

# Cloudpath

## Enrollment System

# Cloudpath ES Operations Manual

Software Release 4.3

April 2016

**Summary:** This document describes how to access and manage Cloudpath ES servers within your network.

**Document Type:** Reference

**Audience:** Operations Administrator



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# Cloudpath ES Operations Manual

## Overview

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This document describes how to access and manage the Cloudpath Enrollment System (ES) servers within your network. Basic operations are described in the following sections:

- System Information
- General Maintenance
- Logs
- General System Administration
- Backup and Recovery
- Snapshots
- VM Maintenance
- Upgrades
- Managing Replication
- Reports
- Support
- Command Reference

## System Information

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This section provides placeholders for referencing the IP addresses and DNS information for each server in the system, as well as login information for each system.

TABLE 1. System Information

Name	IP Address	DNS
<ES1>		
<ES2>		
<ES3>		
<ES4>		

## Administrative Access

Administrators can manage the system from any ES server. Web traffic (end-user, API, and OCSP) is distributed across the systems via an external load balancer.

Use the following information to log into the Cloudpath Admin UI or access the system using the console.

**TABLE 2. Admin Access Information**

Interface	Login	Password
Admin UI		
Console/SSH	cpn_service	

**Note >>**

Use of strong passwords is recommended.

## Administrator Roles

Cloudpath supports the following Administrator Roles:

- CA Administrator - Allows full configuration access to the Administrative UI. This administrator role can manage all administrative users.
- Administrator - Allows full configuration access to the Administrative UI, except for Certificate Authorities. This administrator can manage Administrator and Viewer administrative users.
- Viewer - Allows view-only access to Enrollment, User, and Certificate records on the Dashboard, the enrollment Workflow, and the Documentation and Licensing pages. This administrator cannot manage other administrative users.

## General Maintenance

### SSH

After the initial setup, an administrator can log into the system using SSH on port 8022 and use the command line interface to execute Cloudpath ES service commands. A service password is required to access the command line interface. See Admin Access Information for details.

The default SSH port number is 8022, but can be changed to port 22 on the Cloudpath ES *Administration > System > System Services* page.

### Command Reference

The Cloudpath command line uses *klish* commands under the *config* menu and common *Cent OS* commands while in the *console* menu (Linux shell).

After a successful login to the service account, the Cloudpath configuration utility (*klish*) prompt (**#**) displays. Enter **?** to view the list of available commands.

From the configuration utility, enter the `console` command to access the Linux shell. From the Linux shell, enter the `config` command to access the Cloudpath configuration utility.

## Common Commands

When running klish commands on the system, be aware of the difference between similar commands. For example:

- **Reboot** - Reboots the system (virtual machine).
- **Restart** - Restarts the web server (JBoss).
- **Shutdown** - Shuts down the system. Warning: This requires VMware access to boot.

See the full Command Reference at the end of this document for more information.

## Testing Network Connectivity

The availability of the system can be monitored at various layers. At the lowest layer, the system responds to ICMP pings.

### Positive Testing

The availability and responsiveness of the web server within the system may be monitored using the following URLs:

- `https://HOSTNAME/enroll/ping`  
This tests the enrollment portal portion of the system, and should return a 200 status.
- `http://HOSTNAME/ocsp/ping` OR `https://HOSTNAME/admin/ocsp/ping`  
This tests the admin, API, and OCSP portions of the system and should return a 200 status.

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#### Note >>

The path is different for HTTPS and HTTP.

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### Negative Testing

The following URLs may be used for negative testing:

- `https://HOSTNAME/ocsp/pingFail`  
This should return a 404 error.

## Scripts

Use the shell script to install a given application or to perform other tasks from the Linux shell. Scripts can contain commands to be executed sequentially or can use a more complex flow of execution.

## Location of script files

You can access Cloudpath scripts from the Linux shell. Scripts are located in the `/opt/cloudpath/scripts/` directory.

## Cleanup Operations

### Data Cleanup

The Cloudpath system is designed to clean up old data and log files. The *Data Cleanup* page (*Administration > Advanced > Data Cleanup*) provides the ability to schedule automatic cleanup thresholds. In most environments, the default settings for cleanup operations are adequate.

### Welcome Page Todo Items

When you first log into the Cloudpath Admin UI, the Welcome page displays. On this page, a *Todo Items* list may exist. The Todo Items indicates system or configuration issues that should be addressed.

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**Note >>**

Configuration and Upgrade issues should be addressed by the System Administrator.

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If the Todo Item message indicates that the disk partition is almost full, you might consider removing some old wizard versions that are saved.

### Remove Old Wizard Versions

A system with multiple updates may contain unused wizard versions. The *Wizard Versions on Disk* section on the *Data Cleanup* page allows you to delete extraneous wizard versions. When you delete a version from the admin UI, it removes both the tar.gz and the extracted wizard files from the `/opt/cloudpath/work/admin/versions` directory.

### Other Cleanup Operations

The Cloudpath system provides additional cleanup commands, if needed.

For example:

- The **support clean-disk** command cleans up the JBoss server log.
- The **replication force-cleanup** command forces the removal of the replication setup from the server.

See the full Command Reference at the end of this document for more information.

## Firewall Settings

The ES Admin UI provides a table (*Administration > Advanced > Firewall Requirements*) that lists the inbound and outbound traffic of your Cloudpath ES. This information is dynamically generated based on the current system configuration and can change as the system configuration is modified.

## Logs

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Each system contains rolling logs, which can be reviewed for troubleshooting purposes.

### Syslog

The ES web servers are configured to use a syslog as a central repository for VM and other server log messages. To view the syslog configuration, navigate to *Administration > System > System Services*, and expand the *Logs* component. The Syslog Status displays the syslog configuration information.

### Other Logs

View or download additional logs from the *Logs* component. All logs can be run in *Normal* (default) or *Debug* (finer, or verbose) mode.

- **General** - The General log is the JBoss server log file, which are web application log files.
- **SCEP** - Logs related to Simple Certificate Enrollment Protocol (SCEP). The system provides an outward-facing SCEP server interface that allows SCEP clients, such as iOS, to pull certificates via SCEP.
- **OCSP** - Logs related to Online Certificate Status Protocol (OCSP), which is used for obtaining the revocation status of an X.509 digital certificate.
- **Replication** - Logs related to the replication setup and operation. See the Managing Replication section for more information.

Additional logs are located in the */var/log* directory from the Linux shell.

### Event Logs

The *Events* log (*Dashboard > Notifications > Events*) displays all system events, such as account logins, enrollments, acceptance of AUPs, registrations, certificate issuance, errors, account updates, and snapshot creation.

### Web Server

The Cloudpath web server is an Apache server and provides both an Access Log and an Error log. Navigate to *Administration > System > System Services*, and expand the *Web Server* component to view the Apache logs.

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## Audit Logs

The system logs all administrative activity initiated from the Admin UI or the console. Audit log files are located in the `/var/log/jboss/admin_audit.log` directory from the Linux shell:

## Network Diagnostics

The Cloudpath system logs all network activity to and from individual components of the system, including protocols used, whitelists, and packet information. Navigate to *Administration > System > System Services*, and expand the *Network* component to view or download the *Network Diagnostic* logs.

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## General System Administration

The ES web server *Administration* tab provides access to system-related operations.

**Administrators** - During the initial account setup, the Cloudpath ES system sets up an administrator account using the *Company Information* provided during the setup. By default, there is also an *Administrator Group*, which allows administrative access to the Admin UI using credentials from the configured authentication server. This allows users that belong to a specific group to access the Cloudpath ES.

**System** - Go to *Administration > System > System Services* to access system operations, such as restart or view logs for the application server, web server, configure email or SMS servers, or start up a support tunnel. The *System* tab also allows you to upgrade the system or set up server clustering.

**Advanced Administration** - The links in the *Administration > Advanced* section allow you to clean up the database and provides information about the system, including firewall requirements.

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## Backup and Recovery

Incremental backups can be performed from the primary server to a mounted CIFS drive using the command line interface from the configuration utility.

- Scheduled backup - Use the **maintenance scheduled-backup** command to copy the database via SCP or mounted drive.
- Restore backup - Use the **maintenance backup restore** command to copy the backup file and overwrite the existing database.

See the full Command Reference at the end of this document for more information.

## How to Export the Database to a File

As a backup, you can export the Cloudpath ES database to a remote server. The export process dumps the Cloudpath ES database to a zipped tar.gz file, with a time-stamp, and transfers it using



SCP to a remote server.

To export the database, log into the service account and enter this command from the configuration utility:

```
# maintenance export-database [IP address or hostname] [port] [username] [path to file]
```

For example:

```
# maintenance export-database 172.16.4.20 8022 <ServiceAccount> /home/db/backup
```

## How to Import the Database From An Existing System

The import database command can be used for recovery or for upgrading the system.

1. On your existing system, shut down the web service for your deployment URL to temporarily discontinue new enrollments. Use this command from the Linux shell:

```
[ServiceAccount@AccountName ~]$ sudo /sbin/service httpd stop
```

2. Log into the system with the new OVA (via SSH or vCenter console) and import the database from the existing system.
3. Use the following command from the new system configuration utility:

```
# maintenance import-database [IP address or hostname of existing system]
```

For example:

```
# maintenance import-database 172.16.4.20
```

---

### Note >>

The new system must use the same SSH port that is configured in the old system to transfer database files.

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You must restart the server after you import the database.

## Snapshots

In this guide we refer to snapshots as one version of the different aspects of the system. There are two kinds of snapshots that you need to become familiar with:

- Configuration snapshots, which are snapshots of the Cloudpath workflow configuration.
- VMware snapshots, which preserves the state and data of a virtual machine at a specific point in time.

## Configuration Snapshots

A configuration snapshot is a version of a workflow configuration. You can create and maintain multiple versions of each configuration. However, only one snapshot can be active at a time for each deployment location.

Each time the workflow configuration changes, you must create another workflow snapshot.

## VM Maintenance

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### VMware Snapshots

A VMware snapshot is a version of a VM at a specific point in time. As a best practice, we recommend that you take a VM snapshot of deployment before making any changes to the system.

As a best practice, you should create regular VMware snapshots. In clustered environments, create a snapshot of at least one of the servers. We also recommend creating VMware snapshots before making any changes to the system (particularly before and after upgrades).

To create a VMware snapshot:

1. From the virtualization software client (VMware vSphere Client), select your virtual image, right click and select *Snapshot > Take Snapshot*.
2. Enter the *Name* and *Description* of the snapshot. Provide enough details in the *Description* so that other administrators can understand what is in each snapshot.
3. Select *Snapshot machine's virtual memory*.
4. (Optional) If VMware Tools is installed, you can also select *Quiesce guest file system* to pause running processes before you take a snapshot.

### How to Increase the Virtual Appliance Memory

Use these instructions to change the memory configuration of a virtual machine's hardware.

1. From the vCenter client, power off the virtual appliance.
2. Select the VM, and right-click to *Edit Settings*.
3. With the *Hardware* tab selected, select *Memory*.
4. On the right window pane, increase the *Memory Size*.
5. Click *OK*.
6. Power on and reboot the VM.

## How to Expand the MySQL Partition Size

Use these instructions to expand size of the partition used for MySQL database operations.

### From the vCenter Client

1. With the VM running, select the VM and right-click to *Edit Settings*.
2. With the *Hardware* tab selected, select *Hard disk 2*.
3. On the right pane, in the *Disk Provisioning* section, increase the *Provisioned Size* to the desired size and click *OK*. If the *Provisioned Size* cannot be selected, try restarting the server using the **`sudo halt`** command.

## Upgrades

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### Note >>

Under normal conditions, upgrades are not a part of daily operations. Please contact the network administrator or the Cloudpath support team before attempting to upgrade your system.

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## Upgrade for Local Deployment

There are two methods for upgrading your Cloudpath ES virtual appliance.

1. Update your existing system from the ES Admin UI (*Administration > System > System Updates*).
2. Set up a virtual appliance using the new OVA and import the database from the existing system.

## Managing Replication

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### Note >>

All operations must be administered from the primary server(s).

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## Replication States

Use the *Replication Status* page to monitor the health of the servers in the cluster. When configured in a cluster, each server can be in one of several states:

- Not Setup - The ES server has not been configured for replication.
- Running - Replication has been set up and is currently running.
- Stopped - Replication has been configured but the replication service is not running.

- **Starting:Synchronizing** - The ES server was previously stopped or disabled and is in the process of synchronizing with the master server.
- **Offline:Normal** - The server is configured for replication, but has been disabled.
- **Offline:Error** - The server is in an error state and will try to correct the issue. This can take 5 to 10 minutes. If the server is unable to resolve the issue, replication should be disabled for troubleshooting.

## Enable or Disable Server

You can enable or disable replication for individual servers or remove the replication configuration completely.

### Disabling a Server in the Cluster

If you disable a server in the cluster, this leaves all the replication functionality in place but stops the database updates between the server nodes. When you re-enable, the nodes process the database changes and eventually all servers are back in sync.

*Disable* is often used for troubleshooting individual server issues, and is required prior to upgrading the system. To enable or disable replication for a server, navigate to *Administration > System > Replication* and toggle the green *Enabled* icon.

The Admin UI displays the replication *Status* as *Stopped* and the *Enabled* icon clear, to indicate that replication has been disabled.

## Remove Cluster

To make topology changes, such as adding another server, or replacing an inoperable server in the cluster, you must take down the cluster configuration and rebuild it with the new servers.

### How to Remove the Cluster Configuration

When you remove a cluster, the ES deletes all of the replication functionality, but leaves the database in the current state.

Use *Remove Cluster* to add new servers to the cluster. You must remove the cluster from all devices and install replication again on the new servers. To remove a cluster configuration, navigate to *Administration > System > Replication* and click *Remove Cluster* in the *Maintenance* section.

## Upgrading Replicated Systems

You must disable the replication service to upgrade your system. Upgrade each server separately before you re-enable replication for the cluster.

Depending on your network environment and the number of servers in your cluster, this might take some time. The script that updates the database due to an upgrade, and then re-syncs the databases in the cluster, may require more than one pass to complete this process on all servers in the cluster.

## Restart RADIUS Server

You might be required to start the onboard RADIUS servers after replication is set up. The onboard RADIUS server on the master server, or hub should remain in a running state, but the server nodes, or slaves, may not start unless restarted from the Admin UI or from a console.

## Troubleshooting Replication Issues

This section describes issues to consider when testing or troubleshooting Cloudpath ES servers that have been configured for replication.

### Enable/Disable Replication

If replication is configured but does not appear to be working, try disabling and re-enabling individual servers from the *Administration > System > Replication* page.

### DNS

Verify that DNS is properly configured with the FQDN on all hosts.

### Hostname

The replication configuration in the Cloudpath ES is set up using the FQDN for each system. If you are running replication, changing the FQDN from the command line interface causes replication to become inoperable.

### Load Balancer Enrollment URL

If you are using a load balancer with your replication setup, the *Deployment Location Enrollment URL* must contain the hostname of the load balancer, and not the Cloudpath ES virtual appliance.

1. On the *Replication Setup* page, in the *Load Balancer* section, click *Enrollment URL*.
2. On *Deployment Locations* page, expand the *Deployment Location*, and click *Change*.
3. On the *Modify Enrollment URL* page, enter the hostname of the load balancer in the first (hostname) field.

### Check OCSP

The ES provides a check status URL to allow a load balancer to query the status of the OCSP responder. Use the format `http://<ES hostname>/ocsp/ping`. The return status should be a *Success* message.

For negative testing, use `http://<ES hostname>/ocsp/pingFail`. The return status is a 404 message.

### Web Server Certificates

If you are using a load balancer, the system displays a message when you log in that the URL is a mismatch with the server certificate. You can suppress this message by putting the load balancer URL in *Administrative- > Company Info > Vanity URL*.

## Firewall Settings

Go to *Administration > Advanced > Firewall Requirements* to ensure that your firewall ports have been correctly configured for replication.

Replication ports are only provided when replication is configured and running.

## Replication Commands



The replication commands are designed for members of the support team to use for troubleshooting. Customers would typically not be required to run these commands unless requested by the support team.

See the full Command Reference at the end of this document for more information about replication commands.

## Reports

### Records Export

Enrollment and User data can be downloaded, as a CSV file or Microsoft Excel spreadsheet.

Use the CSV Export icon  or XLS Export icon  located at the bottom of any table in the Dashboard.

The Enrollment and User export files are designed to be a quick view of the activity since midnight. To export only certain items in the table, for a specific date and time, or to export items for a longer time period, see Scheduled Reports.

Scheduled Reports

### Scheduled Reports

The scheduled report feature allows you to schedule a task to export enrollment record data, by date, or schedule a recurring export. For example, you might schedule an enrollment data report to occur on a weekly, or daily basis. This report can be emailed to one or multiple email addresses.

You can schedule multiple reports. For example, you can create a report that emails an enrollment record report based on enrollments with revoked certificates, and another based on issued certificates.

To schedule a task, go to *Dashboard > Notifications > Scheduled Reports*. The enrollment record data is emailed, as a CSV file, to the specified address, at the scheduled frequency. You can also download an interim report from this page.

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## Support

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### Documentation

Refer to the *Support > Documentation* page in the Cloudpath Admin UI for documentation and links that cover all aspects of the system, from setup to configuration and system administration.

### Support Tunnel

The Support Tunnel component allows you to open a support tunnel to help you in diagnosing issues with your application or configuration. If requested by a Support Team member, you might be required to enable a support tunnel from the *Administration > System > System Services > Support Tunnel* page.

### Support File

If support has provided a support file, you can upload it from the *Support > Advanced > Support File* page. This will make changes to the system, so be sure to create a VMware snapshot first.

### Password Recovery

If you are locked out of the ES Admin UI, you can log in via SSH and use the **activate-ui-recovery** command from the service account. This activates a temporary password for a short time period to allow you to log into the ES Admin UI and set up a new Administrator account, or reset a password for an existing account.

If you are locked out of the service account, you can log in via SSH to a *Recovery* account. However, you must contact Cloudpath Networks *Support* to obtain a recovery password.

To receive a recovery password for the service account, you must provide the Cloudpath Support team with the *System Identifier* and current *Version* on your system.

#### How To Find Your System Identifier

1. Log into the ES Admin UI.
2. Go to *Administration > Advanced > Admin Console Link*.
3. The *System Identifier* is listed on the *Administrative Console Linkage* page.

#### How To Find Your Current ES Version

1. Go to *Administration > System > System Services > Application* component.
2. The current build is listed in the *Version* field.

## Command Reference

### config commands

TABLE 3. config commands

Command	Description	Parameters and Examples
<b>config</b>	From the Linux shell, this command provides access to the command line configuration utility.	No parameters. <code>[&lt;serviceacctlogin@&lt;fqdnhost name&gt;]\$ config</code>
<b>config admin allow-access</b>	Clears restrictions to the administrative functionality so that an administrator can access the ES Admin UI from any IP address.	No parameters. <code>config admin allow-access</code>
<b>config admin restrict-access</b>	Restricts which IP addresses have administrative access to the ES Admin UI.	[Comma separated list of IP addresses/CIDR] <code>config admin restrict-access 172.16.4.20, 172.16.5.18</code> or <code>config admin restrict-access 172.16.4.20/24</code>
<b>config allow-apache-ssl3</b>	Permits SSLv3 protocol on https connections.	[ <i>true</i> to permit SSLv3, <i>false</i> to permit SSLv3] <code>config allow-apache-ssl3 true</code>
<b>config bootpassword</b>	Enables or disables the boot password upon startup.	No parameters. <code>config bootpassword enable</code> <code>config bootpassword disable</code>
<b>config clear-apache-servername</b>	Clears a changed apache server name and reverts it back to the FQDN.	No parameters. <code>config clear-apache-servername</code>
<b>config clear-proxy</b>	Clears the proxy server setting.	No parameters. <code>config clear-proxy</code>
<b>config hostname</b>	Sets the hostname.	[System's network name] <code>config hostname companyA.local</code>



TABLE 3. config commands

Command	Description	Parameters and Examples
<b>config hostname-restricted</b>	If enabled, requests that do not match the hostname receive an HTTP 404 error.	[ <i>true</i> to enable, <i>false</i> to disable.] <code>config hostname-restricted true</code>
<b>config https</b>	Sets whether the Apache server should be run as HTTP or HTTPS.	[ <i>enabled</i> to enable HTTPS, <i>disabled</i> to run HTTP] <code>config https enabled</code>
<b>config network DHCP</b>	Configures whether you want DHCP to assign network IP addresses.	[ <i>true</i> to use DHCP, <i>false</i> to use STATIC IP addresses] <code>config network DHCP true</code> This command causes the system to toggle the eth0 and loopback interfaces.
<b>config network restart</b>	Restarts the network after making configuration changes to DHCP settings.	No parameters. <code>config network restart</code>
<b>config network STATIC dns</b>	Configures the STATIC IP addresses for the DNS server.	[IP address of the DNS server] <code>config network STATIC dns 172.16.4.202</code>
<b>config network STATIC gateway</b>	Configures the STATIC IP addresses for the gateway.	[IP address of the gateway] <code>config network STATIC gateway 172.16.4.1</code>
<b>config network STATIC ip-netmask</b>	Configures the STATIC IP addresses for the system's eth0 interface and subnet mask.	[IP address and subnet mask for the eth0 interface] <code>config network STATIC ip-netmask 172.16.6.35 255.255.252.0</code>
<b>config ntp</b>	Sets the NTP server	[IP address of the NTP server] <code>config ntp 172.16.2.106</code>
<b>config ntp-sync-now</b>	Forces an ntpdate to the configured NTP server.	No parameters. <code>config ntp-sync-now</code>

TABLE 3. config commands

Command	Description	Parameters and Examples
<b>config proxy</b>	Sets the HTTP proxy. Requires a reboot. The [proxy-bypass-hosts] parameter (optional) is a comma-separated list of hosts that should bypass the proxy.	[HTTP hostname] [HTTP port] [HTTPS hostname] [HTTPS port] [proxy-bypass-hosts]  <code>config proxy hostA 8080 hostB 443 hostC,hostD</code>
<b>config set-apache-servername</b>	Set the apache server name in the httpd.conf file. This is typically used when operating behind a load balancer.	[Apache Server Name]  <code>config set-apache-servername test22.company.net</code>
<b>config ssh</b>	Enables or disables SSH access.	[true to enable, false to disable.]  <code>config ssh true</code>
<b>config timezone</b>	Sets the timezone to be used.	[Zone name]  This command displays a list of acceptable timezones.  When prompted, enter the desired timezone as shown. For example, for Mountain Standard time, enter <b>MST</b> , and for Mountain Daylight time, enter <b>MST7MDT</b> .  <code>config timezone</code>  Enter the timezone you would like to use:  <b>MST</b>

## console command

TABLE 4. console command

Command	Description
<b>console</b>	Provides access to the Linux shell (command line).

## diag commands

TABLE 5. diag commands

Command	Description	Parameters and Examples
<b>diag arp-table</b>	Displays arp table.	No parameters. <code>diag arp-table</code>
<b>diag dns-lookup</b>	Performs a DNS lookup.	[IP address of the host to resolve] <code>diag dns-lookup 172.16.4.64</code>
<b>diag interfaces</b>	Displays network interfaces.	No parameters. <code>diag interfaces</code>
<b>diag ping</b>	Sends ICMP IPv4 messages to network hosts.	[IP address of the host] <code>diag ping 172.16.2.1</code>
<b>diag routing-table</b>	Displays routing table.	No parameters. <code>diag routing-table</code>
<b>diag rpm-version</b>	Displays the current version for the rpms.	No parameters. <code>diag rpm-version</code>
<b>diag schema-version</b>	Displays the status of database updates	No parameters. <code>diag schema-version</code>

## maintenance commands

TABLE 6. maintenance commands

Command	Description	Parameters and Examples
<b>maintenance export-database</b>	Dumps the Cloudpath ES database in to a zipped tar.gz file and transfers it using SCP to a remote server.	[IP address or hostname of the remote server] [Port number] [Remote username] [Path to file location on the remote system]  <code>maintenance export-database 172.16.4.20 22 username /home/db/file</code>
<b>maintenance import-database</b>	Allows you to copy the database file from a remote Cloudpath ES to overwrite the database on a new system.  The new system must have the same network settings as the old system, from which the database was exported.  The ES uses the SSH port configured in the new system to transfer the database files.	[IP address or hostname of the remote server]  <code>maintenance import-database 172.16.4.20</code>
<b>maintenance restore-backup</b>	Copies the database backup file, using SCP, overwriting the existing database.	[IP address or hostname of the remote server] [Remote port number] [Remote username] [Path to the remote system to place the backup file]  <code>maintenance restore-backup 172.16.4.20 22 username /home/db/file</code>
<b>maintenance scheduled-backup mount remove</b>	Removes the previously set up cron job for copying the system database to a remote server via mounted (CIFS) drive.	No parameters.  <code>maintenance scheduled-backup mount remove</code>

TABLE 6. maintenance commands

Command	Description	Parameters and Examples
<b>maintenance scheduled-backup mount setup</b>	Sets up a cron job to copy the system database via mounted (CIFS) drive to a remote server.	[Username for the remote drive] [Password for the remote drive] [Path to mount] [Path within the mount to the backup directory] [Type of drive, like cifs]  <code>maintenance scheduled-backup mount setup username password path/to/mount mount/backupdir cifs</code>
<b>maintenance scheduled-backup scp remove</b>	Removes the previously set up cron job for copying the system database to a remote server via SCP.	No parameters.  <code>maintenance scheduled-backup scp remove</code>
<b>maintenance scheduled-backup scp setup</b>	Sets up a cron job to copy the system database via SCP to a remote server. The [pattern for the cron schedule] parameter uses traditional cron format, consisting of 5 fields; <Minute><Hour><Day_of_the_Month><Month_of_the_Year><Day_of_the_Week>.	[IP address or hostname of the remote server] [Remote port number] [Remote username] [Path to the remote system to place the backup file] [Pattern for the cron schedule]  <code>maintenance scheduled-backup scp setup 172.16.4.20 22 username /path/to /file 0 0 * * 3</code>  (Note the space between minute, hour, day, month schedule parameters.)  For more information about cron schedule parameters, refer to Linux documentation.

## replication commands

TABLE 7. replication commands

Command	Description	Parameters and Examples
<b>replication force-cleanup</b>	Forces the removal of the replication setup.	No parameters. <code>replication force-cleanup</code>
<b>replication replicator</b>	Perform an operation on the replication server.	[start][stop][restart][status][offline][online] <code>replication replicator restart</code> or <code>replication replicator status</code>
<b>replication show-cluster</b>	Displays the state of the cluster.	No parameters. <code>replication show-cluster</code>
<b>replication show-log</b>	Show log.	No parameters. <code>replication show-log</code>
<b>replication trepctl</b>	Performs an operation on a service (ex. alpha, bravo, charlie).	[FQDN of the server node][service name][status/online/offline] <code>replication trepctl test23.company.net alpha status</code> or <code>replication trepctl test23.company.net bravo offline</code>
<b>replication validate-cluster</b>	Displays whether replication can be set up on this server. <b>Note:</b> This command should only be used before replication is set up.	No parameters. <code>replication validate-cluster</code>

## show commands

TABLE 8. show commands

Command	Description
<b>show config</b>	Shows currently operating configuration.
<b>show date</b>	Shows current date.

TABLE 8. show commands

Command	Description
<b>show logs</b>	Shows application and server logs.
<b>show logs apache-access</b>	Shows contents of Apache server access logs.
<b>show logs apache-error</b>	Shows contents of Apache server error logs.
<b>show logs application</b>	Shows contents of JBoss logs.
<b>show logs config</b>	Shows contents of config log.
<b>show proxy</b>	Shows HTTP proxy information.
<b>show timezone</b>	Shows currently configured timezone.

## support commands

TABLE 9. support commands

Command	Description
<b>support activate-ui-recovery</b>	Activates a temporary password to allow you to log into the ES Admin UI. This command requires the <i>service</i> password.  The recovery user credentials are only valid for 5 minutes.
<b>support apply-patches</b>	Applies patches for the current version. The system will reboot.
<b>support benchmark</b>	Perform CPU and disk IO tests.
<b>support clean-disk</b>	The ES runs a clean-disk script on a schedule. This command allows an administrator to clean up the <i>jboss.log</i> manually.
<b>support db</b>	Allows you to log into the database. The password for this command is only available to support staff.
<b>support disable-support-tunnel-access</b>	Stops support tunnel.
<b>support enable-support-tunnel-access</b>	Starts support tunnel on port 8022.
<b>support reset-schema-version</b>	Sets the database schema version to 1.
<b>support restore-https-certificate</b>	Resets HTTPS to self-signed certificate.
<b>support restore-https-ciphers-and-protocols</b>	Resets https to default SSL ciphers and protocol.

TABLE 9. support commands

Command	Description
<b>support shrink-database</b>	Moves application data to the database partition.
<b>support view-schema-version</b>	Lists the status of the database schema version.

## system commands

TABLE 10. system commands

Command	Description
<b>system reboot</b>	Reboots system.
<b>system restart</b>	Restarts the JBoss and Apache servers.
<b>system shutdown</b>	Shuts down the system. This command requires VMware access to boot the system.

## About Cloudpath

Cloudpath Networks, Inc. provides automated device enablement (ADE) solutions that simplify the adoption of standards-based Wi-Fi security, including WPA2-Enterprise, 802.1X, and X.509, in diverse BYOD environments. Founded in 2006, Cloudpath Networks invented the modern onboarding model for personal devices and continues to drive the industry's adoption of standards-based security en masse. The Cloudpath solutions are proven worldwide to bring simplicity to secure networks through automated and easy-to-use form and function. To learn more, visit [www.cloudpath.net](http://www.cloudpath.net).

If you need technical assistance, discover a bug, or have other technical questions, email support at [support@cloudpath.net](mailto:support@cloudpath.net).

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