstraintDate	Date	No	The constraint date
ConstraintType	Number - Integer	No	The constraint type
Cost	Number - Double	No	The cost
Created	Date	No	The date the task was created
Critical	Number - Bit	No	Whether the task is critical
Duration	Number - Long	No	The duration of the task
DurationDisplayUnits	Number - Integer	No	The units in which the duration is displayed in Microsoft Project
DurationVariance	Number - Long	Yes	The duration variance
EarlyFinish	Date	No	The early finish date
EarlyStart	Date	No	The early start date
EffortDriven	Number - Bit	No	Whether the task is effort driven
ExternalTask	Number - Bit	Yes	Whether this is an external task to which another task in this project is cross-project linked
FinishDate	Date	No	The task finish date
FinishVariance	Number - Long	Yes	The finish variance
FixedCost	Number - Double	No	The fixed cost
FixedCostAccrual	Number - Integer	No	The way fixed costs are accrued
Flag1	Number - Bit	No	Custom flag field
Flag2	Number - Bit	No	Custom flag field
Flag3	Number - Bit	No	Custom flag field
Flag4	Number - Bit	No	Custom flag field
Flag5	Number - Bit	No	Custom flag field
Flag6	Number - Bit	No	Custom flag field
Flag7	Number - Bit	No	Custom flag field
Flag8	Number - Bit	No	Custom flag field
Flag9	Number - Bit	No	Custom flag field
Flag10	Number - Bit	No	Custom flag field
Flag11	Number - Bit	No	Custom flag field
Flag12	Number - Bit	No	Custom flag field
Flag13	Number - Bit	No	Custom flag field
Flag14	Number - Bit	No	Custom flag field
Flag15	Number - Bit	No	Custom flag field
Flag16	Number - Bit	No	Custom flag field
Flag17	Number - Bit	No	Custom flag field
Flag18	Number - Bit	No	Custom flag field
Flag19	Number - Bit	No	Custom flag field
Flag20	Number - Bit	No	Custom flag field
FreeSlack	Number - Long	No	The amount of free slack
HideBar	Number - Bit	No	Whether the Gantt bars are hidden when displayed in Microsoft Project
Hyperlink	Longtext	No	The link representation for the hyperlink
HyperlinkAddress	Longtext	No	The URL or UNC for the target document of the hyperlink
HyperlinkSubAddress	Longtext	No	The location within the target document of the hyperlink

LateFinish	Date	No	The late finish date
LateStart	Date	No	The late start date
LevelAssignments	Number - Bit	No	Whether leveling can level individual assignments
LevelingCanSplit	Number - Bit	No	Whether leveling can cause a task split
LevelingDelay	Number - Long	No	The delay caused by leveling
LevelingDelayDisplayUnits	Number - Integer	No	The units in which the leveling delay is displayed in Microsoft Project
LinkedFields	Number - Bit	No	Whether there are data links to the task
Marked	Number - Bit	No	Whether the task is marked
Milestone	Number - Bit	No	Whether the task is a milestone
Name	Char	No	The name of the task
Notes	Longtext	No	The first 255 characters of the notes, or the characters up to the first line end or object, for the task
Objects	Number - Long	Yes	The number of objects attached to the task, not including those in notes
OutlineLevel	Number - Integer	No	The outline level
OutlineNumber	Char	Yes	The outline number
Overallocated	Number - Bit	Yes	Whether the task is overallocated
OvertimeCost	Number - Double	No	The overtime cost
OvertimeWork	Number - Double	Yes	The amount of overtime work
PercentComplete	Number - Integer	No	The percent complete
PercentWorkComplete	Number - Integer	No	The percent work complete
PreleveledStart	Date	No	The start date of the task before leveling was done
PreleveledFinish	Date	No	The finish date of the task before leveling was done
Priority	Number - Integer	No	The priority
ProjectSummary	Number - Bit	No	Whether the task is a project summary
Recurring	Number - Bit	No	Whether the task is a recurring task
RecurringTaskSummary	Number - Bit	No	Whether the task is a summary for recurring tasks
RegularWork	Number - Double	Yes	The regular work
RemainingCost	Number - Double	Yes	The remaining cost
RemainingDuration	Number - Long	No	The remaining duration
RemainingFixedCost	Number - Double	No	The remaining fixed cost
RemainingOvertimeCost	Number - Double	No	The amount of remaining work
RemainingOvertimeWork	Number - Double	No	The amount of remaining overtime work
RemainingWork	Number - Double	No	The amount of remaining work
ResumeDate	Date	Yes	The resume date
Rollup	Number - Bit	No	Whether the task is rolled up
ScheduledWork	Number - Double	No	The amount of work
StartDate	Date	No	The task start date
StartVariance	Number - Long	Yes	The start variance
StopDate	Date	No	The stop date
Subproject	Number - Bit	No	Whether the task is an inserted

			project
SubprojectReadOnly	Number - Bit	No	Whether the inserted project is read-only
Summary	Number - Bit	No	Whether the task is a summary
TaskType	Number - Integer	No	The type of task
TotalSlack	Number - Long	No	The total slack
Reserved_AssignedBefore	Number - Bit	No	Used internally by Microsoft Project
Reserved_BeforeDelay	Number - Bit	No	Used internally by Microsoft project
Reserved_ComputeActualDuration	Number - Bit	No	Used internally by Microsoft Project
Reserved_ComputeResume	Number - Bit	No	Used internally by Microsoft Project
Reserved_ExternalTaskUniqueID	Number - Long	No	Used internally by Microsoft Project
Reserved_ExternalTaskIndex	Number - Long	No	Used internally by Microsoft Project
Reserved_Fixed	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasPageBreak	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasNotes	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasHyperlink	Number - Bit	No	Used internally by Microsoft Project
Reserved_InternalMarked	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsLinkSource	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsNull	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsBeforeProjectStart	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsAfterProjectFinish	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsVisible	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsCollapsed	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsAssnHidden	Number - Bit	No	Used internally by Microsoft Project
Reserved_LevelChanges	Number - Bit	No	Used internally by Microsoft Project
Reserved_LevelResume	Number - Bit	No	Used internally by Microsoft Project
Reserved_ParentUniqueID	Number - Long	No	Used internally by Microsoft Project
Reserved_MySubprojDate	Binary - Short	No	Used internally by Microsoft Project
Reserved_NextPertBoxUID	Number - Long	No	Used internally by Microsoft Project
Reserved_NoSplitsCache	Number - Bit	No	Used internally by Microsoft Project

Reserved_PrevPertBoxUID	Number - Long	No	Used internally by Microsoft Project
Reserved_PertX	Number - Integer	No	Used internally by Microsoft Project
Reserved_PertY	Number - Integer	No	Used internally by Microsoft Project
Reserved_PertZorder	Number - Integer	No	Used internally by Microsoft Project
Reserved_PertRightMostPredUID	Number - Long	No	Used internally by Microsoft Project
Reserved_ProjectSummaryInfo	Binary - Short	No	Used internally by Microsoft Project
Reserved_RecurringTaskUniqueID	Number - Integer	No	Used internally by Microsoft Project
Reserved_ResumeNoEarlierThan	Date	No	Used internally by Microsoft Project
Reserved_RollupAssnWork	Number - Bit	No	Used internally by Microsoft Project
Reserved_NumberExtProjLinks	Number - Long	No	Used internally by Microsoft Project
Reserved_SubprojectGUID	Binary - Short	No	Used internally by Microsoft Project
Reserved_OriginalSummaryInfo	Binary - Short	No	Used internally by Microsoft Project
Reserved_RecurringTaskInfo	Binary - Short	No	Used internally by Microsoft Project
Reserved_SummaryDuration	Number - Bit	No	Used internally by Microsoft Project
Reserved_SubprojectStart	Date	No	Used internally by Microsoft Project
Reserved_SubprojectFinish	Date	No	Used internally by Microsoft Project
Reserved_TaskSplit	Number - Bit	No	Used internally by Microsoft Project
Reserved_LinkedProps	Binary - Short	No	Used internally by Microsoft Project
Reserved_InternalChangedBits	Binary - Short	No	Used internally by Microsoft Project
Reserved_ExternalChangeData	Binary - Short	No	Used internally by Microsoft Project
Reserved_BinaryProperties	Binary - Long	No	Used internally by Microsoft Project
Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Resource_Information Table

This table contains the Resource data. Microsoft Project will write 3 records to this table with **UniqueIDs** of -65536, -65535, -65534. These records are used internally by Microsoft Project. You should not edit or delete these records.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	ResourceUniqueID	Number - Long	No	The unique ID for the resource in the project
	ResourceID	Number - Long	No	The resource ID
	AccrueAt	Number - Integer	No	The way resource costs are accrued
	ActualCost	Number - Double	No	The actual cost
	ActualOvertimeCost	Number - Double	No	The actual overtime cost
	ActualOvertimeWork	Number - Double	No	The actual overtime work
	ActualWork	Number - Double	No	The actual amount of work
	ACWP	Number - Double	Yes	Actual cost of work performed
	AvailableFrom	Date	No	The first date from which the resource is available
	AvailableTo	Date	No	The last date for which the resource is available
	BaselineCost	Number - Double	No	The baseline cost
	BaselineWork	Number - Double	No	The baseline work
	BCWP	Number - Double	Yes	Budgeted cost of work performed
	BCWS	Number - Double	Yes	Budgeted cost of work scheduled
	CalendarUniqueID	Number - Long	No	The unique ID for the resource calendar
	CanLevel	Number - Bit	No	Whether the resource can be leveled
	Cost	Number - Double	No	The cost
	CostPerUse	Number - Double	No	The cost per use as of the current date
	Flag1	Number - Bit	No	Custom flag field
	Flag2	Number - Bit	No	Custom flag field
	Flag3	Number - Bit	No	Custom flag field
	Flag4	Number - Bit	No	Custom flag field
	Flag5	Number - Bit	No	Custom flag field
	Flag6	Number - Bit	No	Custom flag field
	Flag7	Number - Bit	No	Custom flag field
	Flag8	Number - Bit	No	Custom flag field
	Flag9	Number - Bit	No	Custom flag field
	Flag10	Number - Bit	No	Custom flag field
	Flag11	Number - Bit	No	Custom flag field
	Flag12	Number - Bit	No	Custom flag field
	Flag13	Number - Bit	No	Custom flag field
	Flag14	Number - Bit	No	Custom flag field
	Flag15	Number - Bit	No	Custom flag field
	Flag16	Number - Bit	No	Custom flag field
	Flag17	Number - Bit	No	Custom flag field
	Flag18	Number - Bit	No	Custom flag field
	Flag19	Number - Bit	No	Custom flag field
	Flag20	Number - Bit	No	Custom flag field
	Hyperlink	Longtext	No	The link representation for the hyperlink
	HyperlinkAddress	Longtext	No	The URL or UNC for the target document the hyperlink
	HyperlinkSubAddress	Longtext	No	The location within the target document of hyperlink

Initials	Char	No	The resource's initials
LinkedFields	Number - Bit	No	Whether there are data links to the resource
MaxUnits	Number - Double	No	The maximum number of units available for the resource
Name	Char	No	The resource name
Notes	Longtext	No	The first 255 characters of the notes, or the characters up to the first line end or object, for this resource
Objects	Number - Long	Yes	The number of objects attached to the resource, not including those in notes
Overallocated	Number - Bit	No	Whether the resource is overallocated
OvertimeCost	Number - Double	No	The overtime cost
OvertimeRate	Number - Double	No	The overtime rate as of the current date
OvertimeRateDisplayUnits	Number - Integer	No	The units in which the overtime rate is displayed in Microsoft Project
OvertimeWork	Number - Double	No	The amount of overtime work
Peak	Number - Double	Yes	The greatest number of resource units assigned at any time
Phonetics	Longtext	No	In some languages, the phonetic spelling of the resource name
RegularWork	Number - Double	No	The amount of regular work
RemainingCost	Number - Double	No	The remaining cost
RemainingOvertimeCost	Number - Double	No	The remaining overtime cost
RemainingOvertimeWork	Number - Double	No	The remaining overtime work
RemainingWork	Number - Double	No	The amount of remaining work
StandardRate	Number - Double	No	The standard rate as of the current date
StandardRateDisplayUnits	Number - Integer	No	The units in which the standard rate is displayed in Microsoft Project
ScheduledWork	Number - Double	No	The amount of work
Workgroup	Number - Integer	No	How the resource receives workgroup messages
Reserved_HasPageBreak	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasNotes	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasHyperlink	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsLinkSource	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsAssnHidden	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsNull	Number - Bit	No	Used internally by Microsoft Project
Reserved_PoolResourceUniqueID	Number - Long	No	Used internally by Microsoft Project

	Reserved_LinkedProps	Binary - Short	No	Used internally by Microsoft Project
	Reserved_InternalChangedBits	Binary - Short	No	Used internally by Microsoft Project
	Reserved_ExternalChangeData	Binary - Short	No	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	No	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Information Table

This table contains assignment data. Microsoft Project will write records for unassigned resources in this table, which are saved as assignments.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment in the project
	TaskUniqueID	Number - Long	No	The unique ID of the task in the assignment. This value must be a valid TaskUniqueID in the Task_Information table
	ResourceUniqueID	Number - Long	No	The unique ID of the resource in assignment. This value must be a valid ResourceUniqueID in the Resource_Information table
	ActualCost	Number - Double	No	The actual cost of the assignment
	ActualFinish	Date	No	The actual finish date of the assignment
	ActualOvertimeCost	Number - Double	No	The actual overtime cost
	ActualOvertimeWork	Number - Double	No	The actual amount of overtime work
	ActualStart	Date	No	The actual start date
	ActualWork	Number - Double	No	The actual amount of work
	ACWP	Number - Double	Yes	Actual cost of work performed
	BaselineCost	Number - Double	No	The baseline cost
	BaselineWork	Number- Double	No	The baseline work
	BaselineFinish	Date	No	The baseline finish date
	BaselineStart	Date	No	The baseline start date
	BCWP	Number - Double	Yes	Budgeted cost of work performed
	BCWS	Number - Double	Yes	Budgeted cost of work scheduled
	Confirmed	Number - Bit	No	Whether the assignment is confirmed
	Cost	Number - Double	Yes	The cost of the assignment
	CostRateTable	Number - Integer	No	The cost rate table used for this assignment
	Delay	Number - Long	No	The delay for the assignment
	DelayDisplayUnits	Number - Integer	No	The units in which the delay is displayed in Microsoft Project
	FinishDate	Date	No	The end date of the assignment
	FinishVariance	Number - Long	Yes	The finish variance

Flag1	Number - Bit	No	Custom flag field
Flag2	Number - Bit	No	Custom flag field
Flag3	Number - Bit	No	Custom flag field
Flag4	Number - Bit	No	Custom flag field
Flag5	Number - Bit	No	Custom flag field
Flag6	Number - Bit	No	Custom flag field
Flag7	Number - Bit	No	Custom flag field
Flag8	Number - Bit	No	Custom flag field
Flag9	Number - Bit	No	Custom flag field
Flag10	Number - Bit	No	Custom flag field
Flag11	Number - Bit	No	Custom flag field
Flag12	Number - Bit	No	Custom flag field
Flag13	Number - Bit	No	Custom flag field
Flag14	Number - Bit	No	Custom flag field
Flag15	Number - Bit	No	Custom flag field
Flag16	Number - Bit	No	Custom flag field
Flag17	Number - Bit	No	Custom flag field
Flag18	Number - Bit	No	Custom flag field
Flag19	Number - Bit	No	Custom flag field
Flag20	Number - Bit	No	Custom flag field
Hyperlink	Longtext	No	The Link Representation for the hyperlink
HyperlinkAddress	Longtext	No	The URL or UNC for the target document of the hyperlink
HyperlinkSubAddress	Longtext	No	The location within the target document of the hyperlink
LevelingDelay	Number - Long	No	The amount of time the assignment is delayed due to leveling
LinkedFields	Number - Bit	No	Whether there are data links to the assignment
Notes	Longtext	No	First 255 characters of the Notes, or the characters up to the first line end or object, for the assignment
Overallocated	Number - Bit	Yes	Whether the assignment is overallocated
OvertimeWork	Number - Double	No	The amount of overtime work
RegularWork	Number - Double	No	The amount of regular work
RemainingCost	Number - Double	Yes	The remaining cost
RemainingOvertimeCost	Number - Double	Yes	The remaining overtime cost
RemainingOvertimeWork	Number - Double	No	The remaining overtime work
RemainingWork	Number - Double	No	The remaining work
ResponsePending	Number - Bit	No	Whether a response to a TeamAssign message is pending from the assigned resource
SharedResourceAssignTask	Char	No	The name of the sharer project task to which the pool resource is assigned
Shared ResourceAssignTaskID	Number - Long	No	The ID of the sharer project task to which the pool resource is assigned
SharedResAssignSummaryTask	Char	Yes	The name of the summary task for the sharer project task to which the pool resource is assigned

StartDate	Date	No	The start date of the assignment
StartVariance	Number - Long	Yes	The start variance
TeamStatusPending	Number - Bit	No	Whether responses are pending to an TeamStatus message
Units	Number - Double	No	The number of units assigned
UpdateNeeded	Number - Bit	Yes	Whether a workgroup update is needed
ScheduledWork	Number - Double	No	The amount of work
WorkContour	Number - Integer	Yes	The type of assignment work
Reserved_ContourUserEdited	Number - Bit	No	Used internally by Microsoft Project
Reserved_EmailNone	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasHyperlink	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasPageBreak	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasActualStart	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasActualFinish	Number - Bit	No	Used internally by Microsoft Project
Reserved_HasNotes	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsNull	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsLinkSource	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsVisibleAsTask	Number - Bit	No	Used internally by Microsoft Project
Reserved_IsVisibleAsResource	Number - Bit	No	Used internally by Microsoft Project
Reserved_LastUpdatedMsgStart	Date	No	Used internally by Microsoft Project
Reserved_LastUpdatedMsgFinish	Date	No	Used internally by Microsoft Project
Reserved_LevelChanges	Number - Bit	No	Used internally by Microsoft Project
Reserved_LinkedProps	Binary - Short	No	Used internally by Microsoft Project
Reserved_WkgpMsgCounter	Number - Long	No	Used internally by Microsoft Project
Reserved_MsgUniqueID	Number - Long	No	Used internally by Microsoft Project
Reserved_OutlookTaskID	Longtext	No	Used internally by Microsoft Project
Reserved_StopDate	Date	No	Used internally by Microsoft Project
Reserved_ResumeDate	Date	No	Used internally by Microsoft Project
Reserved_InternalChangedBits	Binary - Short	No	Used internally by Microsoft Project
Reserved_ExternalChangeData	Binary - Short	No	Used internally by Microsoft Project
Reserved_BinaryProperties	Binary - Long	No	Used internally by Microsoft

				Project
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project
	Reserved_ContourLevelEdited	Number - Bit	No	Used internally by Microsoft Project

Calendars Table

This table contains basic calendar data. Microsoft Project will write 3 records to this table with **UniqueIDs** of -65536, -65535, -65534. These records are used internally by Microsoft Project. You should not edit or delete these records.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	CalendarUniqueID	Number - Long	No	The unique ID for the calendar in the project
	CalendarName	Char	No	The calendar name, not filled in if it is a resource calendar
	BaseCalendarUniqueID	Number - Long	No	The unique ID of the base calendar if this is a resource calendar
	ResourceUniqueID	Number - Long	No	The unique ID of the resource to whom the calendar is assigned
	IsBaseCalendar	Number - Bit	No	Whether this is a base calendar
	Reserved_CalendarAllocated	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_IsNull	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_PoolCalendarUniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_InternalChangedBits	Binary - Short	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Calendar_Working_Times Table

This table contains calendar working times.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	UniqueID	Number - Long	No	The unique ID for this working time
	CalendarUniqueID	Number - Long	No	The unique ID for the calendar in the project
	DayOfWeek	Number - Integer	No	Day of the week
	Working	Number - Integer	No	Whether this day is working (value of 0) or non-working (value of 1), or based on the default base calendar (value of 2)

	FromTime1	Time	No	Start time of the first shift
	ToTime1	Time	No	Finish time of the first shift
	FromTime2	Time	No	Start time of the second shift
	ToTime2	Time	No	Finish time of the second shift
	FromTime3	Time	No	Start time of the third shift
	ToTime3	Time	No	Finish time of the third shift
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Calendar_Exceptions Table

This table contains calendar exceptions.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	UniqueID	Number - Long	No	The unique ID for this exception
	CalendarUniqueID	Number - Long	No	The unique ID for the calendar in the project
	FromDate	Date	No	Date the exception starts
	ToDate	Date	No	Date the exception finishes
	Working	Number - Integer	No	Whether the date range is working or non-working. 0 is non-working, and 1 is working
	FromTime1	Time	No	Start time of the first shift
	ToTime1	Time	No	Finish time of the first shift
	FromTime2	Time	No	Start time of the second shift
	ToTime2	Time	No	Finish time of the second shift
	FromTime3	Time	No	Start time of the third shift
	ToTime3	Time	No	Finish time of the third shift
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Task_Dependencies Table

This table contains task dependency (links) data. Microsoft Project will write 3 records to this table with **UniqueIDs** of -65536, -65535, -65534. These records are used internally by Microsoft Project. You should not edit or delete these records.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	DependencyUniqueID	Number - Long	No	The unique ID of the dependency in the project
	PredecessorTaskUniqueID	Number - Long	No	The unique ID of the predecessor task
	SuccessorTaskUniqueID	Number - Long	No	The unique ID of the successor task
	CrossProjectLink	Number - Bit	Yes	Whether this is a cross-project link. The external task is stored in the Tasks table
	LinkType	Number - Integer	No	The link type: FS, FF, SS, SF
	LinkLag	Number - Long	No	The amount of lag

	LinkLagDisplayUnits	Number - Integer	No	The units in which the lag is displayed in Microsoft Project
	Reserved_IsNull	Number - Bit	No	Used internally by Microsoft Project
	Reserved_ExternalChangeData	Binary - Short	No	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Remaining_Work Table

This table contains information on the timephased remaining work for assignments. This table will contain records for split tasks which have no resources assigned.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in the project
	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment. This value must be a valid AssignmentUniqueID in the Assignment_Information table
	FromDate	Date	Yes	The start date of the time interval for which the work value applies.
	Units	Number - Double	No	The number of resource units assigned for this contour segment
	WorkingDuration	Number - Long	No	Amount of working time the contour covers
	WorkValue	Number - Double	No	Total amount work in the contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Actual_Work Table

This table contains information on the timephased actual work for assignments.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in this project
	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment
	From Date	Date	Yes	The start date of the time interval to which the work value applies
	Units	Number - Double	No	The number of resource units assigned for this contour segment
	WorkingDuration	Number - Long	No	Amount of working time the contour covers
	WorkValue	Number - Double	No	Total amount of work in this contour segment

	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Actual_Ovt_Work Table

This table will contain information on the timephased actual overtime work for assignments.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in the project
	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment
	FromDate	Date	Yes	The start date of the time interval to which the work values applies
	Units	Number - Double	No	The number of resource units assigned for this contour segment
	WorkingDuration	Number - Long	No	Amount of working time the contour covers
	WorkValue	Number - Double	No	Total amount of work in this contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Actual_Exceptions Table

This table contains information on the actual work for assignments that happened in non-working time.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in the project
	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment
	FromDate	Date	No	The start date of the time interval during which actual work was done
	ToDate	Date	No	The end date of the non-working time interval during which actual work was done
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Baseline_Cost Table

This table contains information on the timephased baseline cost for assignments.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project

*	UniqueID	Number - Long	No	The unique ID of the timephased data in this project
	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment
	FromDate	Date	No	The start date of the time interval to which the cost applies
	ToDate	Date	No	The end date of the time interval to which the cost applies
	Cost	Number - Double	No	Total amount of cost in this contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Baseline_Work Table

This table contains information on the timephased baseline work for assignments.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in the project
	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment
	FromDate	Date	Yes	The start date of the time interval to which the work values applies
	Units	Number - Double	No	The number of resource units assigned for this contour segment
	WorkingDuration	Number - Long	No	Amount of working time the contour covers
	WorkValue	Number - Double	No	Total amount of work in this contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Assignment_Actual_Cost Table

This table contains information on the timephased actual cost for assignments.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in this project
	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment
	FromDate	Date	No	The start date of the time interval to which the cost applies
	ToDate	Date	No	The end date of the time interval to which the cost applies
	Cost	Number - Double	No	Total amount of cost in this contour segment
	Flags	Number - Long	No	Information on the work contour

	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Resource_Rates Table

This table contains information on the resources' rates.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	UniqueID	Number - Long	No	The unique ID for this rate in the project
	ResourceUniqueID	Number - Long	No	The unique ID for the resource in the project
	RateTable	Number - Integer	No	The rate table with the integers 0 to 4 corresponding to the rate tables A to E
	FromDate	Date	No	The first date for which the rates are effective
	ToDate	Date	No	The last date for which the rates are effective
	StandardRate	Number - Double	No	The standard rate
	StandardRateDisplayUnits	Number - Integer	No	The units in which the standard rate is displayed in Microsoft Project
	OvertimeRate	Number - Double	No	The overtime rate
	OvertimeRateDisplayUnits	Number - Integer	No	The units in which the overtime rate is displayed in Microsoft Project
	PerUseCost	Number - Double	No	The per use cost
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Resource_Baseline_Work Table

This table contains information on the timephased baseline work for resources.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in the project
	ResourceUniqueID	Number - Long	No	The unique ID of the resource
	FromDate	Date	Yes	The start date of the time interval to which the work value applies
	Units	Number - Double	No	The number of resource units assigned for this contour segment
	WorkingDuration	Number - Long	No	Amount of working time the contour covers
	WorkValue	Number - Double	No	Total amount of work in this contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft

Project

Resource_Baseline_Cost Table

This table contains information on the timephased baseline cost for resources.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in this project
	ResourceUniqueID	Number - Long	No	The unique ID of the resource
	FromDate	Date	No	The start date of the time interval to which the cost applies
	ToDate	Date	No	The end date of the time interval which the cost applies to
	Cost	Number - Double	No	Total amount of cost in this contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Task_Baseline_Work Table

This table contains information on the timephased baseline work for tasks.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in this project
	TaskUniqueID	Number - Long	No	The unique ID of the task
	FromDate	Date	Yes	The start date of the time interval to which the work value applies
	Units	Number - Double	No	The number of resource units assigned forthis contour segment
	WorkingDuration	Number - Long	No	Amount of working time the contour covers
	WorkValue	Number - Double	No	Total amount of work in this contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Task_Baseline_Cost Table

This table contains information on the timephased baseline cost for tasks.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in this project

	TaskUniqueID	Number - Long	No	The unique ID of the task
	FromDate	Date	No	The start date of the time interval to which the cost applies
	ToDate	Date	No	The end date of the time interval to which the cost applies
	Cost	Number - Double	No	Total amount of cost in this contour segment
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Task_Percent_Complete Table

This table contains information on the timephased percent complete for tasks.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in the project
	TaskUniqueID	Number - Long	No	The unique ID of the task
	FromDate	Date	No	The start date of the time interval to which the percent complete applies
	ToDate	Date	No	The end date of the time interval to which the percent complete applies
	PercentCompleted	Number - Double	No	Percentage completed
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Task_Baseline_Interim_Splits Table

This table contains baseline and interim splits information for tasks.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID of the project
*	UniqueID	Number - Long	No	The unique ID of the timephased data in this project
	TaskUniqueID	Number - Long	No	The unique ID of the task
	Baseline_Interim	Number - Integer	No	Whether this is a baseline split, or one of ten interim splits
	FromDate	Date	No	The start date of the split
	ToDate	Date	No	The end date of the split
	Flags	Number - Long	No	Information on the work contour
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Text_Fields Table

This table holds the custom fields, as well as some of the "extra" Text fields in the main "Information" tables. Rows are added only if the custom text field has a value. The Microsoft Project fields saved in this table are: Text1 through Text30, Task Contact, Task WBS, Task Subproject File, Resource Code, Resource Email Address, Resource Group

Key	Field Name	Field Type	Export-only	Description
✶	ProjectID	Number - Long	No	The unique ID for the project
✶	UniqueID	Number - Long	No	The unique ID for the task, resource or assignment to which the custom field applies
*	FieldID	Number - Long	No	The unique ID for the custom text field.
	ContainerType	Number - Long	No	Whether this is a record for a task, resource or an assignment
	TextValue	Char	No	The text value stored in the text field

Custom_Number_Fields Table

This table holds the custom Number 1-20 and Cost 1-10 fields. Rows are added only if the custom number or cost field has a value.

Key	Field Name	Field Type	Export-only	Description
✶	ProjectID	Number - Long	No	The unique ID for the project
✶	UniqueID	Number - Long	No	The unique ID for the task, resource or assignment to which the custom number or cost field applies
*	FieldID	Number - Long	No	The unique ID for the custom date, start or finish date.
	ContainerType	Number - Long	No	Whether this is a record for a task, resource or an assignment
	NumberValue	Number - Double	No	The number value stored in the custom number or cost field

Custom_Date_Fields Table

This table holds the custom Date 1-10, Start 1-10 and Finish 1-10 fields. Rows are added only if the custom date, start or finish field has a value.

Key	Field Name	Field Type	Export-only	Description
✶	ProjectID	Number - Long	No	The unique ID for the project
✶	UniqueID	Number - Long	No	The unique ID for the task, resource or assignment to which the custom date, start or finish field applies
*	FieldID	Number - Long	No	The unique ID for the custom date, start or finish field.
	ContainerType	Number - Long	No	Whether this is a record for a task,

				resource or an assignment
	DateValue	Date	No	The date value stored in the custom date, start or finish field

Custom_Duration_Fields Table Format

This table holds the custom Duration 1-10 fields. Rows are added only if the custom duration field has a value.

Key	Field Name	Field Type	Export-only	Description
✶	ProjectID	Number - Long	No	The unique ID for the project
✶	UniqueID	Number - Long	No	The unique ID for the task, resource or assignment for which the custom duration field applies
*	FieldID	Number - Long	No	The unique ID for the custom duration field.
	ContainerType	Number - Long	No	Whether this is a record for a task, resource or an assignment
	DurationValue	Number - Long	No	The duration value stored in the custom duration field
	DurationDisplayUnits	Number - Integer	No	The units in which the custom field is displayed in Microsoft Project

Intl_FieldReferences Table

This table contains information to convert the saved numeric constants to text, for enumerated fields (e.g. Priority, Constraint Type) and duration, work and rate fields, mapping enumerated field categories to text field names.

Key	Field Name	Field Type	Export-only	Description
✶	FieldType	Number - Long	Yes	A number representing the enumerated field category
	LanguageID	Number - Long	Yes	The ID of the language in which the FieldName is shown
	FieldName	Char (200)	Yes	The name of the enumerated field category

These are the table contents with English values.

FieldType	FieldName
8	Weekday
101	Schedule Start
22	Accrual
29	Link Type
9	Display Units
28	Work Contour Type
20	Constraint Type
27	Priority
30	Task Type

102	Calendar Working
100	Container Type
105	Field ID
104	Workgroup Messages
103	Currency Symbol Position
34	Cost Rate Units

Intl_TextConversions Table

This table contains values for each possible text value for the particular **FieldType**, for the language in which the project was saved to the database.

Key	Field Name	Field Type	Export-only	Description
*	FieldType	Number - Long	Yes	A number representing the enumerated field category
*	ConversionValue	Number - Long	Yes	The value seen in the database fields
*	LanguageID	Number - Long	Yes	The ID of the language in which the conversion text is displayed
	ConversionText	Char (200)	Yes	The text representation of the field contents

These are the table contents with English values.

FieldType	ConversionValue	ConversionText
8	1	Sunday
8	2	Monday
8	3	Tuesday
8	4	Wednesday
8	5	Thursday
8	6	Friday
8	7	Saturday
101	1	Project Start
101	2	Project Finish
22	0	Start
22	1	End
22	2	Prorated
29	0	FF
29	1	FS
29	2	SF
29	3	SS
9	3	m
9	4	em
9	5	h
9	6	eh
9	7	d
9	8	ed
9	9	w
9	10	ew
9	15	y
9	16	ey

9	19	%
9	20	e%
28	0	Flat
28	1	Back Loaded
28	2	Front Loaded
28	3	Double Peak
28	4	Early Peak
28	5	Late Peak
28	6	Bell
28	7	Turtle
28	8	Contoured
34	2	m
34	3	h
34	4	d
34	5	w
34	8	y
20	0	As Soon As Possible
20	1	As Late As Possible
20	2	Must Start On
20	3	Must Finish On
20	4	Start No Earlier Than
20	5	Start No Later Than
20	6	Finish No Earlier Than
20	7	Finish No Later Than
27	9	Do Not Level
27	8	Highest
27	7	Very High
27	6	Higher
27	5	High
27	4	Medium
27	3	Low
27	2	Lower
27	1	Very Low
27	0	Lowest
30	0	Fixed Units
30	1	Fixed Duration
30	2	Fixed Work
102	0	Non-Working
102	1	Working
102	2	Default
100	1	Task
100	2	Resource
100	3	Calendar
100	4	Assignment
100	5	Dependencies
105	255852663	Assignment Cost1
105	255852664	Assignment Cost2
105	255852665	Assignment Cost3
105	255852703	Assignment Cost4
105	255852704	Assignment Cost5
105	255852705	Assignment Cost6
105	255852706	Assignment Cost7
105	255852707	Assignment Cost8
105	255852708	Assignment Cost9

105	255852709	Assignment Cost10
105	255852710	Assignment Date1
105	255852711	Assignment Date2
105	255852712	Assignment Date3
105	255852713	Assignment Date4
105	255852714	Assignment Date5
105	255852715	Assignment Date6
105	255852716	Assignment Date7
105	255852717	Assignment Date8
105	255852718	Assignment Date9
105	255852719	Assignment Date10
105	255852657	Assignment Duration1
105	255852658	Assignment Duration2
105	255852659	Assignment Duration3
105	255852720	Assignment Duration4
105	255852721	Assignment Duration5
105	255852722	Assignment Duration6
105	255852723	Assignment Duration7
105	255852724	Assignment Duration8
105	255852725	Assignment Duration9
105	255852726	Assignment Duration10
105	255852647	Assignment Finish1
105	255852648	Assignment Finish2
105	255852649	Assignment Finish3
105	255852650	Assignment Finish4
105	255852651	Assignment Finish5
105	255852727	Assignment Finish6
105	255852728	Assignment Finish7
105	255852729	Assignment Finish8
105	255852730	Assignment Finish9
105	255852731	Assignment Finish10
105	255852652	Assignment Number1
105	255852653	Assignment Number2
105	255852654	Assignment Number3
105	255852655	Assignment Number4
105	255852656	Assignment Number5
105	255852742	Assignment Number6
105	255852743	Assignment Number7
105	255852744	Assignment Number8
105	255852745	Assignment Number9
105	255852746	Assignment Number10
105	255852747	Assignment Number11
105	255852748	Assignment Number12
105	255852749	Assignment Number13
105	255852750	Assignment Number14
105	255852751	Assignment Number15
105	255852752	Assignment Number16
105	255852753	Assignment Number17
105	255852754	Assignment Number18
105	255852755	Assignment Number19
105	255852756	Assignment Number20
105	255852642	Assignment Start1
105	255852643	Assignment Start2
105	255852644	Assignment Start3

105	255852645	Assignment Start4
105	255852646	Assignment Start5
105	255852757	Assignment Start6
105	255852758	Assignment Start7
105	255852759	Assignment Start8
105	255852760	Assignment Start9
105	255852761	Assignment Start10
105	255852632	Assignment Text1
105	255852633	Assignment Text2
105	255852634	Assignment Text3
105	255852635	Assignment Text4
105	255852636	Assignment Text5
105	255852637	Assignment Text6
105	255852638	Assignment Text7
105	255852639	Assignment Text8
105	255852640	Assignment Text9
105	255852641	Assignment Text10
105	255852762	Assignment Text11
105	255852763	Assignment Text12
105	255852764	Assignment Text13
105	255852765	Assignment Text14
105	255852766	Assignment Text15
105	255852767	Assignment Text16
105	255852768	Assignment Text17
105	255852769	Assignment Text18
105	255852770	Assignment Text19
105	255852771	Assignment Text20
105	255852772	Assignment Text21
105	255852773	Assignment Text22
105	255852774	Assignment Text23
105	255852775	Assignment Text24
105	255852776	Assignment Text25
105	255852777	Assignment Text26
105	255852778	Assignment Text27
105	255852779	Assignment Text28
105	255852780	Assignment Text29
105	255852781	Assignment Text30
105	205521019	Resource Cost1
105	205521020	Resource Cost2
105	205521021	Resource Cost3
105	205521062	Resource Cost4
105	205521063	Resource Cost5
105	205521064	Resource Cost6
105	205521065	Resource Cost7
105	205521066	Resource Cost8
105	205521067	Resource Cost9
105	205521068	Resource Cost10
105	205521069	Resource Date1
105	205521070	Resource Date2
105	205521071	Resource Date3
105	205521072	Resource Date4
105	205521073	Resource Date5
105	205521074	Resource Date6
105	205521075	Resource Date7

105	205521076	Resource Date8
105	205521077	Resource Date9
105	205521078	Resource Date10
105	205521013	Resource Duration1
105	205521014	Resource Duration2
105	205521015	Resource Duration3
105	205521079	Resource Duration4
105	205521080	Resource Duration5
105	205521081	Resource Duration6
105	205521082	Resource Duration7
105	205521083	Resource Duration8
105	205521084	Resource Duration9
105	205521085	Resource Duration10
105	205521003	Resource Finish1
105	205521004	Resource Finish2
105	205521005	Resource Finish3
105	205521006	Resource Finish4
105	205521007	Resource Finish5
105	205521086	Resource Finish6
105	205521087	Resource Finish7
105	205521088	Resource Finish8
105	205521089	Resource Finish9
105	205521090	Resource Finish10
105	205521008	Resource Number1
105	205521009	Resource Number2
105	205521010	Resource Number3
105	205521011	Resource Number4
105	205521012	Resource Number5
105	205521101	Resource Number6
105	205521102	Resource Number7
105	205521103	Resource Number8
105	205521104	Resource Number9
105	205521105	Resource Number10
105	205521106	Resource Number11
105	205521107	Resource Number12
105	205521108	Resource Number13
105	205521109	Resource Number14
105	205521110	Resource Number15
105	205521111	Resource Number16
105	205521112	Resource Number17
105	205521113	Resource Number18
105	205521114	Resource Number19
105	205521115	Resource Number20
105	205520998	Resource Start1
105	205520999	Resource Start2
105	205521000	Resource Start3
105	205521001	Resource Start4
105	205521002	Resource Start5
105	205521116	Resource Start6
105	205521117	Resource Start7
105	205521118	Resource Start8
105	205521119	Resource Start9
105	205521120	Resource Start10
105	205520904	Resource Text1

105	205520905	Resource Text2
105	205520926	Resource Text3
105	205520927	Resource Text4
105	205520928	Resource Text5
105	205520993	Resource Text6
105	205520994	Resource Text7
105	205520995	Resource Text8
105	205520996	Resource Text9
105	205520997	Resource Text10
105	205521121	Resource Text11
105	205521122	Resource Text12
105	205521123	Resource Text13
105	205521124	Resource Text14
105	205521125	Resource Text15
105	205521126	Resource Text16
105	205521127	Resource Text17
105	205521128	Resource Text18
105	205521129	Resource Text19
105	205521130	Resource Text20
105	205521131	Resource Text21
105	205521132	Resource Text22
105	205521133	Resource Text23
105	205521134	Resource Text24
105	205521135	Resource Text25
105	205521136	Resource Text26
105	205521137	Resource Text27
105	205521138	Resource Text28
105	205521139	Resource Text29
105	205521140	Resource Text30
105	205520906	Resource Code
105	205520931	Resource EmailAddress
105	205520899	Resource Group
105	188743786	Task Cost1
105	188743787	Task Cost2
105	188743788	Task Cost3
105	188743938	Task Cost4
105	188743939	Task Cost5
105	188743940	Task Cost6
105	188743941	Task Cost7
105	188743942	Task Cost8
105	188743943	Task Cost9
105	188743944	Task Cost10
105	188743945	Task Date1
105	188743946	Task Date2
105	188743947	Task Date3
105	188743948	Task Date4
105	188743949	Task Date5
105	188743950	Task Date6
105	188743951	Task Date7
105	188743952	Task Date8
105	188743953	Task Date9
105	188743954	Task Date10
105	188743783	Task Duration1
105	188743784	Task Duration2

105	188743785	Task Duration3
105	188743955	Task Duration4
105	188743956	Task Duration5
105	188743957	Task Duration6
105	188743958	Task Duration7
105	188743959	Task Duration8
105	188743960	Task Duration9
105	188743961	Task Duration10
105	188743733	Task Finish1
105	188743736	Task Finish2
105	188743739	Task Finish3
105	188743742	Task Finish4
105	188743745	Task Finish5
105	188743963	Task Finish6
105	188743956	Task Finish7
105	188743967	Task Finish8
105	188743969	Task Finish9
105	188743971	Task Finish10
105	188743767	Task Number1
105	188743768	Task Number2
105	188743769	Task Number3
105	188743770	Task Number4
105	188743771	Task Number5
105	188743982	Task Number6
105	188743983	Task Number7
105	188743984	Task Number8
105	188743985	Task Number9
105	188743986	Task Number10
105	188743987	Task Number11
105	188743988	Task Number12
105	188743989	Task Number13
105	188743990	Task Number14
105	188743991	Task Number15
105	188743992	Task Number16
105	188743993	Task Number17
105	188743994	Task Number18
105	188743995	Task Number19
105	188743996	Task Number20
105	188743732	Task Start1
105	188743735	Task Start2
105	188743738	Task Start3
105	188743741	Task Start4
105	188743744	Task Start5
105	188743962	Task Start6
105	188743964	Task Start7
105	188743966	Task Start8
105	188743968	Task Start9
105	188743970	Task Start10
105	188743731	Task Text1
105	188743734	Task Text2
105	188743737	Task Text3
105	188743740	Task Text4
105	188743743	Task Text5
105	188743746	Task Text6

105	188743747	Task Text7
105	188743748	Task Text8
105	188743749	Task Text9
105	188743750	Task Text10
105	188743997	Task Text11
105	188743998	Task Text12
105	188743999	Task Text13
105	188744000	Task Text14
105	188744001	Task Text15
105	188744002	Task Text16
105	188744003	Task Text17
105	188744004	Task Text18
105	188744005	Task Text19
105	188744006	Task Text20
105	188744007	Task Text21
105	188744008	Task Text22
105	188744009	Task Text23
105	188744010	Task Text24
105	188744011	Task Text25
105	188744012	Task Text26
105	188744013	Task Text27
105	188744014	Task Text28
105	188744015	Task Text29
105	188744016	Task Text30
105	188743792	Task Contact
105	188743696	Task WBS
105	188743706	Task SubprojectFile
104	2	Email
104	3	Web
104	4	Email and Web
104	1	None
103	0	Default
103	0	Before
103	1	After
103	2	Before with Space
103	3	After with Space

Reserved_CommandBars Table

This table contains project toolbar formatting information, and is used to recreate the formatting of the tool bars. This table is reserved and should not be edited. You can't create a project toolbar in the database. It must be created using Microsoft Project.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_ToolbarID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_ExternalDataLinks Table

This table contains project DDE and OLE links information, and is used to recreate any links in the project. This table is reserved and should not be edited. You can't create project DDE and OLE links in the database. They must be created using Microsoft Project.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_UniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Name	Char (51)	Yes	Used internally by Microsoft Project
	Reserved_Source	Char	Yes	Used internally by Microsoft Project
	Reserved_Destination	Char	Yes	Used internally by Microsoft Project
	Reserved_Type	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_IsShownInMenu	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_Aspect	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Platform	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_Flags	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_FilterUniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_TableUniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_ViewUniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_SizelX	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_SizelY	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_ContainerUniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_ImportExportMaps Table

This table contains Import/Export map information, and is used to recreate any maps in the project. This table is reserved and should not be edited. You can't create project Import/Export maps in the database. They must be created using Microsoft Project.

Key	Field Name	Field Type	Export-only	Description

*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_UniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Name	Char (51)	Yes	Used internally by Microsoft Project
	Reserved_Type	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_IsShownInMenu	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_Filters Table

This table contains the project filter information, used to recreate any filters in the project. This table is reserved and should not be edited. You can't create project filters in the database. They must be created using Microsoft Project.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_UniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Name	Char (51)	Yes	Used internally by Microsoft Project
	Reserved_Type	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_IsShownInMenu	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_Modules Table

This table is needed for backward compatibility with Microsoft Project 95. This table is reserved and should not be edited.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_Reports Table

This table contains project report information, and is used to recreate any reports in the project. This table is reserved and should not be edited. You can't create project reports in the database. They must be created using Microsoft Project.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_UniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Name	Char (51)	Yes	Used internally by Microsoft Project
	Reserved_Type	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_IsShownInMenu	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_FontMap	Binary - Short	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_Tables Table

This table contains project table information, and is used to recreate any tables in the project. This table is reserved and should not be edited. You can't create project tables in the database. They must be created using Microsoft Project.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_UniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Name	Char (51)	Yes	Used internally by Microsoft Project
	Reserved_Type	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_IsShownInMenu	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_CustomForms Table

This table contains custom form information, and is used to recreate any user defined forms and dialogs in the project. This table is reserved and should not be edited. You can't create project custom forms in the database. They must be created using Microsoft Project.

Key	Field Name	Field Type	Export-only	Description

*	Reserved_ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_UniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Name	Char (51)	Yes	Used internally by Microsoft Project
	Reserved_Type	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_IsShownInMenu	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_AcceleratorChar	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project

Reserved_V_iews Table

This table contains project view information, and is used to recreate any views in the project. The table name must be **Reserved_V_iews**, because the word "View" can't be used as a name in some databases. This table is reserved and should not be edited. You can't create project views in the database. They must be created using Microsoft Project. Microsoft Project does not store some temporary view information in a database, such as the current date range displayed.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	Yes	Used internally by Microsoft Project
*	Reserved_UniqueID	Number - Long	Yes	Used internally by Microsoft Project
	Reserved_Name	Char (51)	Yes	Used internally by Microsoft Project
	Reserved_Type	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_IsShownInMenu	Number - Bit	Yes	Used internally by Microsoft Project
	Reserved_Contents	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_MasterSlave	Number - Integer	Yes	Used internally by Microsoft Project
	Reserved_FontMap	Binary - Short	Yes	Used internally by Microsoft Project
	Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
	Reserved_ElemDeleted	Char (1)	No	Used internally by Microsoft Project

Reserved_AssignmentPoolInfo Table

This table contains the pool and sharer assignment data.

Key	Field Name	Field Type	Export-only	Description
*	ProjectID	Number - Long	No	The unique ID for the project
*	AssignmentUniqueID	Number - Long	No	The unique ID of the assignment in the project
	TaskUniqueID	Number - Long	No	The unique ID of the task in the assignment. This value must be a valid TaskUniqueID in the Task_Information table
	ResourceUniqueID	Number - Long	No	The unique ID of the resource in the assignment. This value must be a valid ResourceUniqueID in the Resource_Information table
	ActualCost	Number - Double	No	The actual cost of the assignment
	ActualFinish	Date	No	The actual finish date of the assignment
	ActualOvertimeCost	Number - Double	No	The actual overtime cost
	ActualOvertimeWork	Number - Double	No	The actual amount of overtime work
	ActualStart	Date	No	The actual start date
	ActualWork	Number - Double	No	The actual amount of work
	ACWP	Number - Double	Yes	Actual cost of work performed
	BaselineCost	Number - Double	No	The baseline cost
	BaselineWork	Number - Double	No	The baseline work
	BaselineFinish	Date	No	The baseline finish date
	BaselineStart	Date	No	The baseline start date
	BCWP	Number - Double	Yes	Budgeted cost of work performed
	BCWS	Number - Double	Yes	Budgeted cost of work scheduled
	Confirmed	Number - Bit	No	Whether the assignment is confirmed
	Cost	Number - Double	No	The cost of the assignment
	CostRateTable	Number - Integer	No	The cost rate table used for this assignment
	Delay	Number - Long	No	The delay for the assignment
	DelayDisplayUnits	Number - Integer	No	The units in which the delay is displayed in Microsoft Project
	FinishDate	Date	No	The end date of the assignment
	FinishVariance	Number - Long	Yes	The finish variance
	Flag1	Number - Bit	No	Custom flag field
	Flag2	Number - Bit	No	Custom flag field
	Flag3	Number - Bit	No	Custom flag field
	Flag4	Number - Bit	No	Custom flag field
	Flag5	Number - Bit	No	Custom flag field
	Flag6	Number - Bit	No	Custom flag field
	Flag7	Number - Bit	No	Custom flag field
	Flag8	Number - Bit	No	Custom flag field
	Flag9	Number - Bit	No	Custom flag field
	Flag10	Number - Bit	No	Custom flag field
	Flag11	Number - Bit	No	Custom flag field
	Flag12	Number - Bit	No	Custom flag field
	Flag13	Number - Bit	No	Custom flag field
	Flag14	Number - Bit	No	Custom flag field
	Flag15	Number - Bit	No	Custom flag field
	Flag16	Number - Bit	No	Custom flag field

Flag17	Number - Bit	No	Custom flag field
Flag18	Number - Bit	No	Custom flag field
Flag19	Number - Bit	No	Custom flag field
Flag20	Number - Bit	No	Custom flag field
Hyperlink	Longtext	No	The link representation for the hyperlink
HyperlinkAddress	Longtext	No	The URL or UNC for the target document of the hyperlink
HyperlinkSubAddress	Longtext	No	The location within the target document of the hyperlink
LevelingDelay	Number - Long	No	The amount of time the assignment is delayed due to leveling
LinkedFields	Number - Bit	No	Whether there are data links to the assignment
Notes	Longtext	No	First 255 characters of the notes, or the characters up to the first line end or object, for the assignment
Overallocated	Number - Bit	Yes	Whether the assignment is overallocated
OvertimeWork	Number - Double	No	The amount of overtime work
RegularWork	Number - Double	No	The amount of regular work
RemainingCost	Number - Double	No	The remaining cost
RemainingOvertimeCost	Number - Double	No	The remaining overtime cost
RemainingOvertimeWork	Number - Double	No	The remaining overtime work
RemainingWork	Number - Double	No	The remaining work
ResponsePending	Number - Bit	No	Whether a response to a TeamAssign message is pending from the assigned resource
SharedResourceAssignTask	Char	No	The name of the sharer project task to which the pool resource is assigned
SharedResourceAssignTaskID	Number - Long	No	The ID of the sharer project task to which the pool resource is assigned
SharedResAssignSummaryTask	Char	Yes	The name of the summary task for the sharer project task to which the pool resource is assigned
StartDate	Date	No	The start date of the assignment
StartVariance	Number - Long	Yes	The start variance
TeamStatusPending	Number - Bit	No	Whether responses are pending to a TeamStatus message
Units	Number - Double	No	The number of units assigned
UpdateNeeded	Number - Bit	Yes	Whether a workgroup is needed
ScheduleWork	Number - Double	No	The amount of work
WorkContour	Number - Integer	No	The type of work contour
Reserved_ContourUserEdited	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_EmailNone	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_HasHyperlink	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_HasPageBreak	Number - Bit	Yes	Used internally by Microsoft

			Project
Reserved_HasActualStart	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_HasActualFinish	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_HasNotes	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_IsNull	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_IsLinkSource	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_IsVisibleAsTask	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_IsVisibleAsResource	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_LastUpdatedMsgStart	Date	Yes	Used internally by Microsoft Project
Reserved_LastUpdatedMsgFinish	Date	Yes	Used internally by Microsoft Project
Reserved_LevelChanges	Number - Bit	Yes	Used internally by Microsoft Project
Reserved_LinkedProps	Binary - Short	Yes	Used internally by Microsoft Project
Reserved_WkgpMsgCounter	Number - Long	Yes	Used internally by Microsoft Project
Reserved_MsgUniqueID	Number - Long	Yes	Used internally by Microsoft Project
Reserved_OutlookTaskID	Longtext	Yes	Used internally by Microsoft Project
Reserved_Stop Date	Date	Yes	Used internally by Microsoft Project
Reserved_ResumeDate	Date	Yes	Used internally by Microsoft Project
Reserved_ResourcePoolID	Number - Long	Yes	Used internally by Microsoft Project
Reserved_InternalChangedBits	Binary - Short	Yes	Used internally by Microsoft Project
Reserved_ExternalChangeData	Binary - Short	Yes	Used internally by Microsoft Project
Reserved_BinaryProperties	Binary - Long	Yes	Used internally by Microsoft Project
Reserved_ElemDeleted	Char (1)	Yes	Used internally by Microsoft Project
Reserved_ContourLevelEdited	Number - Bit	Yes	Used internally by Microsoft Project