



Autodesk® FMDesktop™ 2009

Autodesk®

Facility Manager
Implementation Guide

Customer and Administration Building, Ditzingen, Germany - Design by Barkow Leibinger Architects

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1 Implementation Overview

Implementing Facility Manager is a very straightforward process. To do it, you must:

- 1) Decide what you want to track with Facility Manager;
- 2) Determine how your facility information fits into the Facility Manager data hierarchy;
- 3) Gather information about your facility;
- 4) Enter your data in Facility Manager; and
- 5) Link facility drawings to the data you entered.

This guide takes you through the implementation process, step by step.

2 Tracking Facility Information

Facility Manager is a highly customizable tool that can track all your facility information. Following is an overview of the program, its uses, and its tracking capabilities.

What is Facility Manager?

Facility Manager is part of the Autodesk® FMDesktop computer aided facility management (CAFM) suite of products. It is an integrated facility management tool that gives you the ability to query, pan, zoom, print, and share facility drawings without the need for computer aided design (CAD) software. Use Facility Link and any full version of an AutoCAD® 2006 or higher product to create and publish space plans that are dynamically linked to your facility data. You can also publish FMDesktop-compatible Design Web Format (DWF) files from Autodesk® Architectural Desktop 2007, AutoCAD® Architecture, Autodesk® Building Systems 2007, AutoCAD® MEP, Revit® 9.1, Revit® Architecture, and Revit® MEP. Use Facility Manager to view and manage your facility data and drawings.

Facility Manager is also used to manage the maintenance performed at your facility. It is designed to help you organize maintenance activities, simplify administration, and maximize the efficiency and productivity of your entire facility. It provides a framework for keeping track of maintenance tasks and the resources used in performing them.

How is it Used?

Use Facility Manager to keep track of all aspects of management performed on the spaces and equipment that make up your facility:

- Use it to store and view information about the things you manage (for example, spaces, equipment, occupants, and staff), the resources used to manage them, and any administrative details about the activities performed (for example, accounts, divisions, and charge back codes).
- Use it to assign and organize management activities using the stored information.
- Use it to track the history of the activities performed on your facility.
- Use it to report on activities and provide visual documentation to your staff.

Facility Manager is a flexible, customizable tool that will easily conform to the specific needs of your facility. You decide how you want to use it.

How Much Detail Can it Track?

When deciding what you want to accomplish with Facility Manager, a major consideration is what level of detail you want to maintain in your database. Do you want to track every aspect of your facility (for example, specific move out dates and detailed equipment locations), or only the basic things, such as who occupies what space and what equipment was worked on? For most facilities, the answer lies somewhere in between. With Facility Manager, you can track as many or as few details as you need. The choice is yours.

As you examine Facility Manager and the information it can track, decide which information you want to include in your database. Keep in mind that what you get out of Facility Manager is totally dependent upon what you put into it.

3 Using the Facility Manager Data Hierarchy

After you decide what you want to accomplish with Facility Manager, determine how your facility fits into the Facility Manager data hierarchy. The hierarchy consists of these main components:

1. **Organization** – The name of your facility. It identifies the facility whose data is stored in the FMDesktop database. A single database stores data for a single Facility Manager organization.
2. **Properties** – The primary locations of the spaces and equipment (assets) that make up your facility. Every asset in Facility Manager is located on a specific property. Examples of properties include:
 - A specific building street address
 - A wing of a building
 - A section of a factory
 - A park

You can treat your entire organization as a single property, or you can divide your organization into several properties.

3. **Assets** – The spaces and equipment you manage at your facility. When you create work orders in Facility Manager, assets are the things that are assigned to the work orders. Facility Manager is used to update and track the identity, location, and history of two types of assets:
 - Spaces – These are fixed assets like rooms, offices, common areas, closets, lawns, garages, walls, and roofs.
 - Equipment – These are moveable assets like appliances, furniture, computers, presses, and building systems that can be located in spaces.

This data structure is a hierarchy because it has levels and ranking. An organization is the highest-level component. The properties that make up the organization are at the next level. The spaces and equipment that are located within the properties are at the lowest level in the hierarchy. Therefore, assets must be assigned to properties, and properties must be assigned to the organization.

Examples of the Data Hierarchy

The Facility Manager data hierarchy of organization, properties, and assets works with any type of facility. Review the following examples to determine how your facility fits into it:

City or County

Organization	Central Management Shop
Properties	Office Buildings, Warehouses, Parks, Community Centers
Assets	Equipment, Managed Areas (Office Suites, Rooms, Parking Lots, Grounds, etc.)

Convention Center

Organization	Onsite Management Shop
Property	Convention Center
Assets	Equipment, Managed Areas (Office Suites, Rooms, Exhibit Halls, Parking Lots, Grounds, Floors, Wings, etc.)

Hospital

Organization	Central Management Shop
Properties	Hospital, Clinics
Assets	Equipment, Managed Areas (Offices, Nurses Stations, Rooms, Beds, Parking Lots, Grounds, Floors, Wings, etc.)

Manufacturing Plant

Organization	Onsite Management Shop
Property	Plant
Assets	Equipment, Managed Areas (Offices, Storage Areas, Production Floor, Mechanical Rooms, Parking Lots, Grounds, etc.)

Office Complex

Organization	Onsite Management Shop
Properties	Office Buildings
Assets	Equipment, Managed Areas (Office Suites, Rooms, Parking Lots, Grounds, Floors, etc.)

Property Management

Organization	Central Management Shop
Properties	Apartment Complexes, Office Buildings, Warehouses
Assets	Equipment, Managed Areas (Office Suites, Rooms, Apartment Units, Parking Lots, Grounds, Floors, Community Buildings, etc.)

Retail Chain

Organization	Central Management Shop
Properties	Stores
Assets	Equipment, Managed Areas (Rooms, Parking Lots, Grounds, etc.)

Retirement Community

Organization	Onsite Management Shop
Properties	Health Clinic, Nursing Home, Independent Living Buildings, Cottages, Community Building
Assets	Equipment, Managed Areas (Office Suites, Rooms, Apartment Units, Parking Lots, Grounds, Floors, Community Building, etc.)

School District or University

Organization	Central Management Shop
Properties	Schools, Administration Building, Libraries, Warehouses
Assets	Equipment, Managed Areas (Office Suites, Rooms, Classrooms, Classroom Buildings, Special Purpose Buildings, Parking Lots, Grounds, Athletic Fields, Gyms, etc.)

Shopping Center

Organization Onsite Management Shop

Properties Shopping Center

Assets Equipment, Managed Areas (Offices, Rooms, Stores, Parking Lots, Grounds, Floors, etc.)

Of course, your facility also consists of your staff, contractors, suppliers, occupants, accounts, and dozens of other things. Facility Manager tracks all of these items and more.

4 Tracking Assets

Assets are the spaces and equipment you manage at your facility. When you create work orders in Facility Manager, assets are the things that you assign to the work orders. Facility Manager is used to update and track the identity, location, and history of your assets.

Asset records are stored on the Space and Equipment forms in Facility Manager. To help you track your assets, Facility Manager asset records contain multiple fields for storing detailed identity, location, and assignment information. You decide how much information you need.

Basic Identity and Location Information

Every asset record stored in Facility Manager is assigned a unique identity and location. The identity and location are made up of the information stored in these fields:

- **Asset** – The proper name or other identity of an asset. Facility Manager identifies assets by their unique names. This information is required.
- **Property** – The primary location of a group of assets like a wing of a building, a section of a factory, a park, or an entire complex. This information is required.
- **Building** – For properties that are made up of several buildings or sections, this is used to further define an asset's location.
- **Floor** – For properties and buildings that are made up of several floors or levels, this is used to further define an asset's location.
- **Location** – The location of an equipment item can be further defined by assigning it to a space.

Equipment Location Relationships

Facility Manager lets you assign equipment to spaces for location purposes. This type of relationship, where one or more equipment items are assigned to a space, is called a location relationship.

Example

- Assume you have three equipment assets: Equip1, Equip2, and Equip3.
- These assets are all stored in the same space: Area1.
- To assign a location to these pieces of equipment, make Area1 their location asset. (Enter Area1 in the Space field of all three assets.)

5 Gathering Information About Your Facility

After you have an understanding of how your facility fits into the Facility Manager data hierarchy, you can begin gathering information to enter into the database. This guide includes forms for collecting the information you need to build your database. Make as many copies of these forms as you need.

While you are gathering information, keep in mind that you do not need to supply all the information listed on the forms, only what is required. Required information for a record (such as Organization, Property, Space, Equipment, Labor, and Occupant) is labeled in bold on the forms.

Tips for Gathering Facility Information

You are required to enter only the name of your organization, a property, and an asset before you can begin using Facility Manager to manage your facility and create work orders. However, this is not enough information to provide you with any meaningful data. This table lists primary information to gather as soon as possible, and secondary information you can gather over time:

Primary

- Organization name and address
- Property information
- Asset names and locations
- Staff names
- Occupant names
- Accounts, subdivisions, and divisions

Secondary

- Detailed information about your assets, such as assignments, descriptions, and occupants
- Staff information, such as phone numbers and wage rates
- Occupant information, such as phone numbers
- Maintenance categories and budgets
- Project and work order types
- Charge back codes and charge back items

If there is specific information that is important to you and your facility, those items would move from the Secondary category to the Primary category. On the other hand, if you do not track an item, it would move from the Primary or Secondary category to a Not Tracked category.

The following suggestions can help you gather facility data efficiently:

- Determine what information is important to you and gather it first.
- Meet with management and accounting personnel to let them know what information you need. Often, they can provide information that you did not know was available.
- Use the attached forms to gather information. Fill them in as completely as possible before you start entering information. Gathering the information takes longer than entering it into the database.
- Take time to think through the way you will set everything up. If you have any questions, review the Facility Manager online help or User's Guide for more information.

6 Establishing Naming Conventions

Before you begin entering data into Facility Manager, establish a consistent system for naming your records. Take time to understand the naming conventions used by Facility Manager before you begin building your database.

Understanding Primary Key Fields

Every record in Facility Manager is required to have a unique name, or identifier. These names are stored in fields on forms known as primary key fields.

Examples of primary key fields for records include the following:

- Names of properties stored in the Property field of the Property form
- Names of spaces stored in the Space field of the Space form
- Names of vendors stored in the Vendor field of the Vendor form

Additionally, the names of records in Facility Manager must be unique within their respective record sets. For example, there cannot be two property records named Property1 or two occupants with the name Doe, John.

Do not use symbols (for example, #, &, "", ", *, ?) in the names of records. Symbols are often used by Windows® operating systems and other programs to accomplish specific functions or pass special instructions to program and system operations. Such operations will not function properly when interacting with fields that contain symbols.

Using Alphabetical Order Versus Numerical Order

Facility Manager records are stored in alphabetical order. Keep this in mind when deciding how to name records. Alphabetical order is not the same as numerical order. In the following example, note the differences between numerical and alphabetical order for records named 101, 201, 1101, and 2101:

<u>Numerical</u>	<u>Alphabetical</u>
101	101
201	1101
1101	201
2101	2101

If you use numbers to identify your records, add a leading 0 (zero) to smaller numbers to maintain more of a numerical order. Using the above example, add a leading 0 or space to records 101 and 201 to make the alphabetical order correspond to the numerical order:

<u>Numerical</u>	<u>Alphabetical</u>
101	0101
201	0201
1101	1101
2101	2101

Identifying Records with Numbers

When using numbers to identify your space records (for example, a room), avoid using the same numbering scheme for the equipment items assigned to them (for example, furniture in the room). Because the names of records are static (that is, they do not change), it will be easier to track the movement of equipment between spaces if the equipment does not have the same number as the space.

For example, suppose there is a desk (equipment item) assigned to Office 0101 (space). Because the desk is in Office 0101, you name it Desk 0101. However, if Desk 0101 is ever moved to another space, such as Office 0201, your naming scheme becomes confusing.

To avoid this problem, identify equipment items with serial numbers or some other number. You can also use prefixes in the names of records to enhance the alphabetical order of the records stored in Facility Manager. For example, AC 001, AC 002, Office 0101, and Office 0201 would be stored in the following order:

Alphabetical

AC 001

AC 002

Office 0101

Office 0201

Similarly, spaces located in two separate buildings, North Wing and South Wing, can be given unique names by adding building and floor prefixes, as shown:

South Wing

SW-3101

SW-2101

SW-1101

SW-B101

North Wing

NW-3101

NW-2101

NW-1101

NW-B101

7 Entering Data

After gathering information about your facility, enter it into the Facility Manager program. All data is entered into Facility Manager using forms and stored in the database component of the program. All forms that store data have the same basic controls: a new record button and a primary key field. All that is required to create a record is to enter data in a record's primary key field(s). For more information, see the descriptions of the individual forms in the Facility Manager online help or User's Guide.

To create a new record for storing data:

1. Open the desired form.
2. Click the new record button, for example, New Equipment, to create a new record.
3. Enter a name for the record in the primary key field.
4. Use the controls on the form to enter additional information about the record.
5. When finished, click the new record button to create another new record, or close the form to return to the Facility Manager menu.

There is very little information that must be entered into your database before you can start using Facility Manager to manage your facility and create work orders. To start issuing work orders with Facility Manager, you need to enter information only about your organization, one property, and one asset. You would not have much data to analyze, but you would know what type of activity was performed and when it was done.

Facility Manager makes it easy to build your database incrementally because you can add almost any data "on-the-fly." For example, if you are creating a work order and want to assign it to a new employee, you can create a labor record for the new employee using the controls on the Work Order form.

The quality of your data plays a large role in determining how well Facility Manager tracks management activities at your facility. Entering data takes time, but after it is completed, you will never have to do it again. After you have gathered some information, open Facility Manager, and begin entering it.

Consider the following points before entering data:

- Do not try to enter everything at once. Facility Manager makes it easy to enter data incrementally using the "add-on-the-fly" properties of most fields.
- Do not wait too long to enter gathered information. It is easy to get caught up with other activities and realize a year later that your database is only 25% complete.
- Do not use symbols (for example, #, &, "", ", *, ?) in the names of records. Symbols are often used by Windows® operating systems and other programs to accomplish specific functions or pass special instructions to program and system operations. Such operations will not function properly when interacting with fields that contain symbols.
- Enter the names of labor and occupant records in a "Last Name, First Name" format.

Facility Manager includes functionality, such as record-cloning tools, to help you enter data more efficiently. Use the Clone Space and Clone Equipment buttons to create multiple copies of the same type of record (for example, 10 identical rooms or generators). For more information, see Cloning a Record in the Facility Manager online help or User's Guide.

8 Creating Space Plans

Facility Manager is an integrated facility management tool that gives you the ability to query, pan, zoom, print, and share facility drawings without the need for computer-aided design (CAD) software. To get the full functionality of the program, you must import space plans that have been created in one of these programs:

- Autodesk® Architectural Desktop 2007
- AutoCAD® Architecture
- Autodesk® Building Systems 2007
- AutoCAD® MEP
- Autodesk® Revit® Building 9.1
- Revit® Architecture
- Facility Link and any full version of an AutoCAD® 2006 or higher product

Space plans are Design Web Format (DWF) files that contain space and/or equipment objects. Because space and equipment objects are dynamically linked to facility data, space plans are sometimes called data-enabled drawings. Space plans are used by Facility Manager to provide a graphical interface between drawing objects and the data they represent.

Note: When space plans that were created in Facility Link are imported into Facility Manager, both space and equipment objects are converted. Space plans exported from the other programs are imported with space objects only.

With a list of the names of your space and equipment assets, you can use Facility Manager to link your data records to the objects on your drawings. You can also create new space and equipment records using Facility Link. For complete instructions on using Facility Link to link your facility drawings to your data, see the Facility Link online help or User's Guide.

Tip: When linking your drawings to data, it may be easier to enter limited information about your assets with Facility Link, and then use Facility Manager to enter other details (for example, addresses, phone numbers, and descriptions).

Appendix: Forms for Gathering Facility Data

Use the forms in this section to gather the information you need to build your database. Make as many copies of these forms as you need. While you are gathering information, keep in mind that you do not need all of the information listed on a form; you need only what is required. Required information for a record (for example, Organization, Property, Space, Equipment, Labor) is labeled in bold on the forms.

For examples, definitions, and additional Facility Manager program information, see the Facility Manager online help or User's Guide.

Organization Information

Organization refers to the location where Facility Manager is being used. Usually, you would enter your company name and address. Facility Manager uses the name and address to create the heading for reports. Additionally, you can store a corporate logo for your organization on the Organization form in Facility Manager.

Name	_____		
	Name of organization. Usually this is the name of the facility, management company, or owner entity.		
Description	_____		
	Description of the organization.		
Contact	_____		
	Contact person for the organization.		
Address	_____		
	Street address of the organization.		
City	_____	St/Prov/Co _____	Zip/Postal Code _____
Country	_____	Phone _____	Fax _____
Email	_____	URL _____	
	Email address.	Website or other locator.	

User Defined Fields (Facility Manager provides you with an unlimited number of User Defined Fields for storing additional information):

User Defined Field Name	Value

Detailed Space Information

Complete this form for each space record. Additionally, you can store pictures of your spaces on the Space form in Facility Manager.

Name _____
Name of the space. *Must be unique* within each property.

Property _____
Property on which the space is located.

Description _____
Description of the space.

Account _____ **Group** _____
Group (i.e., unit, suite, common area).

Building _____ **Floor** _____ **Location** _____
Name of location asset.

Vacant *Yes* *No*

Assignment Information (Primary Contact)

Last Name _____ **First Name** _____
Last name or company name. First name or company contact name.

Phone _____

Additional Comments: _____

User Defined Fields (Facility Manager provides you with an unlimited number of User Defined Fields for storing additional information):

User Defined Field Name	Value

Space Occupants

You can add these to the FMDesktop database as labor or occupant records.

Occupant	Move In Date	Move Out Date	Comments

Space Equipment

You can add these to the FMDesktop database as new asset records. You can assign *only equipment items* as assets to spaces.

Equipment Name	Description

Detailed Equipment Asset Information

Complete this form for each equipment record. Additionally, you can store pictures of your equipment on the Equipment form in Facility Manager.

Name _____
Name of the equipment. *Must be unique* within each property.

Property _____
Property on which the equipment is located.

Description _____
Description of the equipment.

Account _____ **Group** _____
Group (i.e., pump, HVAC, generator)

Building _____ **Floor** _____ **Space** _____
Space in which the equipment is located.

Supplier _____
Supplier name (stored as a labor record).

Manufacturer _____ **Model Number** _____
Manufacturer's name. Manufacturer's model number.

Serial Number _____
Serial number.

Detailed Location _____
Detailed location of the equipment (e.g., behind panel, ceiling, etc.)

Assignment Information (Primary Contact)

Last Name _____ **First Name** _____
Last name or company name. First name or company contact name.

Phone _____

Additional Comments: _____

User Defined Fields (Facility Manager provides you with an unlimited number of User Defined Fields for storing additional information):

User Defined Field Name	Value

Detailed Labor Information

Complete this form for each labor record.

Name _____ **ID** _____
Name of the individual or company (Last name, First name). SSN, EIN, or other ID.

Other Name _____
Nickname or other name.

Type Staff Contractor Supplier Supplier/Contractor (circle one)

Contact _____ **Title** _____
Contact person if the labor is a contractor or supplier.

Address _____

City _____ **St/Prov/Co** _____ **Zip/Postcode** _____

Country _____ **Work Phone** _____ **Home Phone** _____

Fax _____ **Mobil Phone** _____ **Email** _____

URL _____ **Trade** _____
Website or other locator.

Category _____ **Account** _____
Default maintenance category for the labor. Default account for the labor.

Date of Birth _____ **Date Hired** _____

Hourly Cost
Regular _____ **Double** _____
Time _____ **Overtime** _____ **Time** _____ **Other** _____
Total cost per hour (including taxes and benefits) at indicated pay rate.

Markup _____ **Flat Rate** _____
Default percentage and/or flat hourly rate for labor charges on work orders.

Pager No. _____ **Service No.** _____ **PIN** _____

Comments: _____

User Defined Fields (Facility Manager provides you with an unlimited number of User Defined Fields for storing additional information):

User Defined Field Name	Value

Detailed Occupant Information

Complete this form for each occupant record. You can create occupant records from your existing labor records.

Name _____
Name of the individual or company (Last name, First name).

Title _____
Professional title or position.

Work Phone _____ Email _____

Occupied Spaces

Names of the spaces occupied by the occupant.

Area Name	Move In Date	Move Out Date	Comments

User Defined Fields (Facility Manager provides you with an unlimited number of User Defined Fields for storing additional information):

User Defined Field Name	Value

Maintenance Categories List

Review and edit the default maintenance categories.

Category	Description	Budget

Project Types List

Review and edit the default types of projects.

Type	Description

Work Order Types List

Review and edit the default types of work orders.

Type	Description

