Chapter 3

Understanding the User Interface

This chapter describes the graphical user interface (GUI) of the NMC-RX application, which you use to manage and monitor E-series devices.

This chapter contains the following sections:

- Overview on page 25
- Using the NMC-RX Application on page 26
- Understanding the Interface Layout on page 27
- Using the Network Workshop on page 32
- Using the Device Workshop on page 33
- Working with Objects on page 38

Overview

The NMC-RX application uses a workshop paradigm for its design. This chapter discusses the graphical layout of the application, explains how to navigate through the GUI, and describes the workshops that you use to configure groups and devices.

Using the NMC-RX Application

The NMC-RX application uses many standard conventions employed in other Microsoft Windows software applications.

Starting the NMC-RX Application

You must start the database and several services before you can start the NMC-RX application.

To start the NMC-RX application:

1. Double-click the appropriate NMC-RX Database icon.

   This icon represents the Sybase Adaptive Server Anywhere program, which must be running before you start the NMC-RX application.

2. Double-click the NMC-RX Polling icon.

3. Double-click the CfgSyncSvc < *serviceID* > icons to start each Config Sync Service.

4. Double-click the NMC-RX icon.

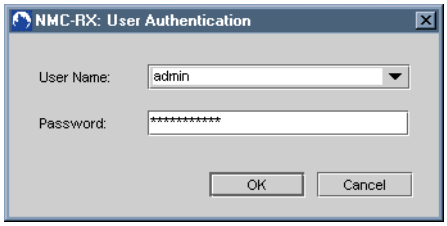
   The splash screen and the NMC-RX User Authentication dialog box appear.

5. Enter your username and password, and then click OK.

   The Network Workshop window appears.

Logging In

When you run the NMC-RX application, the NMC-RX User Authentication dialog box appears.



Your username and password prevent unauthorized users from accessing your device configuration. Only users with a security privilege can create a new user. Users, however, can change their own passwords.

Default Administrator

To log in as the default administrator:

1. For initial login, accept the default username: admin.
2. Enter the default password: **nmc-rxadmin**
3. Click OK.

   The Network Workshop window appears.

   You can change the default admin password (nmc-rxadmin), but you cannot change or delete the default username (admin).

NOTE: We strongly suggest that you change the admin password and store it in a secure location. See *Chapter 8, Configuring Security Settings*.

Exiting the NMC-RX Application

To exit the application, choose Exit from the File menu, or click ☒ in the window title bar.

Understanding the Interface Layout

The NMC-RX application uses two workshops—the Network Workshop and the Device Workshop. Each workshop window is composed of five major areas, as shown in Figure 6 and described in Table 6.

Figure 6: Workshop Areas

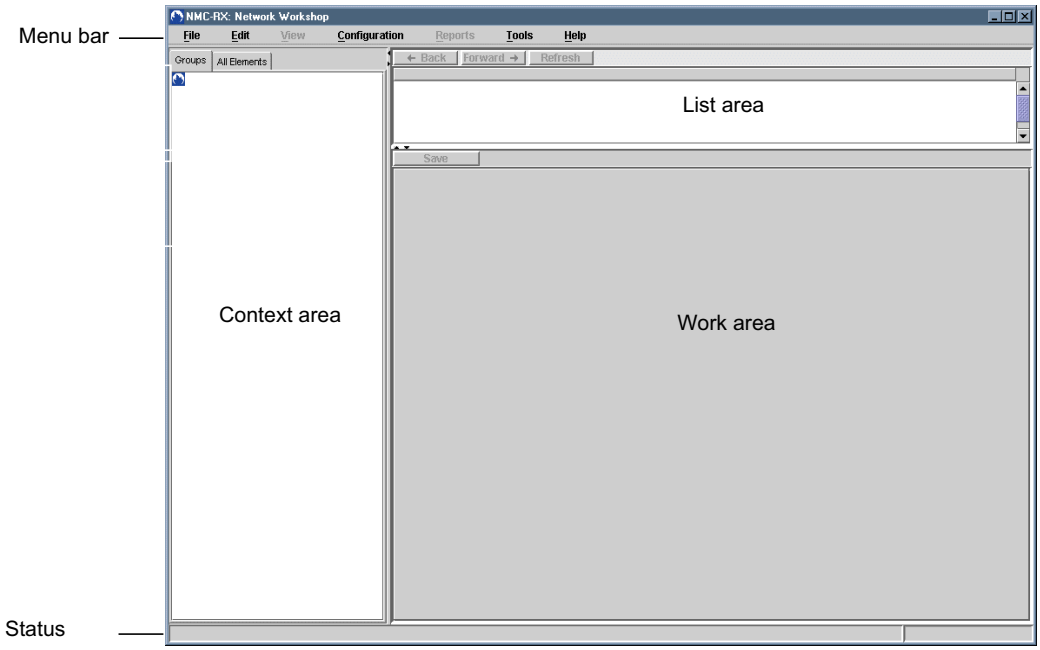


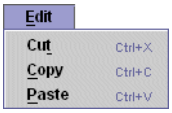
Table 6: Workshop Areas

Area	Displays
Menu bar	Menu from which you can select commands
Context	All the managed objects; used to select an object
List	Tabular list of one or more objects that match the criteria specified by a query from the context area
Status	Current status of the NMC-RX application
Work	Information about a selected object; you can modify the information, if applicable

Using the Menu Bar

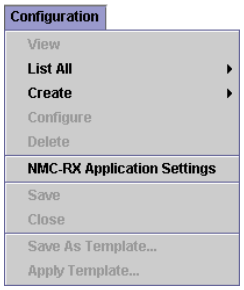
The menu bar lets you execute commands that are related to each of the menus. See the following tables for information about each menu command.

Menu	Command	Action
File	Exit	Exit the application.



Menu	Command	Action
Edit	Cut	Delete text.
	Copy	Copy text.
	Paste	Insert the text from the clipboard that was cut or copied into the place you want it.

Menu	Command	Action
View	Instance Explorer	Hide or show the tree of the instances of the device in the Device-wide Explorer.

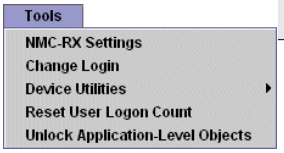


Menu	Command	Action
Configuration	View	View an object configuration; opens the work area for viewing the current configuration of the object.

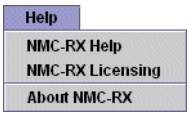
Menu	Command	Action
	List All	List all objects of a particular type. The following network-wide types are always available: ■ Accounting Server ■ Authentication Server ■ Customer ■ DHCP Relay Server ■ IP Tunnel Connection ■ Profile ■ SMDS Tunnels Connection ■ User Profile ■ Virtual LAN **NOTE:** Additional objects appear in the list when you select an object.
	Create	Create objects of a particular type. The following network-wide types are always available: ■ Accounting Server ■ Authentication Server ■ Customer ■ DHCP Relay Server ■ IP Tunnel Connection ■ Profile ■ SMDS Tunnels Connection ■ User Profile ■ Virtual LAN **NOTE:** Additional objects appear in the list when you select an object.
	Configure	Open the appropriate work area and configure an object.
	Delete	Delete a selected object.
	NMC-RX Application Settings	Configure application-wide parameters for Config Sync Services, Polling Service, Remote Login, NMC-RX User Authentication, User Inactivity Timer, and Software Download. **NOTE:** This menu item is available only to users with security or device maintenance privileges. If you have both privileges and try to access a security or device maintenance tab when another user is accessing one or the other, a warning dialog box appears indicating that the tab is locked. You can access only the set of tabs (security or device maintenance) that are not locked.
	Save	Save an object configuration.
	Close	Close an open work area.

Menu	Command	Action
	Save As Template...	Save a configuration as a template that you can use to configure new entities.
	Apply Template...	Select a template to apply to the object displayed in the work area.

Menu	
Reports	Currently not implemented.



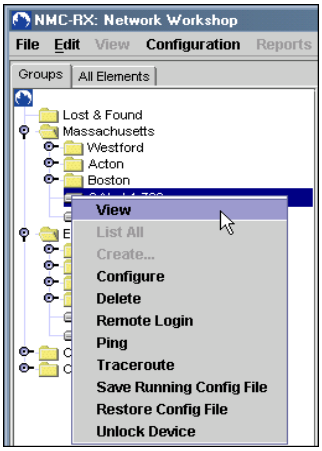
Menu	Command	Action
Tools	NMC-RX Settings	Open the Resource Configurator, a standalone application that provides easy access to configuring the NMC-RX database, SNMP, or Polling Service.
	Change Login	Log in as a different user; cannot run this option when any creation dialog boxes or device workshops are open.
	Device Utilities	Run the following utilities: ■ Remote Login ■ Ping ■ Traceroute ■ Save Running Config File ■ Restore Config File
	Reset User Logon Count	Reset the count to get the database synchronized. If the database gets into a state in which it thinks a user is logged in and the user is not (whatever the reason), then the NMC-RX user with security privileges can reset the count.
	Unlock Application-Level Objects	Release, or unlock, the reserved status for a device or a network-wide setting. Lockups may occur, for example, when a user is configuring, modifying, or deleting a device and the NMC-RX application abnormally terminates. **NOTE:** Only users with security privileges have access to the **Unlock** command. To unlock a device: ■ Select the device that you want to unlock, right-click, and choose Unlock from the Device Utilities menu. To unlock network-wide settings: ■ From the Tools menu, select Device Utilities, and click Unlock.



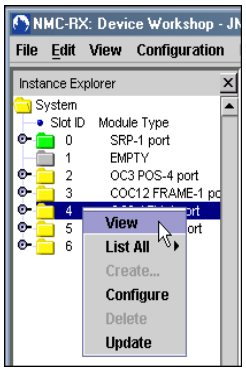
Menu	Command	Action
Help	NMC-RX Help	Start the online help system.
	NMC-RX Licensing	Edit license info and review number of devices allowed by license agreement.
	About NMC-RX	Display the version number.

Using Pop-Up Menus

If you select an instance or object type and then right-click, a pop-up menu appears. Available commands relative to the selected object appear. If the command appears dimmed, it is not available.



Pop-up menu at the system level



Pop-up menu at the module level

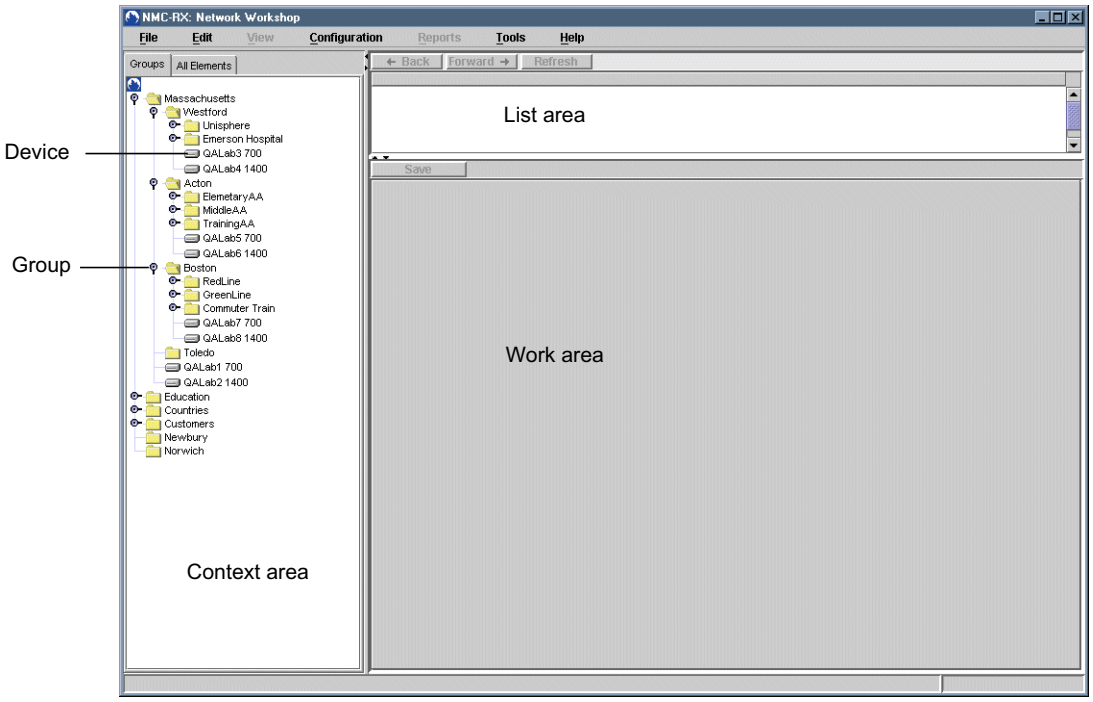
NOTE: After selecting an object in the context or list area, you can right-click anywhere within the NMC-RX application to display its pop-up menu.

For more information about how to use the five action commands, see Using the Network Workshop on page 32.

Using the Network Workshop

The Network Workshop acts as the home base of the application and is the first window displayed when the NMC-RX application opens. From here, you can examine all managed elements in your network, create groups and devices, and arrange them in a logical manner.

Figure 7: Network Workshop



After you establish a meaningful hierarchy, you can easily navigate to any given device. In the context area, you can list the groups and elements to which you have access. Depending on your privilege level, the context area enables you to:

- Create groups
- View and configure groups
- Organize groups into a hierarchy
- Create devices
- Access the Device Workshop

Listing Groups and Elements

The context area in the Network Workshop lets you display groups or elements. To display all groups or elements in your network, click the corresponding tab in the context area:

- Groups tab—Provides a hierarchical listing of all the groups and their associated elements
- All Elements tab—Provides a flat, tabular list of all the elements

Creating Objects

If you are a user with security privileges, you can create a number of objects from the Network Workshop, which include:

- Group
- E-series router
- Accounting server
- Authentication server
- Customer
- DHCP relay server
- IP tunnel connection
- Profile
- SMDS tunnel connection
- User profile
- Virtual LAN

Using the Device Workshop

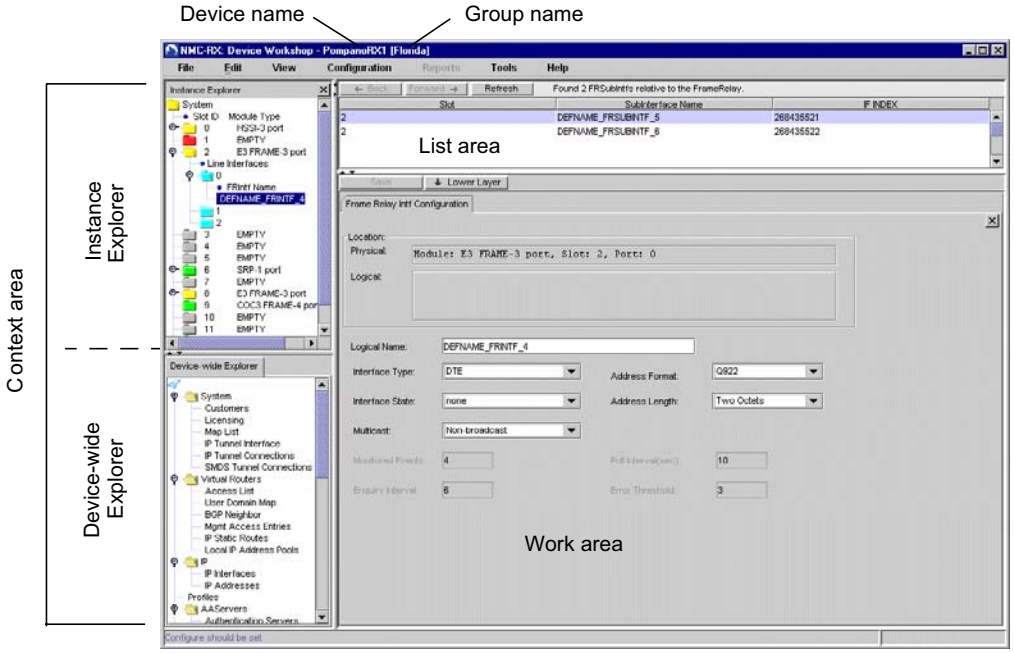
The Device Workshop lets you create, configure, view, list, and delete all objects associated with the particular device. (Some objects also have statistics.)

You can open a Device Workshop in two ways:

- Double-click a device from the context area of the Network Workshop.
- Select a device from the context area of the Network Workshop, right-click, and select Configure.

NOTE: You can open up to three Device Workshops simultaneously.

Only protocols related to the type of Juniper Networks device that you are working with appear in the context area.



NOTE: The Device Workshop title bar displays the name of the device that you are configuring, as well as the group that contains the device.

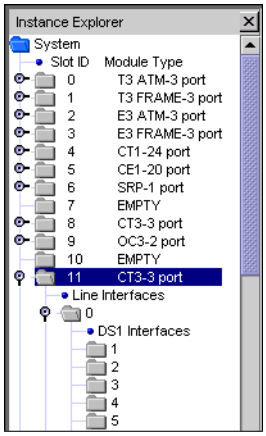
Using the Context Area

The context area in the Device Workshop lets you access an object configuration. The context area is divided into two sections—the Instance Explorer (top) and the Device-wide Explorer (bottom).

Instance Explorer

The Instance Explorer lists instances of the device. From the Instance Explorer, you can navigate a hierarchy based on the physical elements starting at the system level. You can then select a particular module/slot and move through the upper layers (such as interfaces, subinterfaces, and circuits) to fully configure the device.

Figure 8: Instance Explorer

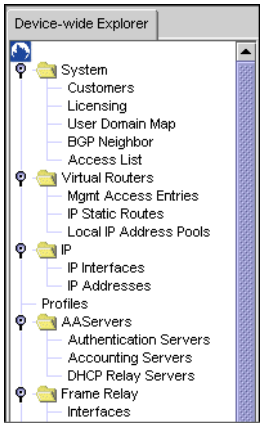


E-series device

Device-wide Explorer

The Device-wide Explorer lists object types, such as IP interfaces and virtual routers. Select the object, right-click, and select List All to list all instances of the object that are configured on the E-series router.

Figure 9: Device-wide Explorer



E-series device

Using the List Area

The list area displays the results of a List All command. Each entry in the list area is capable of responding to all actions and queries applicable to the particular instance.

To sort objects in the list area alphabetically, click the column header. When you click the header a second time, the objects sort in reverse order.

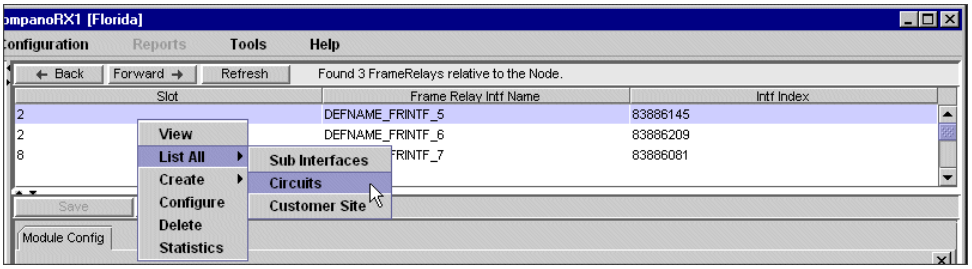
To display entries in the list area:

1. Select an instance in the list area, and right-click.

   A menu of available commands appears.

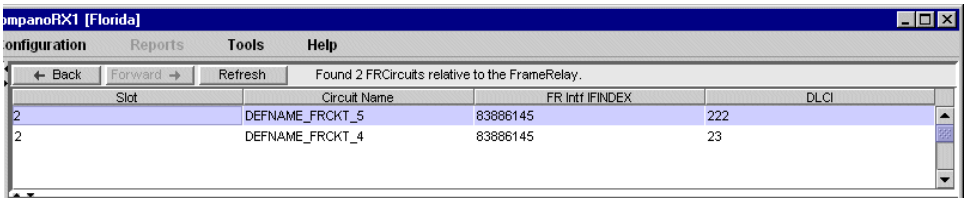
2. Click List All.

   A list of the objects that you can display in the list area appears.



3. Click an object type from the list.

   The list area displays the list of objects relative to the instance selected. In this example, it is a list of circuits.



The Back and Forward buttons at the top of the list area let you return to the previous list (Back) and move to the next list (Forward). The previous and next lists may be for a different object type than the current list display. You can also click Refresh to update the list.

4. From the list area, click the instance that you want to configure.

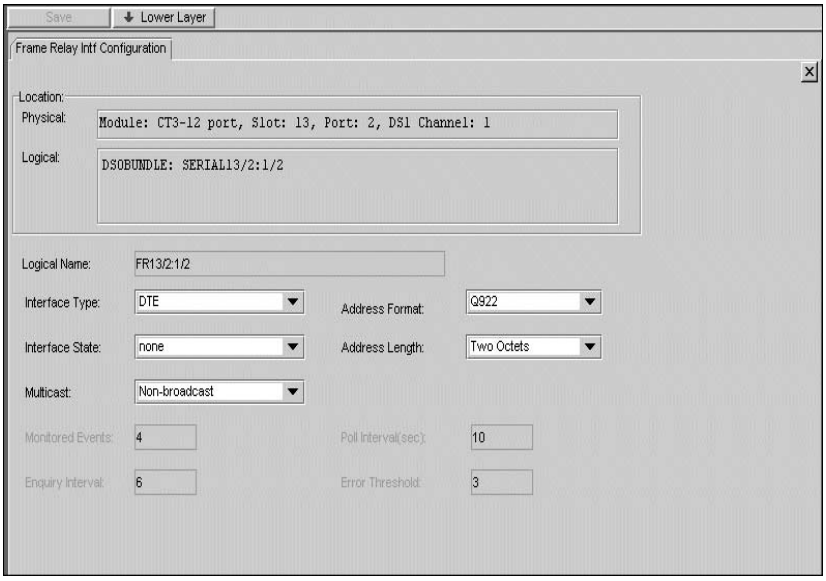
NOTE: Read-only users cannot configure objects.

5. Right-click, and select Configure.

   The Config tab for configuring the selected instance appears in the work area.

Using the Work Area

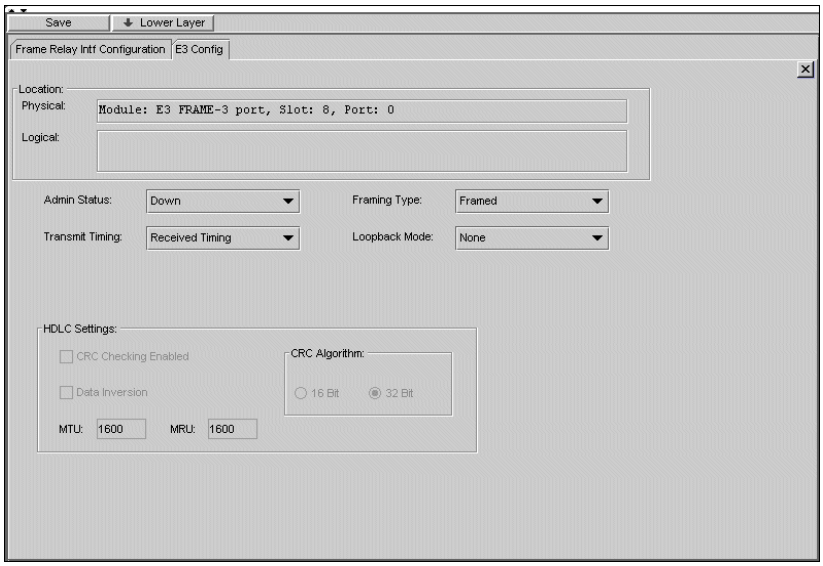
The work area of the Network Workshop and the Device Workshop displays a configuration tab for an object in either read-only (view) or read/write (configure) mode.



When you finish editing the parameters (in this case, for a Frame Relay interface), click Save at the top of the area to save the settings.

NOTE: The Save button becomes active only if you make changes to your original configuration.

If there is a layer below the one that you are configuring (such as a subinterface), the Lower Layer button is enabled. Click the button, and then click the corresponding tab to view the configuration of the lower layer.



Working with Objects

From the Network Workshop and the Device Workshop, you can select objects and perform the following operations:

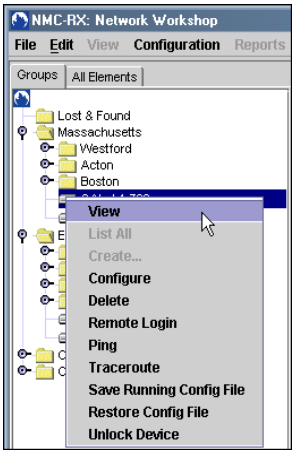
- View
- List All
- Create
- Configure
- Delete

You can access these operations several ways:

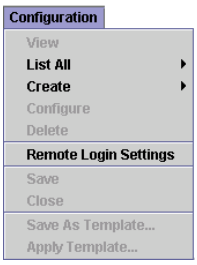
If the operation appears dimmed, it is not available for the selected object.

- **Network Workshop**—You can choose an operation from both the context area and the list area pop-up menus. You can also choose the operation from the Configuration menu. (See Figure 10.)

Figure 10: Accessing Common Operations in the Network Workshop



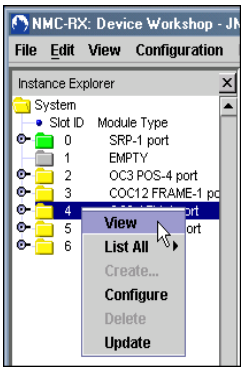
Select an object, right-click, and click an operation.



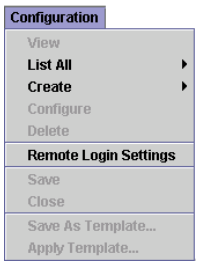
Select an object, and then choose an operation from the Configuration menu.

- **Device Workshop**—You can choose an operation from the Instance Explorer, Device-wide Explorer, and list area pop-up menus. You can also choose the operation from the Configuration menu. (See Figure 11.)

Figure 11: Accessing Common Operations in the Device Workshop



Select an object, right-click, and click an operation.



Select an object, and then choose an operation from the Configuration menu.

Operations

A user privilege level determines which operations that a user can perform. Table 7 lists the operations that a user can perform in each privilege level. See the following sections for more information about each operation.

Table 7: Operations Supported by User Privilege Level

Privilege Level	View	List All	Create	Configure	Delete
Security	Yes	Yes	Yes	Yes	Yes
Read/write	Yes	Yes	Partial[a]	Partial[a]	Partial[a]
Read-only	Yes	Yes	No	Partial[a]	No

a.See *Chapter 8, Configuring Security Settings* for additional information.

View

Use the **View** command to display the current configuration for an object. You can review detailed information and check parameter settings for the object, but you cannot change any settings. There are no user restrictions to use the View option.

To view an object, click the object in the Network Workshop or the Device Workshop. The current configuration for the object appears in the work area.

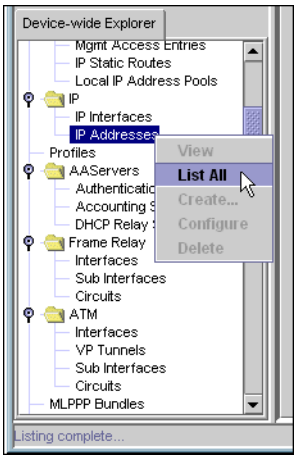
List All

Use the **List All** command to display all objects of the same type. Whether you use List All from the Network Workshop or Device Workshop, the list of objects always appears in the list area.

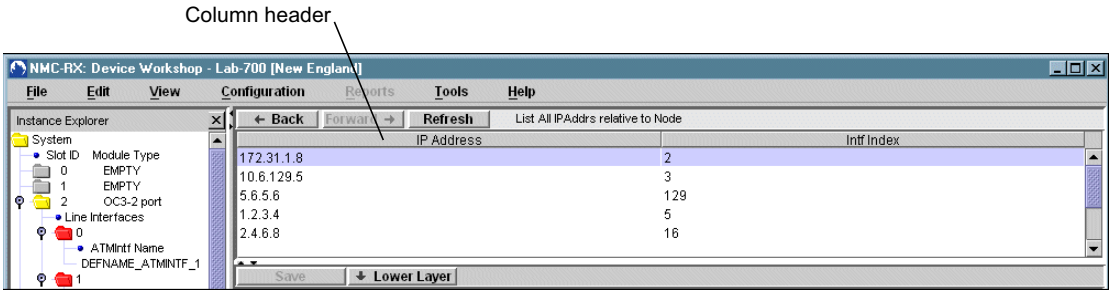
The **List All** command can be very useful. When you list all objects of one type, you can quickly locate many objects. You can also use List All to display all objects associated with another higher-level object. For example, you can list all subinterfaces associated with a particular interface or customer sites associated with a certain customer.

- **Device-wide Explorer**—In the Device-wide Explorer, you can use List All to list all the objects of a particular type that are associated with a particular device.

  To list all objects, select the object that you want to list, right-click, and select List All. For example:



In this case, all IP addresses associated with the device appear in the list area.



You can sort objects in the list area alphabetically by clicking the column header. If you click the header a second time, the objects are sorted in reverse order.

- **Instance Explorer**—In the Instance Explorer, use the **List All** command to list different types of objects associated with a specific instance.

  To list all objects, first select the instance with which you want to associate the object. Then right-click, select List All, and click the type of object you want to list.

- **Configuration menu**—Use the Configuration menu to access List All for many network-wide objects, such as virtual LANs, profiles, and servers.

  To list all objects, from the Configuration menu, click List All, and click the object that you want to list.

  When you select **List All** from the Configuration menu, you can list all objects that are associated with the selected object in the Instance Explorer.

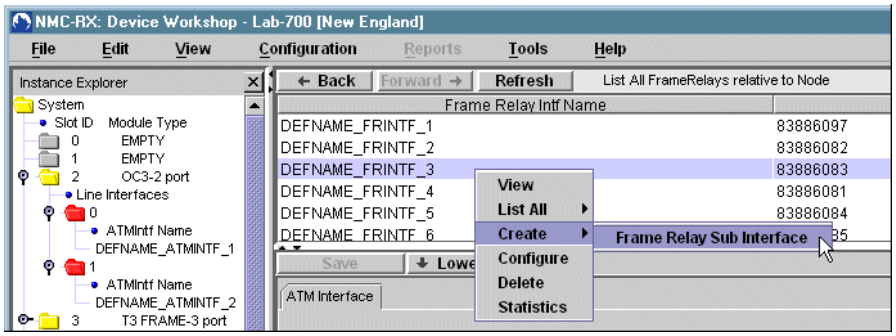
Create

Use the **Create** command to create a new object, assign it a name, and set its parameters. For example, depending on your user privilege, you can create an object such as an interface, subinterface, or circuit.

Because every Create dialog box is different, each Create action is described in the chapter that discusses the object type, but the premise is the same:

1. Select the instance with which you want to associate a new object.

2. Right-click, select Create, and click the object type that you want to create. For example, you can create a Frame Relay subinterface from a Frame Relay interface instance selected in the list area.



3. Set the parameters, and click OK.

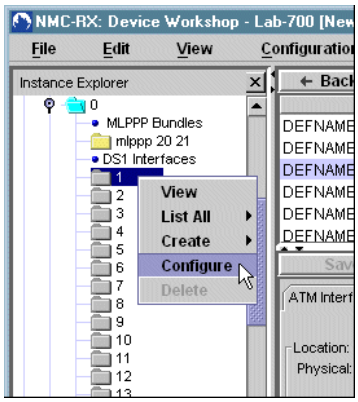
   The new object appears in the appropriate area; for example, the Instance Explorer or the list area.

Configure

Use the **Configure** command to modify the parameters for an object. For example, you can rename an object or change its parameter settings.

To configure an object:

1. In the Instance Explorer or the list area, select the object that you want to configure, right-click, and select Configure.



   The Configuration tab for the object appears in the work area.

2. Modify the parameters, and click Save.

   Changes are sent to the E-series device and saved in the NMC-RX database. (Some changes, such as those to groups and customer profiles, are sent only to the database.)

Delete

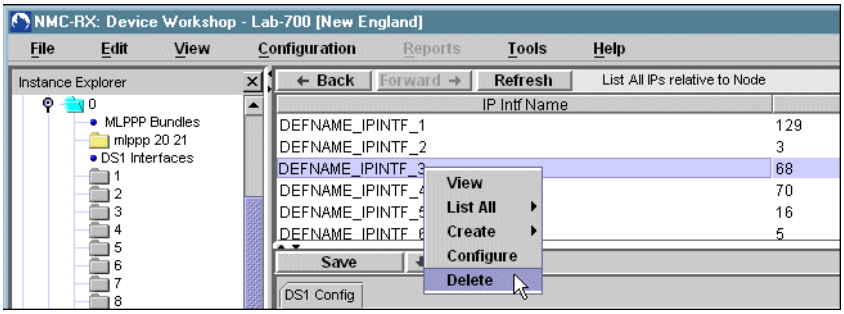
Use the **Delete** command to remove an object permanently from the NMC-RX application. Only users with security privileges can delete an object.

Read/write and read-only users cannot delete groups, devices, or user profiles. If you are a read/write user and do not have access to the device, you cannot delete it. However, you may unmap the device. When you unmap the device, it is removed from its place in the hierarchy, but is left in the NMC-RX database.

You cannot delete a user profile that is associated to a Config Sync Service or a Polling Service.

To delete an object:

1. In the Instance Explorer or the list area, select the object that you want to delete, right-click, and select Delete.



   The Confirm Delete dialog box appears.

2. Click OK.

NOTE: If you delete an instance in the Device Workshop, the object is deleted from the E-series device and from the database. (Some deletions, such as groups and customer profiles, are deleted only from the database.)