Cisco Prime Network Registrar User Interfaces

Cisco Prime Network Registrar provides a regional and a local web UI and a regional and local CLI to manage the CDNS, DNS, DHCP, TFTP, and CCM servers:

- **Web UI for the regional cluster to access local cluster servers**—See Regional Cluster Web UI, on page 12.

- **Web UI for the local cluster**—See Local Cluster Web UI, on page 8.

- **CLI for the local clusters**—Open the **CLIContent.html** file in the installation /docs directory (see Command Line Interface, on page 12).

- **REST API**—See REST API, on page 14.

- **CCM servers that provide the infrastructure to support these interfaces**— See Central Configuration Management Server.

This chapter describes the Cisco Prime Network Registrar user interfaces and the services that the CCM servers provide. Read this chapter before starting to configure the Cisco Prime Network Registrar servers so that you become familiar with each user interface capability.

Management Components

Cisco Prime Network Registrar contains two management components:

- Regional component, consisting of:

  - Web UI

  - CLI

  - CCM Server

- Simple Network Management Protocol (SNMP) server

- Local component, consisting of:

  - Web UI

  - CLI

  - CCM server

  - Authoritative Domain Name System (DNS) server

  - Caching / Recursive Domain Name System (CDNS) server

  - Dynamic Host Configuration Protocol (DHCP) server

  - Trivial File Transfer Protocol (TFTP) server

  - SNMP server

  - Management of local address space, zones, scopes, DHCPv6 prefixes and links, and users

Note　Cisco Prime Network Registrar includes a Hybrid DNS feature that allows you to run both the Caching DNS and Authoritative DNS servers on the same operating system without two separate virtual or physical machines. However, Cisco recommends hybrid mode for smaller sized deployments only. For larger deployments, Cisco recommends separating Caching and Authoritative DNS on separate physical machines or VMs.

License management is done from the regional cluster when Cisco Prime Network Registrar is installed. You must install the regional server first and load all licenses in the regional server. When you install the local cluster, it registers with regional to obtain its license.

The regional CCM server provides central management of local clusters, with an aggregated view of DHCP address space and DNS zones. It provides management of the distributed address space, zones, scopes, DHCPv6 prefixes and links, and users.

The local CCM server provides management of the local address space, zones, scopes, DHCPv6 prefixes and links, and users.

The remainder of this chapter describes the TFTP and SNMP protocols. The CCM server, web UI, and CLI are described in Cisco Prime Network Registrar User Interfaces, on page 1. The DNS, CDNS, and DHCP servers are described in their respective sections.

Introduction to the Web-Based User Interfaces

The web UI provides granular access to configuration data through user roles and constraints. The UI provides quick access to common functions. The web UI granularity is described in the following sections.

Supported Web Browsers

The web UI has been tested on Microsoft Edge 89, Mozilla Firefox 86, and Google Chrome 89. Internet Explorer is not supported.

Access Security

At Cisco Prime Network Registrar installation, you can choose to configure HTTPS to support secure client access to the web UI. You must specify the HTTPS port number and provide the keystore at that time. With HTTPS security in effect, the web UI Login page indicates that the "Page is SSL[1] Secure."

Note Do not use a dollar sign (**$**) symbol as part of a keystore password.

Logging in to the Web UI

You can log in to the Cisco Prime Network Registrar local or regional cluster web UI by HTTPS secure login. After installing Cisco Prime Network Registrar, open one of the supported web browsers and specify the login location URL in the browser address. Login is convenient and provides some memory features to increase the login speed.

You can log in using a secure login as follows:

Open the web browser and go to the website. For example, if default ports were used during the installation, the URLs would be **https://***hostname***:8443** for the local cluster web UI, and **https://***hostname***:8453** for the regional cluster web UI.

Note Open the regional web UI first and add the licenses for the required services.

If you are logging in for the first time, this opens the Add Superuser Administrator page. Enter the superuser administrator name and password, and then click the **Add** button.

Smart Licensing is enabled by default in Cisco Prime Network Registrar. Click the **Configure Smart Licensing** link in the alert window to open the Smart Software Licensing page and set up Smart Licensing. For details, see Use Cisco Smart Licensing. If you want to use traditional licensing, you must disable Smart Licensing first (see Disabling Smart Licensing). Then, enter the license information as follows:

Click **Use Traditional Licensing**, then click **Browse** in the New Product Installation page, and add the valid license. If the license key is acceptable, the Cisco Prime Network Registrar login page is displayed.

Note You can add the licenses only in the regional server. The local has to be registered to the regional at the time of installation to run the desired licensed services.

In the local server, confirm the regional server IP address and port number and also the services you want to run at the time of your first login. Click **Register** to confirm registration. If the regional server is configured with the required licenses, the login page is displayed.

Enter the superuser username and password that is created during the first login to log in to the web UI. The password is case-sensitive (see Managing Passwords).

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[1] This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

Note There is no default username or password for login.

Depending on how your browser is set up, you might be able to abbreviate the account name or choose it from a drop-down list while setting the username.

To log in, click **Log In**.

The Configuration Summary page is displayed by default which shows the summary of configuration details on the cluster. The Configuration Summary page on the regional cluster displays the configured failover-pairs and zone distributions which further can display the underlying cluster or HA pairs. You can use the graphical utilities such as **Show Visualization** icon (⌣) or **Show Table View** icon (☰) in the chart to view the network data in chart or table format.

Multiple Users

The Cisco Prime Network Registrar user interfaces support multiple, concurrent users. If two users try to access the same object record or data, a **Modified object** error will occur for the second user. If you receive this error while editing user data, do the following:

   • **In the web UI**—Cancel the edits and refresh the list. Changes made by the first user will be reflected in the list. Redo the edits, if necessary.

   • **In the CLI**—Use the **session cache refresh** command to clear the current edits, before viewing the changes and making further edits. Make changes, if you feel that it is necessary even after the other user's changes.

Changing Passwords

Whenever you edit a password on a web UI page, it is displayed as a string of eight dots. The actual password value is never sent to the web browser. So, if you change the password, the field is automatically cleared. You must enter the new password value completely, exactly as you want it to be.

Note The password should not be more than 255 characters long.

For details on changing administrator passwords at the local and regional cluster, see Managing Passwords.

Navigating the Web UI

The web UI provides a hierarchy of pages based on the functionality you desire and the thread you are following as part of your administration tasks. The page hierarchy prevents you from getting lost easily.

Caution Do not use the Back button of the browser. Always use the navigation menu, or the **Cancel** button on the page to return to a previous page. Using the browser Back button can cause erratic behavior or can cause failures.

A single sign-on feature is available to connect between the regional and local clusters. The regional cluster web UI pages include the Connect button in the List/Add Remote clusters page, which you can click to connect to the local cluster associated with the icon. If you have single sign-on privileges to the local cluster, the connection takes you to the related local server management page (or a related page for related server configurations). If you do not have these privileges, the connection takes you to the login page for the local cluster. To return to the regional cluster, local cluster pages have the Return button on the main toolbar.

Note   To protect against vulnerabilities, strict SameSite support for cookies has been added to the web UI in Cisco Prime Network Registrar 11.1. The attribute to control this is in the context.xml file in the tomcat/conf folder. If single sign-on support is required, in the tomcat/conf/context.xml file, delete the line `<CookieProcessor sameSiteCookies="strict" />` or change the line to `<CookieProcessor sameSiteCookies="none" />`. You must restart the server agent for the changes to take effect.

The Search bar in the navigation menu provides an easy way to search for menus. The Pin icon in the top right corner of the navigation menu helps to pin/unpin the menu.

Cisco Prime Network Registrar provides a facility to save the frequently used pages/menus as favorites, which helps in accessing them easily. To configure the page/menu as favorite, after navigating to the desired menu, click the Favorite icon (star icon (⋆) next to the navigation path), provide the appropriate name, and then click **OK**. The pages/menus which are configured as favorites appear under the Favorites section of the global navigation. You can delete the menus from the favorites list by clicking the Delete icon next to them. Configuration Summary page is listed under the Favorites section by default.

Note   Click the double arrow icon (⧉) in any page to view the hidden options/functionalities.

Note   Navigation menu items can vary based on if you have the role privileges for IPv4 or IPv6. For example, the **Design** menu can be **DHCPv4** and **DHCPv6** if you have the ipv6-management subrole of the addrblock-admin role assigned.

Waiting for Page Resolution Before Proceeding

Operations performed in the web UI, such as resynchronizing or replicating data from server clusters, are synchronous in that they do not return control to the browser until the operation is completed. These operations display confirmation messages in blue text. Also, the browsers display a wait cursor while the operation is in progress.

Tip   Wait for each operation in the web UI to finish before you begin a new operation. If the browser becomes impaired, close the browser, reopen it, then log in again. Some operations like zone distributions can take significant amount of time, so you may have to wait till the operation completes.

Committing Changes in the Web UI

You do not actually commit the page entries you make until you click **Save** on the page. You can delete items using the Delete icon. To prevent unwanted deletions, a Confirm Delete dialog box appears in many cases so that you have a chance to confirm or cancel the deletion.

Role and Attribute Visibility Settings

Click the **Settings** drop-down list on the toolbar at the top of the main page to modify user preferences, session settings, user permissions, or debug settings.

- To view the user groups and roles for the administrator, select the **User Preferences** option. Superuser is a special kind of administrator. (For details how to set up these administrator roles, see Create the Administrators.)

- Select **Session Settings** to open the Session Settings dialog, select the mode from the **Session Web UI Mode** drop-down list, and click **Modify Session Settings**. You can also click the drop-down arrow of the Mode icon (⊟▾) to view the list of modes. Select the required mode from the list:

    - **Basic**—Basic user mode (the preset choice).

    - **Advanced**—Advanced user mode that exposes the normal attributes.

    - **Expert**—Expert user mode that exposes a set of attributes that are relevant for fine-tuning or troubleshooting the configuration. In most cases, you would accept the default values for these expert attributes and not change them without guidance from the Cisco Technical Assistance Center (TAC). Each Expert mode attribute is marked with a Warning icon on the configuration pages. Each page is clearly marked as being in Expert mode.

Displaying and Modifying Attributes

Many of the web UI pages, such as those for servers, zones, and scopes, include attribute settings that correspond to those you can set using the CLI. (The CLI name equivalents appear under the attribute name.) The attributes are categorized into groups by their function, with the more prominent attributes listed first and the ones less often configured nearer the bottom of the page.

Grouping and Sorting Attributes

On many Advanced mode web UI pages, you can toggle between showing attributes in groups and in alphabetical order. These pages generally open by default in group view so that you can see the attributes in their respective categories. However, in the case of large numbers of attributes, you might want to see the attributes alphabetized. Click **Show A-Z View** to change the page to show the attributes alphabetically. Click **Show Group View** to change the page to show the attributes in groups. You can also expand or collapse the attribute groups in group view by clicking **Expand All** or **Collapse All**. In Expert mode, the Expert mode attributes are alphabetized separately further down the page under the Visibility=3 heading and are all marked with the Warning icon.

Modifying Attributes

You can modify attribute values and unset those for optional attributes. In many cases, these attributes have preset values, which are listed under the **Default** column on the page. The explicit value overrides the default

one, but the default one is always the fallback. If there is no default value, unsetting the explicit value removes all values for that attribute.

Displaying Attribute Help

For contextual help for an attribute, click the name of the attribute to open a separate popup window.

Left Navigation Pane

The web UI also provides a navigation pane on the left of the main pages. This navigation pane provides access to objects that are added as part of the various categories. The objects are listed in a tabular format and you can click the object to edit its properties in the main page.

Each object displayed under a category in the pane has a Quick View icon associated with it. The Quick View icon expands to open a dialog box that displays the main details about the object, and provides links (if any) to perform the main actions associated with the object.

By default, the list of objects is displayed in a single column format. However, you can add additional columns in the left pane. To add additional columns for objects, click the gear icon (⚙) above the objects table in the left pane, select the desired column names, and then click **Close**. You can save the column format by clicking the **Save Column Format** button.

There are Quick Filter and Advanced Filter options available to filter the objects as needed. To do a quick search for the objects, you can use the Quick Filter option. Click the Filter icon (▼) or select **Quick Filter** from the **Show** drop-down list located above the objects table and then enter the search string in the search bar. The objects are listed as per your search criteria.

You can also use Advanced Filter to filter the objects. Select **Advanced Filter** from the **Show** drop-down list, set the appropriate filter and condition in the Advanced Filter dialog box, and then click **OK**. Once you click OK, the object list on the left pane is filtered as per the filter specified. To save the filter, click **Save As** in the Advanced Filter dialog box, enter the appropriate name in the Save Filter dialog box, and then click **Save**. The saved filter name appears in the Show drop-down list and you can use this filter on that particular object list at any time. You can also set this filter as the default filter by clicking the **Set Default Filter** button.

The user defined filters can be edited or removed. To do this, select **Manage User Defined Filters** from the **Show** drop-down list, select the required user defined filter from the filter list in the Manage User Defined Filters dialog box, and then click **Edit** or **Remove** as required.

Help Pages

The web UI provides a separate window that displays help text for each page. The Help pages provide:

- A context-sensitive help topic depending on which application page you have open.

- A clickable and hierarchical Contents and Index, and a Favorites setting, as tabs on a left-hand pane that you can show or hide.

- A Search facility that returns a list of topics containing the search string, ordered by frequency of appearance of the search string.

- Forward and backward navigation through the history of Help pages opened.

- A Print function

- A Glossary

Logging Out

Log out of the web UI by clicking **Log Out** link. You can find the **Log Out** under the gear icon ⚙ at the top right corner of the application page.

Local Cluster Web UI

The local cluster web UI provides concurrent access to Cisco Prime Network Registrar user and protocol server administration and configuration. It provides granular administration across servers with permissions you can set on a per element or feature basis. The local cluster web UI is available in three user modes:

- **Basic Mode**— Provides a more simplified configuration for the more frequently configured objects, such as DHCP scopes and DNS zones (see Local Basic Main Menu Page, on page 8).

- **Advanced Mode**— Provides the more advanced configuration method familiar to past users of the Cisco Prime Network Registrar web UI, with some enhancements (see Local Advanced Main Menu Page, on page 9).

- **Expert Mode** (marked with the icon)-For details on Expert mode, see Role and Attribute Visibility Settings, on page 6.

Change to Basic, Advanced, or Expert mode by clicking the drop-down arrow of the Mode icon (🗔▾) on the toolbar at the top right of the page (see Setting Local User Preferences, on page 10).

> **Note** If you change the IP address of your local cluster machine, see the Note in Configuring Clusters in the Local Web UI, on page 11.

Related Topics

Introduction to the Web-Based User Interfaces, on page 2

Regional Cluster Web UI, on page 12

Local Basic Main Menu Page

The Basic tab activated on the toolbar at the top right corner of the page implies that you are in Basic user mode. Otherwise, click the drop-down arrow of the Mode icon (🗔▾) to view the list of modes and select **Basic**.

You can see the submenu items under the navigation menu by clicking the global navigation icon on the top left corner of the page. To choose a submenu under a navigation menu, place the cursor over the navigation menu item. For example, place the cursor on **Operate** to choose the **Manage Servers**.

Also, you can select any submenu under the required navigation menu and then navigate to the required submenu page from the left pane. For example, place the cursor on **Operate**, choose **Schedule Tasks**. You can see List/Add Scheduled Tasks page along with a left pane that has links to Manage Servers, Manage Clusters, Schedule Tasks, and View Change Log. Click the **Manage Servers** link to view the Manage Servers page.

The Local Basic main menu page provides functions with which you can:

- **Open the dashboard to monitor system health**—Open the **Operate** menu and click **Dashboard**. See the "Server Status Dashboard" chapter.

- **Set up a basic configuration by using the Setup interview pages**—Click the **Setup** icon at the top and select the different tabs in the Setup page. See *Cisco Prime Network Registrar 11.1 Quick Start Guide* for more details.

- **Administer users, tenants, encryption keys**—Place the cursor on the **Administration** menu (for user access options) or **Design** menu (for Security > Keys option). See Managing Administrators.

- **Manage the Cisco Prime Network Registrar protocol servers**—Place the cursor on the **Operate** menu and select **Manage Servers** or **Schedule Tasks** option. See Maintaining Servers and Databases.

- **Manage clusters**—Place the cursor on the **Operate** menu and choose **Manage Clusters** option. See Configuring Server Clusters.

- **Configure DHCP**—Place the cursor on **Design** menu and select the options under **DHCP Settings**, **DHCPv4**, or **DHCPv6**. See the *"Managing DHCP Server" chapter in Cisco Prime Network Registrar 11.1 DHCP User Guide*.

- **Configure DNS**—Place the cursor on the **Design** menu and select the options under **Cache DNS** and **Auth DNS**. Place the cursor on the **Deploy** menu and select the options under **DNS** and **DNS Updates**. See the *"Managing Zones" section in Cisco Prime Network Registrar 11.1 Authoritative and Caching DNS User Guide*.

- **Manage hosts in zones**—From the **Design** menu, choose **Hosts** under the **Auth DNS** submenu. See the *"Managing Hosts" section in Cisco Prime Network Registrar 11.1 Authoritative and Caching DNS User Guide*.

- **Go to Advanced mode**—Click **Advanced** in the top right corner of the page. See Local Advanced Main Menu Page, on page 9.

Local Advanced Main Menu Page

To switch to Advanced user mode from the Basic user Main Menu page, click the drop-down arrow of the Mode icon (⊡▾) at the top right of the window to view the list of modes and select **Advanced**. Doing so opens another Main Menu page, except that it shows the Advanced user mode functions. To switch back to Basic mode at any time, click next to the Mode icon at the top right of the window and select **Basic**.

The local Advanced mode Main Menu page includes advanced Cisco Prime Network Registrar functions that are in addition to the ones in Basic mode:

- **Open the dashboard to monitor system health**—Open the **Operate** menu and click **Dashboard**. See the "Server Status Dashboard" chapter.

- **Administer users, tenants, groups, roles, regions, access control lists (ACLs)**, and **view change logs**—Place the cursor on the **Administration** menu (for user access options), **Design** menu (for ACLs), or **Operate** menu (for change logs). See Managing Administrators.

- **Manage the Cisco Prime Network Registrar protocol servers**—Place the cursor on the **Operate** menu and select **Manage Servers** or **Schedule Tasks** option. See Maintaining Servers and Databases.

- **Manage clusters**—Place the cursor on the **Operate** menu and choose **Manage Clusters**. See Configuring Server Clusters.

- **Configure Routers**—Place the cursor on the **Deploy** menu and select the options under **Router Configuration**. See Managing Routers and Router Interfaces.

- **Configure DHCPv4**—Place the cursor on the **Design** menu and select any option under **DHCPv4**. See the *"Managing DHCP Server" chapter in Cisco Prime Network Registrar 11.1 DHCP User Guide*.

- **Configure DHCPv6**—Place the cursor on the **Design** menu and select any option under **DHCPv6**. See the *"DHCPv6 Addresses" section in Cisco Prime Network Registrar 11.1 DHCP User Guide*.

- **Configure DNS**—Place the cursor on the **Design** menu and select the options under **Cache DNS** and **Auth DNS**. Place the cursor on the **Deploy** menu and select the options under **DNS** and **DNS Updates**. See the *"Managing Zones" section in Cisco Prime Network Registrar 11.1 Authoritative and Caching DNS User Guide*.

- **Manage hosts in zones**—From the **Design** menu, choose **Hosts** under the **Auth DNS** submenu. See the *"Managing Hosts" section in Cisco Prime Network Registrar 11.1 Authoritative and Caching DNS User Guide*.

- **Manage IPv4 address space**—Place the cursor on the **Design** menu and select any option under **DHCPv4**. See the *"Managing Address Space" section in Cisco Prime Network Registrar 11.1 DHCP User Guide.*

- **Configure IPv6 address space**—Place the cursor on the **Design** menu and select any option under **DHCPv6**. See the *"DHCPv6 Addresses" section in Cisco Prime Network Registrar 11.1 DHCP User Guide*.

- **Go to Basic mode**— Click the drop-down arrow of the Mode icon (⬚▾) at the top right corner of the page and choose **Basic**. See Local Basic Main Menu Page, on page 8.

The Advanced user mode page provides additional functions:

- **View the user role and group data for the logged-in user**—See Role and Attribute Visibility Settings, on page 6.

- **Set your preferred session settings**—See Role and Attribute Visibility Settings, on page 6.

- **Set server debugging**—You can set debug flags for the protocol servers. Set these values only under diagnostic conditions when communicating with the Cisco Technical Assistance Center (TAC).

- **Change your login administrator password**—See Managing Passwords.

Setting Local User Preferences

You can maintain a short list of web UI settings through subsequent user sessions. The only difference between the Basic and Advanced or Expert mode user preference pages is that Advanced and Expert modes have additional columns listing the data types and defaults.

You can edit the user preferences by going to **User Preferences** under the **Settings** drop-down list. The user preference attributes to set are:

- **Username**—Username string, with a preset value of **admin**. You cannot modify this field.

- **Web UI list page size**—Adjust the page size by the number of displayed lines in a list; the preset value is 10 lines.

- **Web UI mode**—User mode at startup: Basic, Advanced, or Expert (see Role and Attribute Visibility Settings, on page 6). If unset, the mode defaults to the one set in the CCM server configuration (see Managing Servers).

- **Web UI tree page size**—Adjust the page size when displaying a tree view in the web UI.

- **Web UI log page size**—Adjust the page size on log pages.

- **Web UI report page size**—Adjust the page size to use when displaying report pages in the web UI.

- **Views**—Specify the DNS view setting at session startup in the web UI or CLI.

- **VPN**—Specify the VPN setting at session startup in the web UI or CLI.

- **Alarm poll interval**—Adjust the alarm poll interval; that is, how often Network Registrar polls the alarm data from server.

- **Homepage**—Set a page from favorites list as the homepage for the application. By default, Configuration Summary page is set as the homepage. You can set a page of your choice as the homepage for the application. To do this, add the desired page to the Favorites list (see Navigating the Web UI, on page 4), select the page name from the Homepage drop-down list, and then click **Modify User Preferences**. You can click the Home icon (⌂) on the top left corner of the web UI to go to the homepage.

- **Date format**—Set the date-time format for date-time values in the web UI. A format can be selected from the default list or entered in text form as <date-pattern> <time-pattern>.

  Supported patterns are:

  - Year as "yy", "yyyy"

  - Month as "M", "MM", "MMM", "MMMM"

  - Day as "d", "dd"

  - Hour as "h", "hh", "H", "HH"

  - Minute as "mm"

  - Second as "s", "ss"

  - Delimiters as ":", "-", "/"

- **Chart X-Axis Timestamp Pattern**—Specify the pattern to be used for displaying the timestamp on x-axis while displaying charts.

- **Tree node display**—Specify the initial display option for tree nodes. If this setting is set to Expanded and the number of nested child nodes is greater than 500, it may take a few minutes to display the tree.

You can unset the page size and web UI mode values by checking the check box in the **Unset?** column, next to the attribute. After making the user preference settings, click **Modify User Preferences**.

Configuring Clusters in the Local Web UI

You can define other local Cisco Prime Network Registrar clusters in the local web UI. The local cluster on the current machine is called the **localhost** cluster. To set up other clusters, choose **Manage Clusters** from the **Operate** menu to open the List/Add Clusters page. Note that the **localhost** cluster has the IP address and SCP port of the local machine.

Click the **Add Cluster** icon in the left pane to open the Add Cluster page. At a minimum, you must enter the name and address (IPv4 and/or IPv6) of the remote local cluster. You should also enter the admin name and password, along with possibly the SCP port (if not 1234) of the remote cluster. Click **Add Cluster**. To edit a cluster, click the cluster name in the Clusters pane on the left to open the Edit Cluster page. If you want to use secure access mode, select use-ssl as disabled, optional, or required (optional is the preset value; you need the security library installed if you choose required). Make the changes and then click **Save**.

Note   If you change the IP address of your local cluster machine, you must modify the **localhost** cluster to change the address in the ipaddr field. Avoid setting the value to the loopback address (127.0.0.1); if you do, you must also set the actual IP addresses of main and backup servers for DHCP failover and High-Availability (HA) DNS configurations.

Regional Cluster Web UI

The regional cluster web UI provides concurrent access to regional and central administration tasks. It provides granular administration across servers with permissions you can set on a per element or feature basis. After you log in to the application, the Home page appears. Regional cluster administration is described in Managing the Central Configuration.

Related Topics

Introduction to the Web-Based User Interfaces, on page 2

Local Cluster Web UI, on page 8

Command Line Interface

Using the Cisco Prime Network Registrar CLI (the **nrcmd** program), you can control your local cluster server operations. You can set all configurable options, as well as start and stop the servers.

Note   The CLI provides concurrent access, by at most 14 simultaneous users and processes per cluster.

Tip   See the **CLIContents.html** file in the /docs subdirectory of your installation directory for details.

The **nrcmd** program for the CLI is located in the *install-path*/usrbin directory.

On a local cluster, once you are in the appropriate directory, use the following command at the prompt:

`nrcmd` [`-C` *cluster*[:*port*]] [`-N` *user*] [`-P` *password*] [`-h`] [`-r`] [`-v`] [`-b` < *script* | *command*]

`nrcmd -C` *clustername:port* `-N` *username* `-P` *password* [`-L`| `-R`]

- **–C**—Cluster name, preset value **localhost**. Specify the port number with the cluster name while invoking nrcmd to connect to another cluster. See the preceding example.

The port number is optional if the cluster uses the default SCP port—1234 for local and 1244 for regional. Ensure that you include the port number if the port used is not the default one.

- **–N**—Username. You have to enter the username that you created when first logged into the web UI.

- **–P**—User password. You have to enter the password that you created for the username.

- **–L**—Access the local cluster CLI.

- **–R**—Access the regional cluster CLI.

- **-b** < *script*—Process script file of nrcmd commands.

- **-h**—Print this help text.

- **-r** —Login as a read-only user.

- **-R**—Connect to regional.

- **-v** (or **-vv**)—Report the program version and exit.

- **-V**—Specify the session visibility

Note Cluster defaults to localhost if not specified.

Tip For additional command options, see the **CLIGuide.html** file in /docs.

Note If you change the IP address of your local cluster machine, you must modify the **localhost** cluster to change the address in the *ipaddress* attribute. Do not set the value to 127.0.0.1.

You can also send the output to a file using:

```
nrcmd> session log filename
```

For example:

To send the leases on the DHCP server to a file (leases.txt), use the following commands:

```
nrcmd> session log leases.txt
nrcmd> lease list
```

Note To close a previously opened file, use session log (no filename). This stops writing the output to any file.

To disconnect from the cluster, use **exit**:

```
nrcmd> exit
```

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Tip The CLI operates on a coordinated basis with multiple user logins. If you receive a cluster lock message, determine who has the lock and discuss the issue with that person. (See Multiple Users, on page 4.)

REST API

The Cisco Prime Network Registrar REST API provides access to a set of resources that can be managed by an HTTP client. It is supported on the regional server and on local DHCP, DNS, and Caching DNS servers, provided web services have been enabled.

To know about the REST methods and endpoints to use to get information about the most commonly used objects in Cisco Prime Network Registrar, see *Cisco Prime Network Registrar 11.1 REST APIs Quick Start Guide*. For complete details on the REST APIs that are supported by Cisco Prime Network Registrar, see *Cisco Prime Network Registrar 11.1 REST APIs Reference Guide*.

Starting with 11.1, Cisco Prime Network Registrar supports Swagger based documentation for the REST API which covers most of the scenarios. However, it does not cover all the REST API requests, especially the special cases with actions.

Global Search in Prime Network Registrar

The Local and Regional web UI in Prime Network Registrar also provides a global search functionality for the IP addresses or DNS names available in the local clusters. The search interface element is available at the top right corner of the main page.

✎

Note To view the search interface element and run the search for IP addresses and DNS names, Cisco Prime Network Registrar must be licensed with DHCP or DNS, and the DHCP or DNS services must be enabled for the local cluster (in the List/Add Remote Clusters page in Regional web UI).

The following table shows the typical search results under different scenarios.

Table 1: Typical Search Results

You search for...	With active licenses and services for...	Search Results
An IPv4 address	Only DHCP	The closest matching scope, scope lease or scope reservation
An IPv4 address or a DNS FQDN	Only DNS	The related Zone or Resource Record
An IPv6 address	Only DHCP	The closest matching prefix, prefix lease or prefix reservation
An IPv6 address or a DNS FQDN	Only DNS	The related Zone or Resource Record

You search for...	With active licenses and services for...	Search Results
An IPv4 address, an IPv6 address or a DNS FQDN	Both DHCP and DNS	All of the above, based on the type of address