



Autodesk® FMDesktop™ 2009

Autodesk®

Facility Manager  
Customization Guide

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# 1 Introduction

Facility Manager 2009 accommodates many customization and integration options, providing the most powerful and flexible yet easy to use Facility Management platform available today. User accessible system settings and an open API give you complete control over the default functions and access to many of the forms and records available in Facility Manager.

## *How Does it Work?*

The following components are integral to Facility Manager:

- **Facility Manager** - The user interface of the application. It is used to view, query, markup, report on, print, and publish facility drawings and associated data or documents. Facility Manager allows users to plan, track, and manage project and move information. Project, move, and maintenance related work requests can be managed as well.
- **FMDesktop Database** - The database component of Facility Manager and the central component of the entire Autodesk® FMDesktop suite. It is used to store all of the facility data as well as links to related documents and drawings.
- **Facility Manager Resource Folders** – The shared object storage component of the FMDesktop suite. They are used to store the drawings, graphics, documents, reports, and other resources used by all of the components of FMDesktop.

Facility Manager must be linked to the FMDesktop database and the Facility Manager resource folders. Each resource used by Facility Manager has its own separate folder:

- **DWF** – Stores space plans and plan views.
- **Graphics** – Stores occupant, equipment, and other record related pictures.
- **Markups** – Stores drawing markups.
- **Project Documents** – Stores project, and other associated documents.
- **Reports** – Stores on-line reports for collaboration and publishing.

## 2 Aliases

FMDesktop is capable of adapting its terminology to match that used by your organization, making it easier to understand how the features and functions relate to your specific needs. Using aliases, each default term used by all the applications in the FMDesktop suite may be changed to more closely reflect your organization's terminology.

### *Setting Field Aliases*

The Field Aliases form provides access to the 45 most commonly used terms in the FMDesktop suite. You can edit the aliases used throughout the suite to match your terminology. Use the following steps to edit field aliases:

1. On the Facility Manager main menu, select System Settings>Field Aliases.  
The Field Aliases form is displayed.
2. Edit the terms displayed in the Field Aliases column to match your organization's common terminology. For example, in the education and healthcare industries, Properties are commonly referred to as Campuses.
3. When you are finished editing aliases, click OK to close the form and save your changes.

### *Setting Report Aliases*

The Report Aliases form provides access to the names of all the reports listed on the Facility Reports form. You can edit the aliases used to identify these reports to match your terminology. Use the following steps to edit report aliases:

1. On the Facility Manager main menu, select System Settings>Report Aliases.  
The Report Aliases form is displayed.
2. Edit the names displayed in the Report Aliases column to match your organization's common terminology.
3. When you are finished editing aliases, click OK to close the form and save your changes.

## 3 System Settings

In addition to aliases, there are a number of other system settings that control how the software works. These settings allow you to customize the Facility Manager working environment to more closely match your specific operational needs.

### *Today Settings*

The FMDesktop Today screen displays when you open Facility Manager. You can customize this screen with the Today Options form. Each user in the organization can control the look of his or her FMDesktop Today screen. To access the Today Options form, select System Settings>Today Settings from the main menu. You can customize the following options:

- **Refresh Interval** – The FMDesktop Today screen is a dynamic navigation tool that reflects changes to your facility data. It is automatically updated any time a user makes changes that affect the data. If changes are made by a different user on a different machine, those changes are periodically updated based on the Refresh Interval.
- **Display Options** – Facility Manager provides the ability to customize the FMDesktop Today screen to adapt to the different responsibilities and different areas of focus each member of your facility management team may have. Use the Display Options selections to customize the information that is displayed for you and the individual members of your team.
- **Edit Filters** – Working with Display Options settings, users can filter the work request and project information that is displayed on the FMDesktop Today screen. These filters are particularly helpful in organizations that have multiple properties and maintenance shops and wish to limit the view of their data to a specific property or shop.
- **Default Start Page/Alternate Start Page** – Facility Manager provides the ability to replace the default FMDesktop Today screen with a web page or custom web application. This can include custom Active Server Pages (ASP) or a graphical drill-down through your organization's locations. Using the Default Start Page and Alternate Start Page controls, you can define custom pages.

**Note:** See the Facility Manager API section of this guide for information about creating graphical drill-down pages.

## **Units**

FMDesktop supports virtually any international system of units, including currency, area units, and varying object unit labels. Use the Unit Options form to adjust the default units used in the FMDesktop suite. To access the Unit Options form, select System Settings>Units on the main menu.

- **Currency** – FMDesktop can display any system of currency. Currency display is accomplished by using “masks” that define a currency symbol and numeric placeholders. The two default currency options are US dollars and British pounds. To select a different currency system, select Other, and enter the appropriate currency symbol and numeric placeholders in the Display Format field.
- **Area Units** – FMDesktop supports two standard units of area measure for spaces, zones, and floors. These units are Square Feet and Square Meters.
- **Object Units Labels** – The labels for various unit labels (for example, properties, floors, zones, and spaces) may be modified to meet your specific needs. It is important to remember that units for floors, zones, and spaces can only be measured in square feet or square meters; however, you may wish to display abbreviations (such as, SF, SqFt, or SM) rather than the full unit text.

## Move Options

FMDesktop provides a variety of options that allow you to customize how default space allocations are handled when occupants and cost centers move in and out of spaces throughout your facilities. Below is a brief description of each of the available settings. Adjust these settings to suit your operational process.

- **Move Out Options** – Controls the default action taken when a cost center is removed from a space. This includes cost centers that are removed when an occupant is moved out.
  - **Do Nothing** – No action is taken.
  - **Allocate (Recommended)** – The space is allocated equally among the remaining cost centers.
- **Vacant Options** – Controls the default action taken when an occupied space is vacated (all occupants removed).
  - **Do Nothing** – No action is taken.
  - **Assign Default Cost Center (Recommended)** – The space is assigned to the cost center that is identified in the Default Vacant Cost Center drop-down list.
- **Default Allocation** – Controls the default action taken when cost centers are added to or removed from spaces.
  - **Do Nothing** – No action is taken.
  - **Equally By Cost Center (Recommended)** – The space is allocated equally among each of the cost centers.
  - **Equally By Occupant Count** – The space is allocated proportionally among the cost centers based on the number of occupants assigned to each cost center.
- **Default Vacant Cost Center** – Controls the cost center that is associated with spaces as they are vacated.

**Note:** You can prevent individual spaces from being affected by the default Move Option settings by selecting the Manual Allocation Only check box on the Space form.

## 4 Hiding Form Tabs

Many of the forms used in Facility Manager include multiple tabs to help you manage information related to the main record. The Options button, which is located on most multi-tab forms, can be used to hide tabs that you do not use or that you do not want others to use. You can even hide the Options button itself.

To hide/display form tabs or to hide the Options button:

1. Open the desired form.



2. Click the Options button:
3. On the Tab Options form, select the tabs to hide or display:
  - To display a tab, select the check box for the tab name.
  - To hide a tab, clear the check box for the tab name.
4. If you want to hide the Options button, select the Options check box.
5. Click Apply to see your selections applied to the form.
6. When finished, click OK.

To re-display the Options button:

1. Open the form where you want to re-display the Options button.
2. Press and hold CTRL while clicking to the left of the Help button on the form. The Tab Option form opens.
3. On the Tab Options form, select the Options check box.
4. Click OK. The Options button displays on the form.

## 5 Reports

Facility Manager uses Microsoft® Access™ as its development platform; therefore, you can use all of the reporting tools available in Microsoft Access, including tools that let you create your own custom reports and add them to the Facility Reports form. Additionally, any of the Microsoft® Office® programs, such as Word® and Excel®, can be used to create reports based on the facility information stored in the FMDesktop database.

### *Microsoft Access Reports*

All of the standard reports included in Facility Manager were created using Microsoft Access. An open-source version of Facility Manager is included on the installation CD. You can use this version to modify existing reports or create your own custom reports, using the existing reports as a guide.

**Note:** For help in creating your own custom reports, refer to the Microsoft Access documentation.

### *Controlling Drawing Report Print Quality*

The print quality of drawing-based reports has been improved in Facility Manager 2009. The default print quality settings for drawing-based reports should be adequate for most reporting needs. However, your system's hardware configuration and your specific reporting needs may warrant an adjustment to the default print quality setting. You may adjust the print quality of drawing-based reports in the following manner.

1. Open Facility Manager.
2. Press F11 to display the MS Access database window.
3. Select Tables in the MS Access database window to display a list of tables.
4. Locate the tbl\_SystemSettings table and double-click it to open the table.
5. Locate PrintQuality in the fld\_SettingName column.
6. In the same row as PrintQuality is a value in the fld\_StringValue column. The default value for this setting is 1.5. You can increase this value to increase the resolution of drawing-based reports.

**Note:** It is strongly recommended that you use a Print Quality value between 1 and 4, or any fraction thereof. Using values greater than this may significantly increase the time and computer resources needed to produce drawing-based reports. In some instances your computer system may fail to generate reports or stop responding if Print Quality values are set excessively high.

## ***Adding Custom Reports to the Facility Reports Form***

After creating custom reports, you must make the reports available on the Facility Reports form. Use the following steps to add reports to the Facility Reports form.

1. Open the Facility Manager.mdb file where your custom reports were created.
2. On the Facility Manager main menu, select Actions>Facility Reports.  
The Facility Reports form is displayed.
3. On the Facility Reports form, click Add.  
The Add Report form is displayed.
4. On the Add Report form, select a report on the Select Report drop-down list.
5. In the Select Group drop-down list, select a report group to add the report to, or enter a new group name.
6. For Description, enter a description of the report.
7. Click the Filters tab.
8. Select a filter type from the Filter Type drop-down list.
9. Select the appropriate filter options for the report. Be sure to select only the filter options that are included in the underlying report query.
10. Click OK to add the report to the Facility Reports form.

## ***Distributing Custom Reports***

After creating custom reports and adding them to the Facility Reports form, you can provide them to other users in the organization. Using a full version of Microsoft Access, you can create a new Facility Manager executable file (Facility Manager 2009.mdb) that can be distributed to other users. The Facility Manager 2009.mdb file contains all forms, queries, and reports (including custom reports) needed to run the application.

## ***Removing Custom Reports***

1. Open the Facility Reports form.
2. On the Reports tab, select the desired report from the Select Report list.
3. Click the Remove button.

**Note:** The report is removed from the list of available reports. Removed reports are not permanently deleted from the Facility Manager application; they are removed only from the list of available reports. You can re-add them to the list using the Add button.

## *Customizing Report Formats*

Facility Manager is shipped with the source code. If you have Microsoft Access installed on your computer, you can make custom changes to any of the Microsoft Access database objects contained in the Facility Manager program file (Facility Manager.mdb). These custom changes include creating new work request report formats.

The Reports tab of the Work Request Options form stores the names of the report formats available for printing work requests. You can use the controls on the tab to add and remove work request report formats from the Facility Manager program.

If you edit an existing report format (for example, the Work Request report), you do not need to re-add it to the Reports tab unless you change its name.

**Note:** Any custom changes you make to the Facility Manager source code could cause the program to stop functioning correctly. Autodesk Support subscriptions do not include customization or instructions on how to use source programs to customize Facility Manager. For information about customization services, see Professional Services in the Facility Manager online help. You can also consult the Microsoft Access, SQL Server®, or Oracle Server® documentation for instructions on how to use source programs to customize Facility Manager.

## *Adding Custom Report Formats*

1. Create and import the report format into Facility Manager.mdb.  
By default Facility Manager.mdb is installed in C:\Program Files\FMDesktop\Facility Manager 2009\Facility Manager 2009.mdb.
2. Open the Work Request form.
3. Click the Options button.
4. Click the Reports tab of the Work Request Options form.
5. Click the Add button to open the Select Report list.  
The list opens only if there is a report contained in Facility Manager.mdb that is not currently listed on the Reports tab.
6. Select the desired report format.
7. Click OK.
8. Use the controls on the Reports tab to select a default report from the Default list and enter a report Description.  
The report you select from the Default list will be the default report used for all new work requests.

---

## *Removing Custom Report Formats*

1. Open the Work Request form.
2. Click the Options button.
3. Click the Reports tab of the Work Request Options form.
4. Select the desired report format.
5. Click the Remove button to remove the name of the report format from the datasheet.

**Note:** Removed report formats are not permanently deleted from the Facility Manager program file; they are removed only from the list of available choices for printing the report. You can re-add them to the tab using the Add button.

## 6 Using Macros

Facility Manager 2009 makes it easy to integrate your own custom functions into the application using Microsoft Access macros. Macros can be used to run queries, transfer data, and perform many other functions.

**Note:** For detailed information about macros and their many uses, see the Microsoft Access documentation.

### *FMDesktop Macros*

The following Microsoft Access macros are included in the Facility Manager 2009.mdb file and used during the normal operation of Facility Manager:

Macro Name	Fired When
FMDStartup	Facility Manager is started
FMDShutdown	Facility Manager is closed
FMDButton1	From a custom menu item (See the Custom Menu Items section in this guide.)
FMDButton2	From a custom menu item (See the Custom Menu Items section in this guide.)
FMDButton3	From a custom menu item (See the Custom Menu Items section in this guide.)
FMDButton4	From a custom menu item (See the Custom Menu Items section in this guide.)
FMDButton5	From a custom menu item (See the Custom Menu Items section in this guide.)

Use these macros to add your own custom functions to Facility Manager. When the macros are fired, your functions will run.

An example of using a custom macro would be to create a query that checks data in an outside data source and compares it to data in a native Facility Manager table. Examples of functions you could perform with a macro include importing new employee names into the occupants table and importing new cost centers into the accounts table.

### ***Custom Menu Items***

The following FMDButton macros can be fired from your own custom menu items. The Alias table (tblAlias) includes five entries that allow you to add your own custom items to the Facility Manager main menu. Edit the alias values for these entries to add a new item to the menu. These Alias table entries are associated with the FMDButton macros:

<b>Macro Name</b>	<b>Var_Index value in tblAlias</b>
FMDButton1	729
FMDButton2	579
FMDButton3	580
FMDButton4	582
FMDButton5	583

## 7 Facility Manager API

As described in the System Settings section of this guide, the Facility Manager main menu can be used to display any custom web page or web application in place of the FMDesktop Today screen. Your custom web pages and web applications can interact with Facility Manager's forms and functions through an Application Programming Interface (API). Facility Manager provides a simple event-based API that you can use in your custom pages.

### *Basic Syntax*

Using an OnClick event or hyperlink, your web pages and web applications can access many of the forms and records in the Facility Manager application. This is the basic syntax that calls a Facility Manager function:

```
onclick="javascript: window.external.raiseEvent(HTMLObject, 'FacilityManagerFunction', 'OptionalRecordReference')
```

- HTMLObject – This must refer to some named object on your web page. This could be anything including the window object.
- FacilityManagerFunction – This section of the syntax should call one of the Facility Manager functions listed below.
- OptionalRecordReference – This section of the syntax can be used to call a specific record or drawing on the forms that are called. The information that must be included to call specific records and drawing on different forms is described below.

### *The Organization Form*

To display the Organization form:

```
onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownOrganization', '')
```

OptionalRecordReference = (N/A)

### *The Property Form*

To display the Property form:

```
onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownProperty', 'PropertyName')
```

OptionalRecordReference = Property (as listed in tblProperty)

### *The Building Form*

To display the Building form:

```
onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownBuilding', 'BuildingID')
```

OptionalRecordReference = fld\_BuildingID (as listed in tbl\_Building)

### ***The Floor Form***

To display the Floor form:

onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownFloor', 'FloorID')

OptionalRecordReference = fld\_FloorID (as listed in tbl\_Floor)

### ***The Zone Form***

To display the Zone form:

onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownZone', 'ZoneID')

OptionalRecordReference = fld\_ZoneID (as listed in tbl\_Zone)

### ***The Space Form***

To display the Space form:

onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownSpace', 'SpaceID')

OptionalRecordReference = AssetID (as listed in tblAsset)

### ***The Equipment Form***

To display the Equipment form:

onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownEquipment', 'EquipmentID')

OptionalRecordReference = AssetID (as listed in tblAsset)

### ***The Occupant Form***

To display the Equipment form:

onclick="javascript: window.external.raiseEvent(HTMLObject, 'DrilldownEquipment', 'OccupantID')

OptionalRecordReference = OccupantID (as listed in tblOccupant)

### ***The Drawing Form***

To displays the Drawing form:

onclick="javascript: window.external.raiseEvent(HTMLObject, 'DataEnabledDrawing', 'DrawingName')

OptionalRecordReference = DrawingName (as listed in tblDrawingInventory)

## 8 Editing Lookup Tables

With the introduction of the Details tab to the Space form in Facility Manager 2009, several lookup tables were added to the FMDesktop database schema. These tables contain the values listed in the Use, Function, Discipline, Suitability and Condition drop-down lists found on the Details tab of the Space form.

The default values contained in these tables were derived from the May 2006 publication of the Postsecondary Education Facilities Inventory and Classification Manual. Additional values, such as the HEGIS to CIP crosswalk values, were derived and compiled from various oversight organizations.

There is no application-accessible interface for editing these values in Facility Manager. If editing these values becomes necessary, you may do so by accessing and editing the appropriate tables in the FMDesktop database. The remainder of this section lists each available lookup table and describes each field and its content.

**Note:** Editing values in lookup tables is not a software support issue. You should not attempt to edit values in Lookup tables without a clear understanding of basic database principles and an intimate knowledge of how editing these values will affect your existing data.

## Space Use

The Space Use table (tbl\_SpaceUse) contains the values available in the “Primary Use” and “Alternate Use” drop-down lists on the Details tab of the Space form. Below is a listing of each field in this table and a description of its content.

Field Name	Description
fld_ID	An application-generated record ID that is used to associate space records with Space Use records.  <b>NOTE:</b> Do not edit this field value for existing Space Use records.
fld_UseID1	The value in this field represents the 1994 Use code as established by the Postsecondary Education Facilities Inventory and Classification Manual.
fld_Description1	The value in this field represents the 1994 Use Description as established by the Postsecondary Education Facilities Inventory and Classification Manual.
fld_UseID2	The value in this field represents the Pre-1994 Use code as established by the Postsecondary Education Facilities Inventory and Classification Manual.
fld_Description2	The value in this field represents the Pre-1994 Use Description as established by the Postsecondary Education Facilities Inventory and Classification Manual.

### *Space Function*

The Space Function table (tbl\_SpaceFunction) contains the values available in the “Function” drop-down list on the Details tab of the Space form. Below is a listing of each field in this table and a description of its content.

Field Name	Description
fId_ID	An application-generated record ID that is used to associate space records with Space Function records.  <b>NOTE:</b> Do not edit this field value for existing Space Function records.
fId_Function	The value in this field represents the Function assignments as established by the Postsecondary Education Facilities Inventory and Classification Manual.

### *Space Function Category 1*

The Space Function Category 1 table (tbl\_FunctionCategory1) contains the values available in the “NACUBO” drop-down list on the Details tab of the Space form. Below is a listing of each field in this table and a description of its content.

Field Name	Description
fId_ID	An application-generated record ID that is used to associate space records with Function Category records.  <b>NOTE:</b> Do not edit this field value for existing Function Category records.
fId_FunctionID	The value in this field links the Category record with its associated Function record in the “tbl_SpaceFunction” table as established by the Postsecondary Education Facilities Inventory and Classification Manual.
fId_Category	The value in this field represents the National Association of College and University Business Officers (NACUBO) category assignments as established by the Postsecondary Education Facilities Inventory and Classification Manual.

## Space Function Category 2

The Space Function Category 1 table (tbl\_FunctionCategory2) contains the values available in the "A-21" drop-down list on the Details tab of the Space form. Below is a listing of each field in this table and a description of its content.

Field Name	Description
fld_ID	An application-generated record ID that is used to associate space records with Function Category records.  <b>NOTE:</b> Do not edit this field value for existing Function Category records.
fld_FunctionID	The value in this field links the Category record with its associated Function record in the "tbl_SpaceFunction" table as established by the Postsecondary Education Facilities Inventory and Classification Manual.
fld_Category	The value in this field represents the A21 category assignments as established by the Postsecondary Education Facilities Inventory and Classification Manual.

## Suitability

The Suitability table (tbl\_Suitability) contains the values available in the "Suitability" drop-down list on the Details tab of the Space form. Below is a listing of each field in this table and a description of its content.

Field Name	Description
fld_ID	An application-generated record ID that is used to associate space records with Suitability records.  <b>NOTE:</b> Do not edit this field value for existing Suitability records.
fld_Suitability ID	The value in this field represents a letter rating for Suitability records as established by the Postsecondary Education Facilities Inventory and Classification Manual.
fld_Description	The value in this field represents a description of a Suitability rating for records as established by the Postsecondary Education Facilities Inventory and Classification Manual.

### Condition

The Suitability table (tbl\_SpaceCondition) contains the values available in the “Condition” drop-down list on the Details tab of the Space form. Below is a listing of each field in this table and a description of its content.

Field Name	Description
fId_ID	An application-generated record ID that is used to associate space records with Condition records.  <b>NOTE:</b> Do not edit this field value for existing Condition records.
fId_Condition	The value in this field represents a Condition rating as established by the Postsecondary Education Facilities Inventory and Classification Manual.

### Discipline Codes

The Discipline Codes table (tbl\_DisciplineCodes) contains the values available in the “Discipline” drop-down lists on the Details tab of the Space form. Below is a listing of each field in this table and a description of its content.

Field Name	Description
fId_ID	An application-generated record ID that is used to associate space records with Discipline records.  <b>NOTE:</b> Do not edit this field value for existing Discipline records.
fId_DisciplineID	The value in this field represents the Classification of Instructional Programs (CIP) discipline code.
fId_DisciplineDescription	The value in this field represents the Classification of Instructional Programs (CIP) discipline code description.
fId_HegisID	The value in this field represents the Higher Education General Information Survey (HEGIS) discipline code.
fId_HegisDescription	The value in this field represents the Higher Education General Information Survey (HEGIS) discipline code description.