

# Object Group Manager

The Cisco EMF Object Group Manager is an application opened from the Cisco EMF Launchpad. It provides you the opportunity to organize network elements into object groups. The Object Group Manager allows you to create, delete, and modify object groups. Object groups can be any combination of objects derived from the Cisco EMF managed object class. Objects can be added manually or on the basis of some query criteria. The Object Group Manager window is similar to Figure 7-1.

**Figure 7-1** Object Group Manager Window



You can use the objects in an object group to invoke any services available on those objects. This is a powerful facility in Cisco EMF that allows you to group objects based on a particular criteria and then perform a desired operation on those objects.

To create, delete, or manage object groups, you must have Read-Write or Read-Write-Admin access to features in the Object Group Manager, set up in Access Control. If you have Read Only access, you would only be able to view the object group information. See Chapter 9, “User Access Control,” for more information.

In Cisco EMF, a network element could belong to more than one object group. For example:

- It could belong to a group of DSLAMs. This would be a physical classification and it would be useful when downloading software.
- It could also belong to a domain group based on the ISP it serves; in this way it would be possible to evaluate performance and fault information.
- It could belong to a group based on geographic location; the impact of a local event such as a power failure could be assessed and managed.
- It could belong to a customer group so that performance and usage could be assessed to affect inventory levels.

All object groups created in the Object Group Manager are persistent. This means an object group is available to you whenever the Object Group Manager is launched. Object groups also survive a Cisco EMF restart.

Two object group types exist. This information is shown for each object in the **Type** field in the **Information** panel:

- Manual
- Query populated.

The Object Group Editor is launched from services in the pop up menu available on object group(s).

## Services on Object Groups and Folders

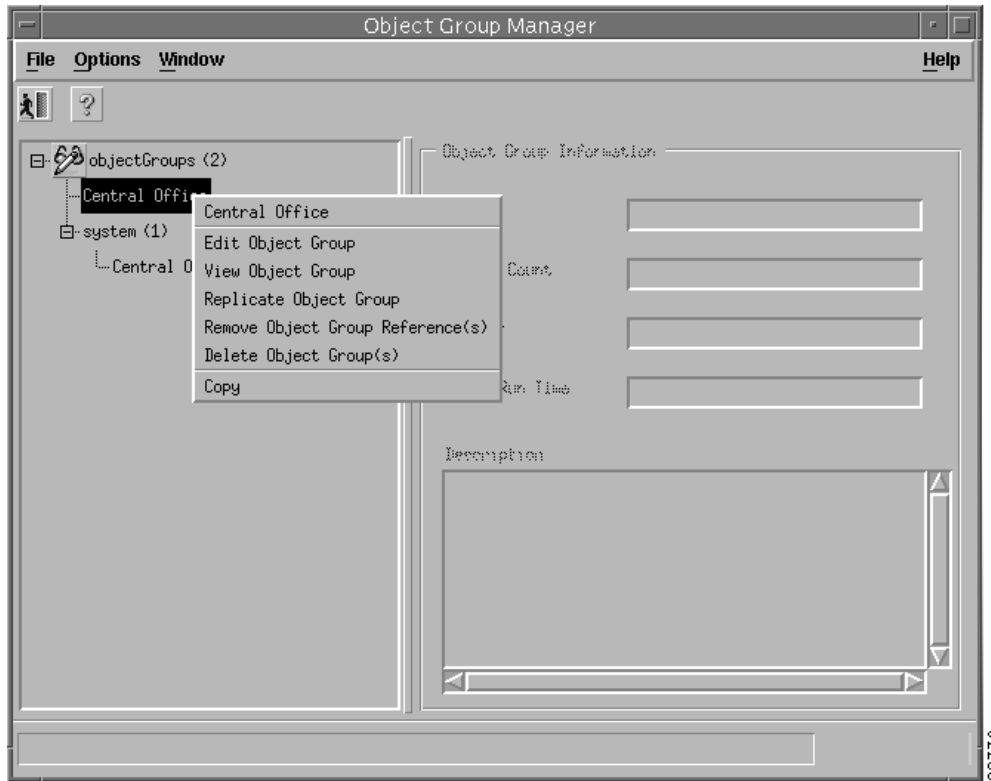
Object Group services can be invoked on either object groups or folders. You can select one or more object groups and/or folders and right click. This displays the list of services available on the selection in a pop up menu. The services available depend on the class(es) of the selection and the access of the user. Access to the features in the Object Group Manager application is managed by Access Control (refer to Section Chapter 9, “User Access Control.”)

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**Note** If multiple objects are selected, only the services common to all of the objects are available.

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Figure 7-2 Example of Services Available to Object Groups



## Launching the Object Group Manager

The Object Group Manager is launched using the icon in the Cisco EMF Launchpad window. A window similar to Figure 7-3 is displayed.

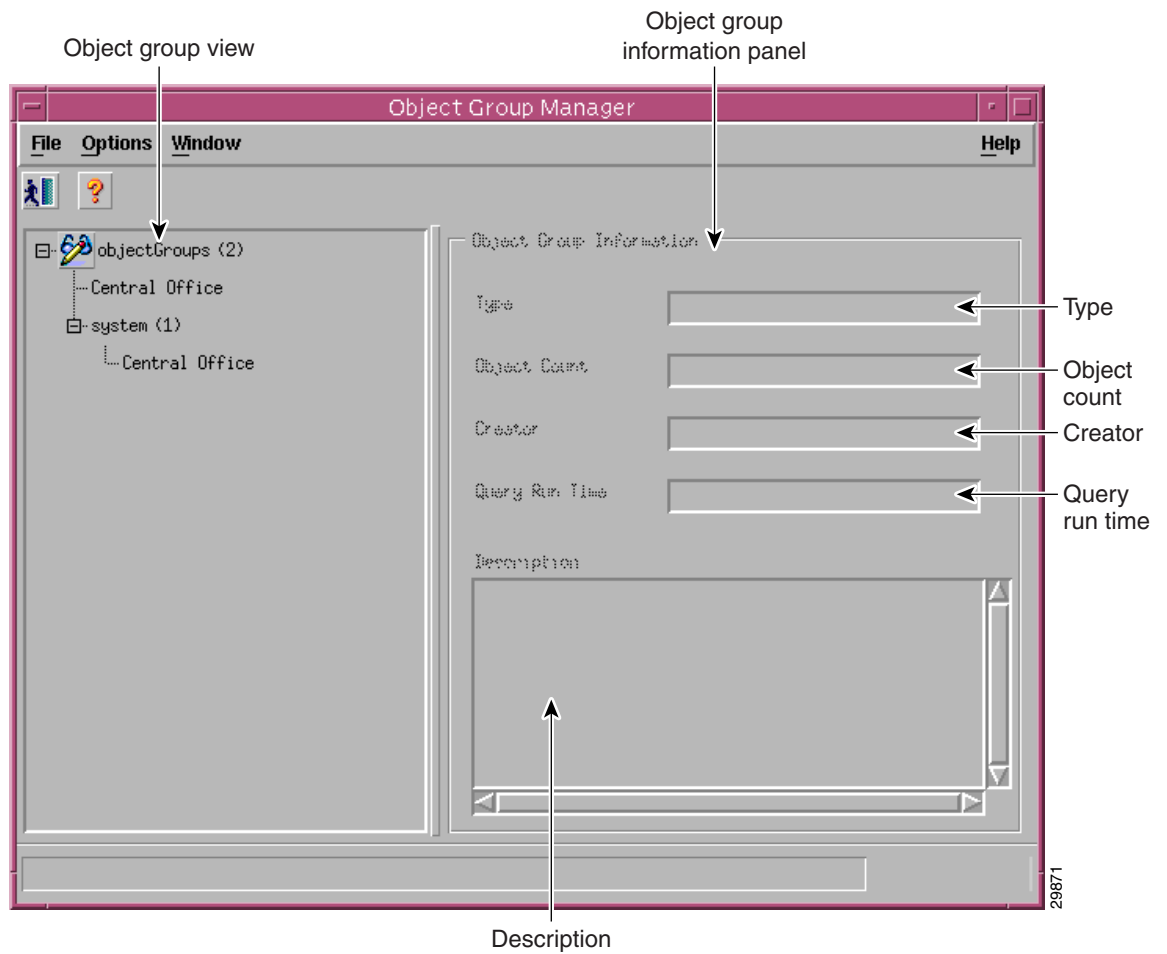


icon in the Cisco EMF Launchpad

## The Object Group Manager Window

The Object Group Manager window is divided into two panels. Both can be resized by dragging the boundary. The left panel displays the Object Groups view, which contains all object groups and folders. A number in brackets to the right of each folder indicates the number of child folders or object groups at the next level in the hierarchy. Click on the “+” sign or double-click on a folder to expand that folder and show its children. An object group can have no children in the Objects Groups view and as such, has no number after it in the hierarchy panel. The number of objects in a selected object group is shown in the **Object Count** field in the right hand panel.

Figure 7-3 Object Group Manager Window



The Object Group Information panel on the right hand side shows the following information about a single object group selected in the Object Group view.

- Type—can be manual or query populated
- Object Count—is the number of objects in an object group
- Creator—is the Cisco EMF user ID of the user who created the object group
- Query Run Time—is the time the last query was run
- Description—is optional.

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**Note** The panel is grayed out when no information is available. No information is available when multiple object groups or a folder is selected.

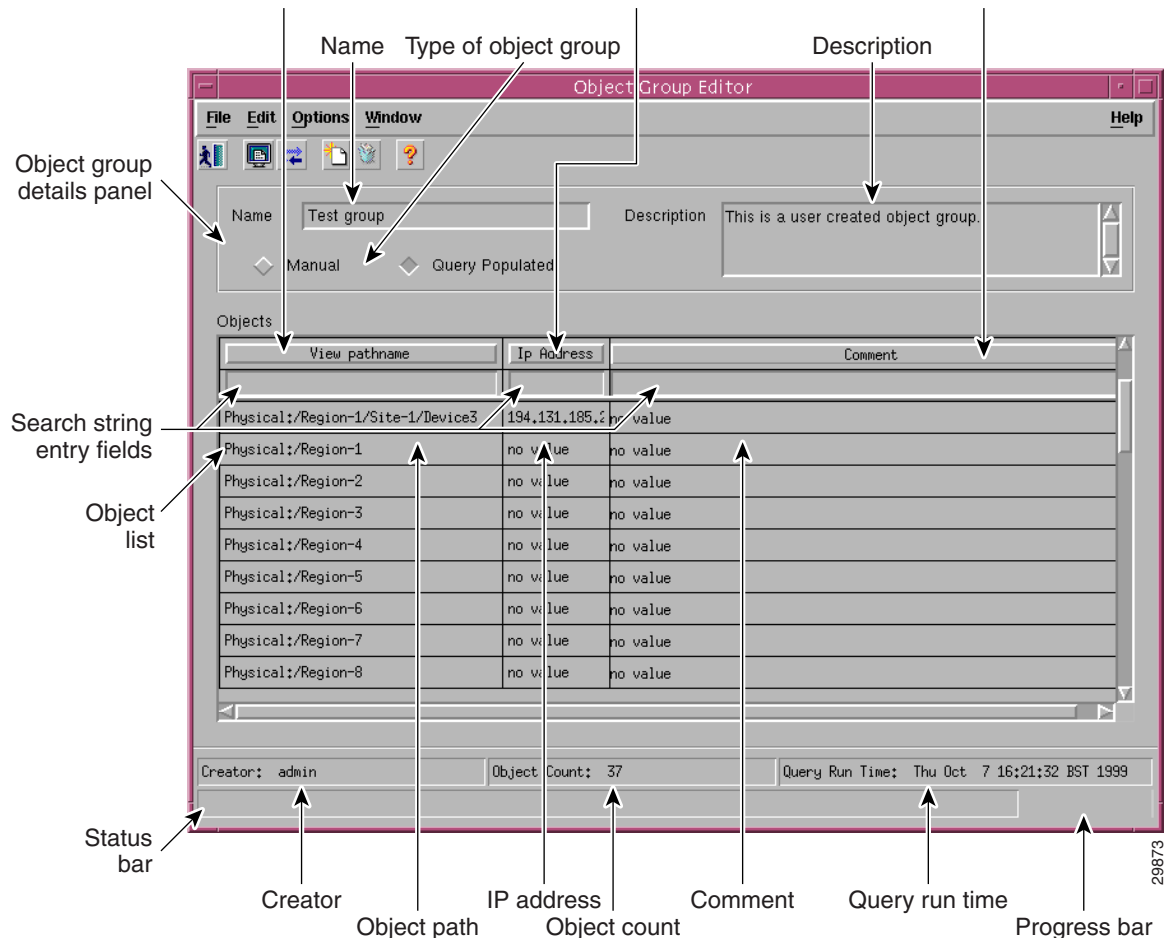
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Drop down menus available from the Menu bar provide you options to exit the Object Group Manager.

## The Object Group Editor Window

The Object Group Editor window is used to create, edit, and view object groups. It is launched from the pop up menus available on object groups and folders in the Object Groups view.

**Figure 7-4** Object Group Editor Window



The Object Group Editor window consists of three main components:

- the Object Group Details panel at the top of the window
- the Object List in the center of the window
- the Status bar at the bottom of the window.

The **Object Group Details** panel at the top of the window is used to enter the following object group information:

- Name—each name must be unique. You can use any alphanumeric combination. This is editable.
- Type—toggle buttons allow you to select either **Manual** or **Query Populated** types when creating the object group. This option is editable when creating the Object Group, but not after creation.
- Description—this is optional and is editable.

The Object List displays the member objects for an object group. The following attributes are displayed for each object:

- Object Path (physical view)
- IP Address
- Comment.

To see the available services on each object, right click on the object in the Object List (a pop up menu shows the available options.) You can select more than one object. Right click to display the pop up menu with the available options for the selected objects.

You can search for a specific object in the Object List by performing a string search on any column. Enter the search string in the search string field for the column. Press **Enter**. The first matching object found is highlighted. If the search item cannot be found, the list heading is highlighted and `No match found` is displayed in the Status bar at the bottom of the window. Press **Enter** again to find the next occurrence of the search item.

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**Note** The Object Group Manager has a wrap-around search facility.

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The Status bar shows the following information:


- Object Count—this field is completed automatically
- Creator—this field is completed automatically
- Query Run Time—this field is completed automatically.

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**Note** This information is auto-generated and is not user editable.

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An **Edit Query** option is available for selection when query populated is chosen as a type. From the **Edit** menu, select **Edit Query** or click the Edit Query icon  to open the Query Editor (refer to the “Query Configuration” section on page 7-15).

You can perform a query re-run. From the **Edit** menu, select **Re-run Query** or click the Re-run Query icon  on the Toolbar.

This action re-populates the object group displaying all objects which meet the query criteria in the Object List. The Query Run Time is also updated.

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**Note** Any manual object additions or removals which do not satisfy the query criteria are lost.

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From the **Edit** menu, you can also select **Add Objects** and **Remove Object(s)**. This gives you the option to manually add or remove objects.

From the **File** menu select **Close** or click on the  icon.

The message `Save Object Group changes?` is displayed. Click **Yes** to save the changes. Clicking **No** exits without creating the object group or saving the changes. You return to the Object Group Manager window.

Changes to the Object Group views may be made by other users. The changes to the Object Group view are displayed to all users.

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**Note** An object group must be created before it can be query populated, refer to [Creating an Object Group](#), page 7-8 for more information.

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If a user in one Cisco EMF session saves updates to an object group currently being edited or viewed in other Cisco EMF sessions, all other Object Group Editors currently editing or viewing the object group are automatically updated with the changes.

If an object group currently being viewed or edited in one Cisco EMF session is deleted by a user in another Cisco EMF session, the `This Object Group has been deleted` message is displayed. Click **Ok** and the Object Group Editor window closes.

## Resizing Columns in the Object List

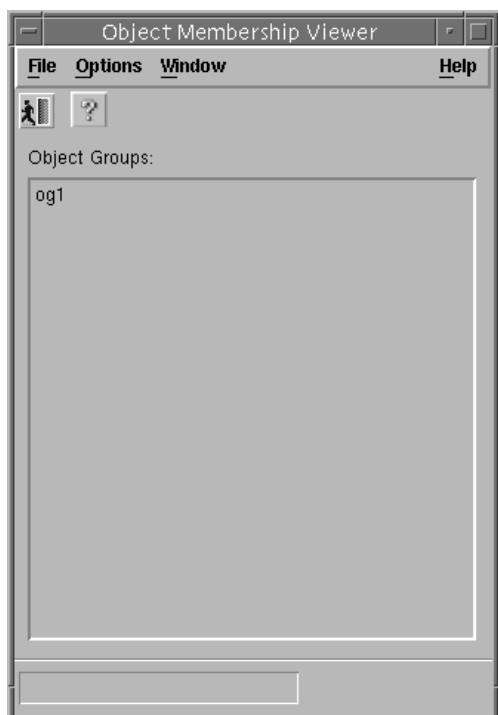
You can resize each column in the Object List as follows:


- Step 1** Place the cursor over the left or right hand edge of the column adjacent to the data entry box. The cursor changes.
- Step 2** Press and hold the left mouse button.
- Step 3** Drag the mouse until the required size is reached.
- Step 4** Release the mouse.

## The Object Group List Window

The Object Group List window is launched from the **Display Object Group Membership** service on the pop up menu available on each object on the network. It is displayed when the selected object is a member of one or more object groups.

Figure 7-5 Object Group List Window



This window lists all Object Groups the selected object is a member of. Select **Close** from the **File** menu or click the  icon to return to the previous window.

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**Note** If the selected object is not a member of any object group, the `Selected object is member of no object groups` message is displayed.

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## Creating an Object Group

You can create an object group in a folder in one of the following ways:

- you can create a new object group
- you can replicate an existing object group to create a new object group.

A new object group can be created in the root folder or in any sub-folder. A reference to the new object group is also created automatically in the system folder. You cannot create a new object group directly into the system folder.

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**Note** To create a new folder, refer to the “Creating Folders” section on page 7-14.

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**Step 1** Right click on the root folder or a sub-folder. From the pop up menu, select **Create Object Group**.

The Object Group Editor window is displayed.

**Step 2** Enter a unique object group name.

**Step 3** Select the type of object group:

- **Manual**—populated by manually adding/removing network objects to or from the object group
- **Query Populate**—populated as the result of a query.

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**Note** You can edit the name or description after an object group is created, however, you cannot change the object group’s type.

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**Step 4** Enter a **Description** (this is optional).

The **Creator**, **Object Count**, and **Query Run Time** information is displayed in the lower status section. This information is added automatically.

**Step 5** If the object group is to be query populated, you must set the query criteria to be used to create the object group (refer to the “Query Populating an Object Group” section on page 7-12.)

**Step 6** From the **File** menu select **Close** or click on the  icon.

The *Save Object Group changes?* message is displayed.

**Step 7** Click **Yes** to save the changes or **No** to exit without creating the object group. You return to the Object Group Manager window.

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**Note** An object group must be created before it can be manually populated. Close the Object Group Editor window, then select the **Edit Object Group** option to add objects (refer to the “Editing an Object Group” section on page 7-10.)

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**Note** If a query has been set up, the objects added as a result of the query are only seen after exiting the Object Group Editor, when the object group has been created.

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## Replicating an Object Group

You can create a new object group using the settings of an existing object group by using **Replicate Object Group**. This option replicates an existing object group, which must then be given a new name. This option is available from a selected object group's pop up menu in the Object Group Manager window.

**Step 1** Right click on the object group you want to replicate. From the pop up menu select **Replicate Object Group**.

The Please enter new object group name prompt is displayed.

**Step 2** Enter a unique object group name. Click **Ok** to proceed or **Cancel** to return to the Object Group Manager window.

The new object group is shown in the same folder as the original object group that was used for replication and is also added to the system folder.

## Editing an Object Group

This option is available on a single selected object. You can use this option to:

- rename an object group
- change the query criteria for query populated object groups
- change the description
- re-run a query
- manually add and remove object(s).

**Step 1** In the Object Group Manager window, select the object group to be edited.

**Step 2** Right click to display the pop up menu. Select **Edit Object Group**.

The Object Group Editor window is displayed.

**Step 3** Edit the object group name, if required.

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**Note** An object group name must be unique.

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**Step 4** Edit the description if desired (this is optional).


You cannot complete the **Creator**, **Object Count**, or **Query Run Time** information as this is created automatically.

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**Note** You cannot change the object group's type.

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**Step 5** If the object group is a query populated group, you can edit the query criteria which will be used to populate the object group (refer to the "Query Configuration" section on page 7-15.) The object group is then re-populated when the Object Group Editor is closed and saved, the query is run, and the objects added or removed, if appropriate, when the query is re-run. The **Query Run Time** information is updated automatically.

**Step 6** From the **File** menu, select **Close** or click on the  icon.

The `Save Object Group changes?` message is displayed. Click **Yes** to save the changes or **No** to exit without saving the object group changes. You return to the Object Group Manager window.

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**Note** Manual object additions or removals are committed (saved) immediately and not upon closing the editor window.

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**Note** If a query is edited and the **Re-run** query option is selected before the Editor has been closed, you are warned that rerunning the query will commit the query edits. You are asked if you want to continue.

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## Viewing an Object Group

This option allows you to view the object group and its member objects, however, you cannot perform edits. You also cannot view or rerun the query.

**Step 1** Select the object group to be viewed.


**Step 2** Right click to display the pop up menu. Select **View Object Group**.

The Object Group Editor window is displayed.

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**Note** No editing is possible in this window.


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**Step 3** From the **File** menu, select **Close** or click on the  icon. You return to the Object Group Manager window.

## Manually Adding Object(s)

To manually add objects to an object group, proceed as follows:

**Step 1** Select the object group you want to add objects to. Right click and select **Edit Object Group** from the pop up menu. The Object Group Editor window is displayed.

**Step 2** In the Object Group Editor window, from the **Edit** menu, select **Add Object(s)** or click the Add Object(s) icon  from the Toolbar.

- Step 3** The Object Selector window is displayed. This window shows all managed object views. You can expand or collapse the view(s). Select the object(s) you wish to add.
- Step 4** Click **Apply**. The selected object(s) are displayed in the List in the Object Group Editor window. The Object Count in the Object Group Editor window is updated. Click **Cancel** to close the Object Selector window without adding objects.


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**Note** Manually added objects are committed (saved) immediately and not upon closing the editor.

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## Manually Removing Object(s)

To manually remove objects from an object group, proceed as follows:

- Step 1** Select the object group from which you want to remove objects. Right click and select **Edit Object Group** from the pop up menu. The Object Group Editor window is displayed.
- Step 1** Select the object(s) you want to remove.
- Step 2** From the **Edit** menu, select **Remove Object(s)**, or click the  icon, or right click on the object(s) and select **Remove Object(s)** from the pop up menu. The object(s) are removed.

## Query Populating an Object Group

If the object group is to be query populated, you must set the query criteria to used to create the object group (refer to “Query Configuration” section on page 7-15.) The object group is then populated when that query is run and the objects are added or removed, if appropriate, when the query is rerun. The **Query Run Time** information is created or updated automatically.

## Copying an Object Group

You may want an object group to appear in more than one place in the Object Groups view. You can copy a reference to an object group and paste it into another folder in the view.

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**Note** Only one actual object group exists, however, you can have more than one reference to that group in the Object Groups view.

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- Step 1** Right click on the object group to be copied. From the pop up menu, select **Copy**.
- Step 2** Select the new location folder for the object group reference.

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**Note** This is the folder in which you want to have a new reference to the object group.

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- Step 3** Right click on the folder. From the pop up menu, select **Paste**. The new reference to the object group is added to this folder.

## Removing Object Group References

A reference to an object group can be located in more than one folder in the Object Groups view. For example, it may be referenced as a group of the same object type, such as DSLAMs created in a physical classification folder, and also as a reference to an object group location or a similar group of hardware items located at a particular NOC. Each instance is simply a reference to that object group.

You may want to remove an object group reference from one folder but retain it in others. Use **Remove Object Group Reference(s)** to do this. This option removes only the selected object group reference(s) from their folder(s). All references to the selected object group(s) in other folder(s), remain intact.

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**Note** When an object group reference is removed from a folder, it is reflected in all instances of that folder within the Object Groups view.

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**Note** This option does not delete the object group and is not available in the system folder.

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To remove the selected reference to an object group:

- Step 1** Select the object group(s) to be removed.
- Step 2** Right click to display the pop up menu. Select **Remove Object Group Reference(s)**.  
The reference to the object group is removed.

## Deleting Object Groups

If you want to delete the object group so it is removed completely from your Object Groups view, use **Delete Object Group(s)**. This option deletes the object group and removes all reference(s) to that object group from the view.

To delete an object group:

- Step 1** Select the object group(s) to be deleted.
- Step 2** Right click to display the pop up menu. Select **Delete Object Group(s)**.
- Step 3** The `This operation will delete selected object group(s)` message is displayed. Click **Yes** to proceed or **No** to cancel.

## Creating Folders

You can create a folder from the root folder or any other folder in the Object Groups view as follows:

**Step 1** Right click on the root folder or any other folder. From the pop up menu select **Create Folder**.

**Step 2** The `Please enter folder name` prompt is displayed. Enter the folder name.

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**Note** A folder name must be unique. A folder may have the same name as an object group.

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**Step 3** Click **Ok** to proceed or **Cancel** to return to the Object Group Manager window.

## Copying Folders

You may want a folder to be located in more than one place in the Object Groups view. You can create another reference to an existing folder, as follows:

**Step 1** Right click on the folder to be copied. From the pop up menu select **Copy**.

**Step 2** Select the new location for the folder.

**Step 3** Right click on the location folder. From the pop up menu, select **Paste**. The reference to the new folder is shown in the new folder.

## Removing a Folder Reference(s)

A folder can be located in more than one parent folder in the Object Groups view. Each instance of a folder is a reference to that folder. You may want to remove a folder from one or more parent folders, but retain it in others. Use the **Remove Folder Reference(s)** option to do this. This option removes only the selected folder reference(s) from their parent folder(s). All references to the selected folder(s) in other parent folder(s) remain intact.

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**Note** When a folder reference is removed from a parent folder, it is reflected in all instances of that parent folder within the Object Groups view.

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**Note** You can only remove a folder instance that contains objects if there is another reference to that folder elsewhere in the Object Group view.

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**Note** Removing the last reference to a folder in the Object Groups view deletes the folder.

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To remove the selected reference to a folder:

**Step 1** Select the folder(s) to be removed.

**Step 2** Right click to display the pop up menu. Select **Remove Folder Reference(s)**.

The reference(s) to the folder is removed.

## Deleting Folders

To delete all references to a folder:

**Step 1** Select the folder(s) to be deleted.

**Step 2** Right click to display the pop up menu. Select **Delete Folder(s)**.

The This operation will delete selected folder(s) message is displayed.

**Step 3** Click **Yes** to proceed or **No** to cancel.

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**Note** The folder must be empty. If object groups or sub-folders exist in the folder, the message Selected folder is not empty is displayed.

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## Query Configuration

The Object Group Manager gives you the option to create object groups based on a query. The criteria are set up using queries which can be configured to match your requirements. With queries, you can choose to include or exclude devices or criteria (for example, you could choose to group particular devices or choose to create object groups with the same IP address). You define query criteria so the Object Group Manager will populate a query populated group that meets this criteria.

All query based object groups have a time stamp called **Query Run Time** that shows when the query was last run.

You can set up the following query criteria:

- Object Scope
- Object Class
- Object Attribute Presence
- Object Attribute Value.

Refer to Chapter 11, “Query Editor,” for more information.

