



Updating Skylar One

Skylar One version 13.0.7

Chapter

2

Updating Skylar One

Overview

This chapter provides an overview of the steps for performing a Skylar One upgrade.

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Skylar One Upgrade Planning and Checklist

Updating Skylar One is a multiple-step process that you should review and plan out carefully before starting. The checklists and tables below list the different aspects that you will need to consider before upgrading to any Skylar One release.

Planning the Update

Before upgrading Skylar One, perform the following steps that are specific to your organization:

1. Read the [release notes](#) to determine:
 - What is fixed?
 - What is new?
 - What has changed?
 - What has been deprecated?
 - What are the supported upgrade paths?
 - What are the important notes that you need to know before upgrading?
2. Read the **Known Issues** for the release. These can be found in the release notes and at <https://support.sciencelogic.com/s/knowledge/known-issues>.
3. Identify all integrations and third-party applications that access the Skylar One database or manipulate data on Skylar One. Determine how to disable these integrations during the deployment and re-enable after deployment.
4. Identify activities and customers that will be affected by maintenance windows and schedule and inform appropriately.
5. Identify any custom work, such as changes to PowerPacks, run book automations, event policies, and dashboard widgets, and ensure that all custom work is backed up so you can restore it if necessary.

NOTE: Ensure that each Skylar One node or appliance has at least 4 GB of free space in the `/var` partition for pre-upgrade and deployment. Ensure that each Skylar One node or appliance has at least 1 GB of free space in `/` (the root partition) to allow you to deploy the upgrade; however, depending on the appliance type and version you are upgrading from, you might need up to 3 GB of free space in `/` (the root partition).

Skylar One Upgrade Checklist

The checklist below provides the required steps you should consider before updating your Skylar One platform to a major release version:

Step	Actions
□ 1.	Determine the recommended upgrade path availability: - Review the Skylar One Recommended Upgrade Paths. - Identify your target Skylar One release version. - Confirm that upgrade limitations or constraints do not apply.
□ 2.	Review your infrastructure system requirements: - Verify that your hardware specifications meet the minimum requirements for the target version at the ScienceLogic Support site: Customer Premise-Virtual Customer Premise-Hardware Cloud-AWS Cloud-Azure - Ensure that sufficient disk space is available on all appliances. - Check network connectivity between all Skylar One components. - Verify DNS resolution for all Skylar One appliances. - Confirm that the current Skylar One version is supported for a direct upgrade to the target version. - Check for any required intermediate upgrades. - Verify that all Skylar One appliances are running the same version. - Ensure that all system packages are up to date.
□ 3.	Consider the Skylar One requirements: - Review the compatibility of currently installed PowerPacks with the target Skylar One version. - Check for any custom scripts or integrations that might need updating. - Verify that the database schema is compatible with the target version of Skylar One. - Ensure that all required licenses are valid and up to date.
□ 4.	Review the Skylar One Upgrade Workflow steps: Plan the update. Schedule maintenance windows. Review pre-upgrade best practices for Skylar One. Verify PowerPack version compatibility. Back up SSL certificates. Adjust the timeout for slow connections. Run a pre-import script for a more efficient upgrade experience. Run the system status script on the Database Server or All-In-One Appliance before upgrading.

Step	Actions
	9. Update the Skylar One Distributed Architecture using the System Update tool. 10. Upgrade MariaDB, if there is a version difference. 11. Reboot Skylar One appliances, if needed. 12. Restore SSL certificates. 13. Clear your system cache. 14. Update default PowerPacks. 15. Configure Subscription Billing (required one time only).
□ 5.	Run the pre-upgrade Health Checks: a. Run the built-in pre-upgrade check tool. b. Verify that all services are running and healthy. c. Check for any active alarms or critical events. d. Review system logs for any recurring errors or warnings. e. Perform a database integrity check. f. Verify that backup systems are functioning and up to date. g. Ensure that each Skylar One node or appliance has at least 4 GB of free space in the <code>/var</code> partition for pre-upgrade and deployment. h. Ensure that each Skylar One node or appliance has at least 1 GB of free space in <code>/</code> (the root partition) to allow you to deploy the upgrade. Depending on the appliance type and version you are upgrading from, you might need up to 3 GB of free space in <code>/</code> (the root partition).
□ 6.	Upgrade preparation steps: a. Create a full and a configuration backup of all Skylar One appliances. b. Document your current configuration settings. c. Notify users of the planned maintenance window.
□ 7.	Update the Skylar One Distributed Architecture: a. Download the update. b. Import the update. c. Stage the update. d. Run the pre-upgrade check. e. Place all Skylar One appliances in Maintenance Mode. f. Deploy the update. g. Remove all Skylar One appliances from Maintenance Mode

Skylar One Recommended Upgrade Paths

The following upgrade paths to the 13.0.7 release from previous versions of Skylar One are supported:

- 13.0.6 → 13.0.7
- 12.5.8 (Juneau) → 13.0.7
- 12.3.15 → 13.0.7

IMPORTANT: 12.5.20 or later (Kyoto) is *not* a supported upgrade path for 13.0.7. If you are already on Kyoto, you will need to use a separate path, which is not yet defined for this line.

For full details on recommended upgrade paths, see the online documentation on [Updating Skylar One](#).

The System Updates Page

The **System Updates** page (System > Tools > Updates) allows you to update the software on your Skylar One appliances.

You must first download the update file to the local computer. You can then import the software update through the user interface.

After you import a software update to your Skylar One system, the Skylar One system can automatically stage the software update. Staging is when the software is copied to each ScienceLogic appliance. Staging allows Skylar One to simultaneously apply the software changes to each ScienceLogic appliance, regardless of the speed of the connection to each ScienceLogic appliance. You can allow the Skylar One system to automatically stage the software or you can manually stage the software.

After the software update is staged, you can run preupgrade checks and then deploy the software.

WARNING: To apply updates to an existing Data Collector, that Data Collector must be a member of a Collector Group. In some Skylar One systems, users might have to create a Collector Group for a single Data Collector before applying updates.

NOTE: To conserve disk space on Data Collectors and Message Collectors, after an update, Skylar One removes previous Docker images.

The **System Updates** page displays a list of deployed updates and the date and time each update was applied. The following information displays for each update in the list:

- **Skylar One Version.** Displays the version number for each Skylar One patch that has been imported (and optionally staged and deployed) to the Skylar One system. Skylar One releases include new features and address issues with previous releases.
- **OS Version.** Displays the version number for each platform patch that has been imported (and optionally staged and deployed) to the Skylar One system. Platform patches include updates to the ScienceLogic operating system, including newer versions of industry-standard packages.
- **Update Signature.** Name of the entity that released the patch and type of patch. Usually "ScienceLogic Official Release".
- **Imported On.** Date and time the software update was loaded onto the Skylar One system.
- **Imported By.** Skylar One user who loaded the software update onto the Skylar One system.
- **Import Status.** Status of the import process. Clicking on the log icon displays the log file associated with importing the selected software. Possible values are:
 - *In Progress.* Software is currently being imported by the system.
 - *Complete.* Software has been imported successfully.
 - *Failed.* Software import has failed due to an unexpected condition. Contact ScienceLogic Support for assistance.
- **Staging Status.** Status of the staging process. Clicking on the log icon displays the log file associated with staging the selected software. Possible values are:
 - *--.* No staging request is active and software has not been staged on any Skylar One appliances.
 - *Scheduled.* Skylar One is aware of the staging request and is preparing for staging.
 - *In Progress.* Staging is in progress but has not completed.
 - *Complete.* Staging has completed, and all appliances are ready to deploy the software.
 - *Incomplete.* Staging has completed, and one or more appliances are ready to deploy the software.
 - *Cancelled.* User manually cancelled the staging process.
 - *Outdated.* The current update is not the latest or has already been installed.
 - *Failed.* An unexpected error occurred in the staging process. Contact ScienceLogic Support for assistance.

NOTE: If a software update has been set to manually stage, the Staging Status column will include an asterisk (*).

- **Preupgrade Status.** Status of the preupgrade checks. Possible values are:
 - --. No preupgrade checks are active.
 - *Complete.* Preupgrade checks have completed successfully.
 - *Incomplete.* Preupgrade checks have not yet completed.
 - *Failed.* An unexpected error occurred in the preupgrade checks. Contact ScienceLogic Support for assistance.
- **Deployment Status.** The current deployment state. Possible values are:
 - --. No deployment request is active and software has not been deployed on any Skylar One appliances.
 - *Scheduled.* Skylar One is aware of the deployment request and is preparing for deployment.
 - *In Progress.* Deployment is in progress but has not completed.
 - *Complete.* Deployment has completed, and all appliances are updated.
 - *Incomplete.* Deployment has completed, and one or more appliances are updated.
 - *Cancelled.* User manually canceled the deployment.
 - *Outdated.* The current update is not the latest or has already been installed.
 - *Failed.* An unexpected error occurred in the deployment process. Contact ScienceLogic Support for assistance.
- **Deployment Status Date.** Specifies the date and time the software update was last deployed.

From the **System Updates** page, you can also click the **[Appliance List]** button to view a list of appliances in your Skylar One stack. The following information displays for each appliance in the list:

- **Appliance Name.** The name assigned to the Skylar One appliance.
- **IP.** The appliance's IP address.
- **mid.** The appliance's module ID.
- **Module Type.** The Skylar One appliance type.
- **Build.** The version of Skylar One currently running on the appliance.
- **MariaDB.** The version of MariaDB currently running on the appliance.
- **Platform.** The current operating system platform version for the appliance.
- **Task Manager Paused?** Indicates whether the task manager service is paused.
- **Patch Eligible.** Indicates if the appliance is eligible for patching.
- **Patch Enabled.** Indicates if patching is enabled or disabled for the appliance.

NOTE: To enable or disable patching for an appliance, select the checkbox for that appliance on the **Appliance List** modal, select *Enable Selected Appliances* or *Disable Selected Appliances* from the **Select Action** menu, and then click **[Go]**.

Scheduling Maintenance Windows

Upgrading Skylar One includes a minimum of two and possibly four maintenance windows:

- **Import and stage update and run the pre-upgrade script.** These steps can take place prior to the day of upgrade and **do not affect Skylar One functionality**. ScienceLogic suggest you perform these steps at least three days before the planned upgrade and ideally a week before the planned upgrade.
- **Deploy update.** On the day of the upgrade, put all Skylar One appliances in maintenance mode. The Skylar One system will not be available during this procedure. Update the Skylar One Distributed systems.
- **Update MariaDB (if required).** The Skylar One system will not be available during this procedure. Refer to the release notes for your current release to determine if you must upgrade MariaDB.
- **Reboot Appliances (if required).** Individual Skylar One appliances will not be available during these procedures. Refer to the release notes for your current release to determine if you must reboot all Skylar One appliances after upgrading.

Identify activities and users that will be affected by these maintenance windows, and schedule the maintenance windows appropriately. Be sure to communicate all downtime with users.

Pre-Upgrade Best Practices for Skylar One

Before you upgrade, check the following:

- Review the hardware specifications of all the appliances in your system to ensure they meet the requirements for the current usage of your system. For more details about sizing and capacity for your specific environment, contact your Customer Success Manager and see <https://support.sciencelogic.com/s/skylar-one/system-requirements>.
- Verify that recent backups are available for your system.
- Ensure that each Skylar One appliance has a valid license.
- Ensure that a Data Collector is a member of a Collector Group if you are applying updates to an existing Data Collector. In some Skylar One systems, users might have to create a Collector Group for a single Data Collector.
- Ensure that each Data Collector is listed as "Available" to the Database Server. To check, see the **Collector Status** page (System > Monitor > Collector Status).

Verifying PowerPack Version Compatibility

Before upgrading Skylar One, you should verify whether any PowerPacks currently running on your system are newer than the PowerPacks included in the Skylar One release to which you are upgrading.

If your Skylar One system currently has a PowerPack version that is newer than the one included with the release you are upgrading to, you might see spurious error messages post-upgrade. To avoid these error messages:

1. Before installing the Skylar One update, go to the **Device Components** page (Devices > Device Components).
2. Find each root device associated with the PowerPacks you do not want to update and select their checkboxes.
3. Click the **Select Action** field and choose *Change Collection State: Disabled (recursive)*, and then click the **[Go]** button.
4. Wait five minutes after disabling collection.
5. Install the Skylar One update.
6. After the Skylar One update is complete, go to the **Device Components** page (Devices > Device Components).
7. Select the checkboxes for all affected root devices.
8. Click the **Select Action** field and choose *Change Collection State: Enabled (recursive)*, and then click the **[Go]** button.

Backing Up SSL Certificates

To back up your SSL Certificates:

1. Log in to the console of the Database Server or SSH to the Database Server.
2. Open a shell session and type the following commands at the shell prompt:

```
cp /etc/nginx/silosssl.key /etc/nginx/silosssl.key.bak
```

```
cp /etc/nginx/silosssl.pem /etc/nginx/silosssl.pem.bak
```

3. Repeat these steps on each Database Server in your Skylar One system.

Adjusting the Timeout for Slow Connections

If you have slow connections between Skylar One appliances, you can adjust the timeout values for staging and deploying upgrades.

To adjust the timeouts:

1. Log in to the console of the Database Server or SSH to the Database Server.
2. Open a shell session and type the following at the shell prompt:

```
sudo pcli set-patcher-param staging_wait_time <timeout_in_seconds>
```

where:

`<timeout_in_seconds>` is the timeout value, in seconds, for staging for each Skylar One appliance. The default value is 1800 seconds (30 minutes). You can increase this value for slow connections.

3. Type the following at the shell prompt:

```
sudo pcli set-patcher-param deploy_wait_time <timeout_in_seconds>
```

where:

`<timeout_in_seconds>` is the timeout value, in seconds, for deploying to each Skylar One appliance. The default value is 3600 seconds (1 hour). You can increase this value for slow connections.

Running a Pre-Import Script for Upgrade Efficiency

Beginning with 12.3.10 and 12.5.1, the system update import experience was improved to make it faster and more efficient by allowing you to run concurrent imports. This feature is not enabled by default. To enable it, download the patch bundle you want to import, then run the following script:

```
silo_mysql -e "INSERT INTO master.system_settings_patcher (param, value, description) VALUES ('use_concurrent_import', 1, 'Use concurrent patch import');"
```

After running the script, you can start the import process.

Running the System Status Script Before Upgrading

Skylar One includes a script, **system_status.sh**, that provides diagnostic data for each node or appliance in your Skylar One system. Starting with Skylar One version 12.5.20, the **system_status.sh** script includes the AP2 (NextUI) version in its output to aid with support and troubleshooting.

NOTE: On Skylar One systems prior to 10.2.0, after running the system status script, you must ensure that the file `/var/log/em7/silo.log` has the owner and group "s-em7-core".

Running the System Status Script

If you are running Skylar One version SL 8.14.0 or later, Skylar One automatically runs the system status script every 15 minutes on each node or appliance in your Skylar One system.

ScienceLogic recommends that you view the output from the system status script before upgrading:

1. In Skylar One, go to the **Appliance Manager** page (System > Settings > Appliances).
2. Locate the Skylar One appliance that you want to view diagnostic information about.
3. Click on its magnifying-glass icon (🔍) to view the output of the system status script for that appliance.
4. If the output includes errors and you need help fixing them, contact ScienceLogic Customer Support to fix the errors before upgrading.
5. Repeat for each node or appliance in your Skylar One system.

TIP: To get the very latest status before upgrading, *manually run the system status script* on each Database Server or All-In-One Appliance.

Updating the Skylar One Distributed Architecture

Any Skylar One Distributed Architecture system can be upgraded by importing, staging, and deploying a single update file.

NOTE: Ensure that each Skylar One node or appliance has at least 4 GB of free space in the `/var` partition for pre-upgrade and deployment. Ensure that each Skylar One node or appliance has at least 1 GB of free space in `/` (the root partition) to allow you to deploy the upgrade; however, depending on the appliance type and version you are upgrading from, you might need up to 3 GB of free space in `/` (the root partition).

Upgrading the Skylar One Distributed Stack includes the following steps:

- [Download the update.](#)
- [Import the update.](#)
- [Stage the Update.](#)
- [Run the pre-upgrade check.](#)
- [Place all Skylar One appliances in Maintenance Mode.](#)
- [Deploy the update.](#)
- [Remove all Skylar One appliances from Maintenance Mode](#)

NOTE: Database Servers and Data Engines in your Skylar One stack are deployed first; other appliance types cannot be deployed until the Database Servers and Data Engines are finished deploying.

If you have previously used manual staging, you must also perform these additional steps:

1. Select all updates in the Skylar One Releases pane and select all updates in the ScienceLogic OS pane.
2. In the **Select Action** menu, select *Unstage Update (remove staging policy override)*. Click **[Go]**.
3. For software that was previously staged with automatic staging, *Unstage Update (remove staging policy override)* does not affect staging.

Downloading the Update

Before you can load a patch or update onto your instance of the Skylar One system, you must first download the patch or update to your local computer.

NOTE: The following steps do not affect the performance of the Skylar One system. ScienceLogic recommends that you perform these steps at least three days before upgrading.

To download the patch or update:

1. Log in to <https://support.sciencelogic.com>. Use your ScienceLogic customer account and password to access this site.
2. From the **Skylar One** menu, select *Support*. The **Skylar One** platform downloads page appears.
3. Find the release you want to download and click its name. The **Release Version** page appears.
4. In the **Release Files** pane, click the hyperlink for the release you want to download. If you need to, click **[View All]** to expand the list of available release files.
5. On the **Release File Details** page, click the **[Download File]** button for the release image or release patch you want to download. The file is then downloaded to your local computer.

Importing the Update

To import a product update on to your Skylar One system:

1. In the Skylar One system, go to the **System Updates** page (System > Tools > Updates).
2. In the **System Updates** page, click the **[Import]** button.
3. In the **Import a new update** modal page, browse to the product update file and select it.
 - If you select the **Auto Stage** button, the Skylar One system will begin staging as soon as the import is completed.

- If you do not select the **Auto Stage** button, you must click the staging button() after import is completed. You can do so at any time after import has completed.
 - For more information on automatic staging and manual staging, see the section on "Staging" in the **System Administration** manual.
4. Click the **[Import]** button.
 5. In the **System Updates** page, the *Import Status* column can have one of the following statuses:
 - *In Progress*. Software is currently being imported by the Skylar One system.
 - *Complete*. Software has been imported successfully.
 - *Failed*. Software import has failed due to an unexpected condition. Contact ScienceLogic Support for assistance.
 - *Missing Base*. The Skylar One system cannot import this software until another software package has been imported. The dependency is for compression purposes. Check the log for a message stating which software package needs to be imported.
 6. The update file or patch file is imported to Skylar One system and appears in the **System Updates** page.

NOTE: For details on the import process, go to the **System Updates** page, find the entry for the software you are interested in, go to its *Import Status* column, and click the log icon ().

Staging the Update

After you import a software update to your Skylar One system, you must **stage** the software update. During staging, the Skylar One system copies the software update to each Skylar One appliance. Staging allows Skylar One to simultaneously apply the software changes to each Skylar One appliance, regardless of the speed of the connection to each Skylar One appliance. The Skylar One system stages updates per import. You can choose to automatically stage imports or manually stage import.

For easiest troubleshooting, ScienceLogic recommends that you manually stage imports.

NOTE: A staging mode called "enhanced file upload" enables pre-staging operations and file upload operations to happen in separate worker processes, which does not count file upload time toward the "staging wait time" setting. This mode is enabled by default, and ScienceLogic recommends that you keep it enabled due to the large amount of data that needs to be pushed for Skylar One updates. However, if you prefer to update this setting, you can make the following changes in the "master.system_settings_patcher" table:

- To change the number of file upload workers (12 by default), insert or update the following parameter:

```
param="num_file_upload_workers" and value="<number of workers>"
```

- To change the number of pre-staging workers (25 by default), insert or update the following parameter:

```
param="pool_size" and value="<number of workers>"
```

- To disable enhanced file upload mode, insert or update the following parameter:

```
param="use_enhanced_file_upload" and value="0"
```

The *Staging Status* column on the **System Updates** page can have one of the following statuses:

- --. No staging request is active and software has not been staged on any Skylar One appliances.
- *Scheduled*. The Skylar One system is aware of the staging request and is preparing for staging.
- *In Progress*. Staging is in progress but has not completed. The page displays the percentage complete as staging progresses.
- *Complete*. Staging has completed, and all appliances are ready to deploy the software.
- *Incomplete*. Staging has completed, and one or more appliances are ready to deploy the software.
- *Canceled*. User manually canceled the staging process.
- *Outdated*. The current update is not the latest or has already been installed.
- *Failed*. An unexpected error occurred in the staging process. Contact ScienceLogic Support.

NOTE: For details on the staging process, go to the **System Updates** page, find the entry for the software you are interested in, go to its **Staging Status** column, and click the log icon (📄).

After the software update is imported and staged, you can deploy the software.

Automatic Staging

To enable automatic staging:

1. In Skylar One, go to the **System Updates** page (System > Tools > Updates).
2. In the **System Updates** page, click the **[Import]** button.
3. In the **Import a new update** modal page, browse to the product update file and select it. If you select the **Auto Stage** button, the system will begin staging as soon as the import is completed.
4. After import, in the **System Updates** page, the *Staging Status* column will display the number of ScienceLogic appliances that have been successfully stage compared to the total number of ScienceLogic appliances

To disable automatic staging:

1. In Skylar One, go to the **System Updates** page (System > Tools > Updates).
2. In the **System Updates** page, click the **[Import]** button.
3. In the **Import a new update** modal page, browse to the product update file and select it.

4. If you **do not select** the **Auto Stage** button, you must click the staging button (») after import is completed. You can do so at any time after import has completed.

Manually Staging an Update

You can manually stage a software update:

- If you imported an update but do not want to stage it immediately.
- If you add another ScienceLogic appliance to your Skylar One system and need to apply software updates.
- If staging failed on one or more ScienceLogic appliances.
- If you want to ensure that a previous staging process was successful.

When you manually stage a software update, Skylar One checks the status of the software updated on each ScienceLogic appliance. Skylar One then stages the software update **only to those Skylar One appliances that have not yet been staged** for this software update.

To manually stage a software update:

1. In Skylar One, go to the **System Updates** page (System > Tools > Updates).
2. Locate the software update you want to stage and click its staging icon (»). The software update will be copied to each ScienceLogic appliance that has not yet been staged.
3. The *Staging Status* column will display the number of ScienceLogic appliances that have been successfully stage compared to the total number of ScienceLogic appliances.

Monitoring Staging

To monitor the staging process:

1. Either go to the console of the Database Server or use SSH to access the Database Server.
2. Type the following at the shell prompt:

```
monitor_stage
```

You should see something like the following image:

```
Every 1.0s: bash -c monitor_stage Thu Apr 25 22:08:30 2019

#####
##          Monitor Staging Process for DB          ##
#####

System Update Vitals
=====
| Service Name | Status | RunTime | HealthCheck |
=====
| em7_patch_manager | active(running) | 3days | Good |
| siloupdate-spool | active(running) | 3days | Good |
| siloupdate-pkgserver | active(running) | 3days | Good |
| mariadb | active(running) | 3days | Good |
| Disk Availability | - | - | Good |
=====

Staging Process Stats
Staging Schedule ID : 2
Staging Status : Completed
Number of Staging processes : 0
Patch Hook Completion Summary : [Total = 201, Installed = 201, Failed = 0]
Staging Started at : 2019-04-22 19:49:52
Staging Completed at : 2019-04-22 20:52:42
Staging Run Time : 01:02:50
Staging Summary : [Eligible=202, Complete=202, Failed=0, TimedOut=0]
\ Completed mid(s) : [978,1,523,23,6,51,1031,46,14,563,955,518,537,1024,548,940,2,34,22,553,513,528,
533,39,541,7,24,56,64,582,573,588,109,73,598,606,88,99,103,72,633,622,80,613,856,114,599,113,578,60,92,617,122,638,
643,647,139,140,672,662,154,158,134,671,148,166,177,123,173,683,657,693,165,891,653,667,684,185,189,703,716,709,217
,210,200,199,227,195,241,727,216,736,237,732,723,228,708,744,737,757,246,1014,763,252,257,262,771,782,267,273,813,8
99,293,778,804,788,792,803,301,279,278,796,294,277,904,818,307,311,824,322,965,825,823,844,343,861,568,848,356,838,
875,361,330,366,371,626,334,860,339,344,862,887,378,377,387,391,558,392,402,920,916,930,416,410,433,944,906,905,753
,428,422,438,403,948,995,447,443,961,453,463,697,452,464,972,982,477,979,981,592,484,980,473,934,483,1000,764,498,1
015,502,999,508,491]

Press CTRL-C to exit
```

3. In the `monitor_stage` results, look for the following information:
 - **System Update Vitals.** Displays the current status of the services that are required for System Update.
 - **Staging Process Stats.** Displays status of staging on all Skylar One appliances.

Running the Pre-Upgrade Check

After importing and staging an update, you can run a pre-upgrade check before deploying. The pre-upgrade check will ensure that all criteria are met before deploying.

The pre-upgrade check examines the following:

- Is each Skylar One Appliance eligible to be updated?
- Are updates enabled on each Skylar One Appliance?
- Are any of the Skylar One Appliances running CentOS 5?
- Is this hostfile on each Skylar One Appliance correctly configured?
- Is each Data Collector and Message Collector in a Collector Group?
- Is there enough free space on the disk to perform the upgrade?
- Is the RPM database corrupted?
- Are the RPM packages corrupted?
- Does the patch hook directory have the correct owner assigned?
- Are the CRM templates on High Availability and Disaster Recovery systems out of date?
- Does /etc/init.d/mysql exist? (If it does not, it creates the file.)

NOTE: The pre-upgrade check skips any Skylar One appliances that have been deleted since the last upgrade.

Running the Pre-Upgrade Check

To run a pre-upgrade check:

1. Go to the **System Updates** page (System > Tools > Updates).
2. Find the upgrade that you want to deploy.
3. Click the purple checkmark at the end of the row. The pre-upgrade check will run.
4. If a pre-upgrade criterion fails, the **[Deploy]** button will be disabled for the selected row.
5. To view the output from the pre-upgrade check, click on the magnifying-glass icon (🔍) in the selected row.
6. If the pre-upgrade check finds a failure, see the list below for possible causes.
7. Fix all failures before deploying the update.

Potential Issues to Address

CentOS 5 Failure

CentOS 5 is no longer supported by System Update. If one or more Data Collectors are running CentOS5, the pre-upgrade check will fail. Contact your Customer Success Manager to determine how to upgrade your Data Collectors.

Collector Group Membership

This test checks that each Data Collector and Message Collector is a member of a Collector Group.

If a Data Collector or Message Collector is not a member of a Collector Group, the pre-upgrade test will define the appliance as "not eligible for patching."

To fix this error, add the Data Collector or Message Collector to a Collector Group.

Eligibility Failure

The most common reasons for eligibility failure are:

- The Skylar One appliance is not licensed or the license has expired
- The Skylar One appliance cannot be reached over the network
- The Data Collector has failed over
- The Skylar One appliance is not configured
- The Data Collector is waiting to be returned to service
- The Data Collector is not assigned to a Collector Group

Enabled Failure

By default, all Skylar One appliances are enabled for patching.

However, if you have used a command-line tool to exclude a Skylar One appliance from updates, the pre-upgrade check will fail. To fix this error, include the Skylar One appliance for updates.

Free Disk-Space Failure

This test checks the root partition and requires 1GB of free disk space. If the root partition does not have 1GB of free disk space, the pre-upgrade check will fail.

If the root partition does not have 1GB of free disk space, you must archive or delete files that are no longer required or add a new empty disk and resize the filesystem.

Host File Failure

This test validates the `/etc/hosts` file for the presence of an IPv6 entry for localhost, which is required by System Update.

If `/etc/hosts` does not include an IPv6 entry for localhost, the pre-upgrade test automatically adds the required entry.

Check the following in case of failure:

- The `/etc/hosts` file exists
- The `/etc/hosts` can be edited by root

Patch-Hook Ownership Failure

If the owner of the patch hook directory (`/var/lib/em7/patch_hook`) is incorrect, the pre-upgrade test automatically fixes the ownership. However, if this error occurs, check for the following:

- The patch hook directory (`/var/lib/em7/patch_hook`) does not exist
- The `s-em7-core` user or the `s-em7-core` group does not exist

RPM Database Failure

If the RPM database fails the pre-upgrade test, the RPM database is corrupted.

To recover the RPM database:

1. Either go to the console of the Database Server or use SSH to access the Database Server. Log in with the credentials you defined when you installed the Database Server.
2. At the shell prompt, enter the following:

```
mkdir -p /tmp/rpm.bak
cp /var/lib/rpm/* /tmp/rpm.bak
rm -f /var/lib/rpm/___db*
rpm --rebuilddb -vv
rpm -q kernel
```

3. If the last command returns a value, you can delete the backup directory using the following command.

```
rm -Rf /tmp/rpm.bak
```

RPM Package Failure

If one or more RPM packages failed the pre-upgrade test, possible causes are:

- Packages are not staged, and hence some files are missing. This can be caused due to a failed staging or a timeout during staging. You can try to stage again. You can also [adjust the timeout for staging](#).
- Duplicate packages
- Conflicting packages
- Unmet dependencies

Duplicate Packages:

1. Either go to the console of the Database Server or use SSH to access the Database Server. Log in with the credentials you defined when you installed the Database Server.
2. At the shell prompt, enter the following command:

```
sudo package-cleanup --dupes
```

3. If there are duplicate packages, use the following command to remove them:

```
sudo package-cleanup --cleandupes --removenewestdupes
```

Conflicting Packages

1. Look for conflicting packages in the staging log
2. Verify that the package is a part of Skylar One ISO or patch bundle
3. If the package is not part of the Skylar One ISO or patch bundle, uninstall the package.

Unmet dependencies

You will need to reset the staging status of the appliance and stage it again. Contact ScienceLogic Customer Success for help in resetting the staging status.

Putting All Skylar One Appliances into Maintenance Mode

NOTE: ScienceLogic recommends that you perform these steps during a maintenance window.

Immediately before deploying a software update, ScienceLogic recommends that you put all Skylar One appliances in maintenance mode. This will prevent spurious error messages and events during the deployment.

To enable user maintenance mode for all the Skylar One appliances in your Skylar One system:

1. Go to the **Appliance Manager** page (System > Settings > Appliances). Note the list of Skylar One appliances in your system.
2. Go to the **Device Manager** page (Devices > Classic Devices, or Registry > Devices > Device Manager in the classic user interface) and select the checkbox for each Skylar One appliance in your Skylar One system. This includes both primary and secondary Database Servers.
3. In the **Select Action** drop-down list, select *Change User Maintenance Mode: Enabled without Collection*. This option puts the selected devices into user maintenance mode with collection disabled. The devices will remain in this state until you or another user disables user maintenance mode.
4. Click the **[Go]** button.

Deploying the Update

During deployment, avoid the following tasks:

- Running integrations and third-party applications that access the Skylar One database or manipulate data on Skylar One
- Running discovery sessions
- Running nightly discovery
- Bringing HA/DR out of maintenance mode
- Adding new Skylar One appliances
- Importing a new patch
- Adding Data Collectors to a Collector Group
- Removing Data Collectors from a Collector Group
- Rebalancing a Collector Group
- Killing processes related to patching and upgrading
- Run reporting jobs
- Unpausing the proc_mgr process

When you deploy an update, the update is installed on all nodes or appliances that have already been staged.

NOTE: Database Servers and Data Engines in your Skylar One stack are deployed first; other appliance types cannot be deployed until the Database Servers and Data Engines are finished deploying.

When you deploy an update, Skylar One checks to ensure that you have already deployed all required updates. If you have not, Skylar One will generate an error message specifying the updates you must deploy before continuing with the current update.

During deployment, the **Deployment Status** column on the **System Updates** page can have one of the following statuses:

- --. No deployment request is active, and software has not been deployed on any Skylar One appliances.
- *Scheduled*. The Skylar One system is aware of the deployment request and is preparing for deployment.
- *In Progress*. Deployment is in progress but has not completed.
- *Complete*. Deployment has completed, and all appliances are updated.
- *Incomplete*. Deployment has completed, and one or more, but not all, appliances are updated.
- *Canceled*. User manually canceled the deployment.
- *Outdated*. The current update is not the latest or has already been installed.
- *Failed*. An unexpected error occurred in the deployment process. Contact ScienceLogic Support.

To deploy a software update on your nodes or appliances:

1. Make sure that you have imported and staged the update file.
2. Go to the **System Updates** page (System > Tools > Updates).
3. In the **System Updates** page, find the software update you want to deploy. Click the lightning bolt icon (⚡) to deploy the software. If Skylar One is still staging the patch when you click the lightning-bolt icon (⚡), Skylar One will wait until staging has completed before deploying the updates to each ScienceLogic appliance.
4. The software update will be deployed to all appliances in your Skylar One system that have already been staged. If one or more appliances in your Skylar One system have been successfully staged, Skylar One will deploy the update to those appliances.

NOTE: For details on the deployment process, go to the **System Updates** page, find the entry for the software you are interested in, go to its **Deployment Status** column, and click the log icon (📄).

After Deploying the Update

Starting with Skylar One version 12.5.20, after deploying the update, Skylar One runs a post-update cleanup script that removes old patch bundles to free space on the Database Servers. During upgrades, the system now retains only the two most recent patches and automatically removes all older patch

bundles.

This cleanup process can increase upgrade time during the first run, especially on systems with a large number of older patch bundles. Cleanup takes approximately three to four minutes per patch. For example, removing 15 older patches can add roughly 45-60 minutes. To reduce upgrade time, you can pre-clean older patches before upgrading by running `siloupdate` to clear patches on the active Database Servers.

Troubleshooting System Update

You can use the **sysuptb** troubleshooting tool to determine issues with System Update and to generate diagnostic information about the update. You can also use the **phtb** tool to troubleshoot issue with the PhoneHome configuration.

These tools can be useful when System Update does not work as expected, or if you have issues with the PhoneHome configuration or with communication between appliances and the Database Server. These tools are available on all Skylar One appliances starting with Skylar One version 10.2.0, and the tools are backwards-compatible to Skylar One version 8.12.0.

Using the sysuptb Troubleshooting Tool

To use the **sysuptb** troubleshooting tool:

1. Either go to the console of any Skylar One appliance or use SSH to access the appliance
2. Enter the following at the shell prompt:

```
sudo sysuptb -h
```

3. For more information about each argument, enter the following at the shell prompt:

```
sudo sysuptb <argument> -h
```

Available Commands

- The following command executes all troubleshooting tests for System Update:

```
sudo sysuptb all <optionally -x name_of_test_to_exclude>
```

TIP: To learn more about a test run, use this command: `sudo sysuptb help <test-name>`

- Example:

```
sudo sysuptb all

Executing filestore tests
912 / 912 [-----]
-] 100.00% 14 p/s
Filestore test summary: [Total: 912, Intact: 912, Incomplete: 0,
Corrupt: 0]
Executing test for deleted appliances in patch history
No deleted appliances were found in the patch history
Executing test for invalid file id in patch schedules
No patch schedules were found to have invalid file id
Executing test for RPM database corruption
RPM database is intact
Executing test to check if filestore is empty
Filestore has 1026 files
Executing test for deactivating services
Service test summary: [Total: 1, Active: 1, Inactive: 0, Healed:
0, Skipped: 0, Failed (to heal): 0]
Executing test for free disk space
Free disk space test summary: [Total: 2, Pass: 2, Failed: 0]
Executing test for service errors
Service error test summary: [Total: 2, Without Errors: 2,
Restarted: 0, Failed: 0]
Executing hosts file check for IPV6 entry (::1) for localhost
An entry for ::1 is already present in the hosts file
Proxy is not configured for yum.
Executing test for hung yum process
No yum processes found
Yum process summary: [Total: 0, Hung: 0]
```

- The following command searches the logs for errors that match a service name and restarts services if any errors are found.

```
sudo sysuptb check-service-error <optionally -s name_of_service>
```

If you do not provide the name of a service, the command searches the logs for errors for `silouupdate-pkgserver.service` and `silouupdate-spool.service`.

- Example:

```
sudo sysuptb check-service-error
```

```
Executing test for service errors
```

```
Service error test summary: [Total: 2, Without Errors: 2,  
Restarted: 0, Failed: 0]
```

- The following command removes deleted Skylar One appliances from the history of system updates so that they Skylar One does not search for them during update.

```
sudo sysuptb clear-mids
```

- Example:

```
sudo sysuptb clear-mids
```

```
Executing test for deleted appliances in patch history
```

```
No deleted appliances were found in the patch history
```

- The following command cancels all schedule updates that include an invalid ID for the patch file.

```
sudo sysuptb clear-schedule
```

- Example:

```
sudo sysuptb clear-schedule
```

```
Executing test for invalid file id in patch schedules
```

```
No patch schedules were found to have invalid file id
```

- The following command checks the filestore of downloaded packages for corrupt files and marks the corrupt files as incomplete.

```
sudo sysuptb filestore
```

- Example:

```
sudo sysuptb filestore
```

```
Executing filestore tests
```

```
912 / 912 [-----  
-----] 100.00% 14 p/s
```

```
Filestore test summary: [Total: 912, Intact: 912, Incomplete: 0,  
Corrupt: 0]
```

- The following command checks the file system for available free space.

```
sudo sysuptb free-space <optionally, -d path_for_drive = minimum_  
size>
```

If you do not provide the path and minimum size of the directory, the command examines /var to make sure it has 300MB of free space and / to make sure it has 1GB of free space.

- Example:

```
sudo sysuptb free-space --disk /var=300MB
```

```
Executing test for free disk space
```

```
Free disk space test summary: [Total: 1, Pass: 1, Failed: 0]
```

- The command checks for update services that are stuck in a deactivating state and then heals them.

```
sudo sysuptb heal-service <optionally -s service_name>
```

If you do not specify a service, the command examines the service `siloupdate-manager.service`. Starting with Skylar One 12.1.0, `siloupdate-manager.service` replaced `em7_patch_manager.service`.

- Example:

```
sudo sysuptb heal-service
```

```
Executing test for deactivating services
```

```
Service test summary: [Total: 1, Active: 1, Inactive: 0, Healed: 0, Skipped: 0, Failed (to heal): 0]
```

- The following command checks the `/etc/hosts` file for an entry for IPv6 for the current server (like a loopback address). If no entry exists, the command adds `::1` to the `/etc/hosts` file.

```
sudo sysuptb hosts
```

- Example:

```
sudo sysuptb hosts
```

```
Executing hosts file check for IPV6 entry (::1) for localhost
```

```
An entry for ::1 is already present in the hosts file
```

- The following command check is the filestore that holds the upgrade packages is empty.

```
sudo sysuptb is-filestore-empty
```

- Example:

```
sudo sysuptb is-filestore-empty
```

```
Executing test to check if filestore is empty
```

```
Filestore has 1026 files
```

- The following command checks the RPM database on `/var/lib/rpm` for corruption. If the command detects corruption, the output includes steps for remediation.

```
sudo sysuptb rpmdb
```

- Example:

```
sudo sysuptb rpmdb
```

```
Executing test for RPM database corruption
RPM database is intact
```

- The following command checks for a yum process which is hung.

```
sudo sysuptb yum-proc <optionally, -t timeout_in_minutes>
```

If you do not specify a running time, in minutes, the command searches for yum processes that have been running for more than 120 minutes.

- Example:

```
sudo sysuptb yum-proc
```

```
Executing test for hung yum process
No yum processes found
Yum process summary: [Total: 0, Hung: 0]
```

- The following command checks if yum is configured with proxy. If so, the command removes the proxy configuration.

```
sudo sysuptb yum-proxy
```

- Example:

```
sudo sysuptb yum-proxy
```

```
Proxy is not configured for yum.
```

Using the phtb Troubleshooting Tool

To use the **phtb** troubleshooting tool:

1. Either go to the console of a Skylar One appliance using PhoneHome communication or use SSH to access the appliance.
2. Enter the following at the shell prompt:

```
sudo phtb -h
```

3. For more information about each argument, enter the following at the shell prompt:

```
sudo phtb <argument> -h
```

TIP: To learn more about a test run, use this command: `sudo phtb help <test-name>`

Available Commands

- The following command checks destinations for SSH connectivity issues:

```
sudo phtb destination
```

- The following command checks the target host for SSH connectivity issues:

```
sudo phtb probe-host
```

- The following command checks connectivity to the proxy host, if configured:

```
sudo phtb proxy
```

Monitoring Deployment

To monitor the deployment process:

1. Either go to the console of the Database Server or use SSH to access the Database Server.
2. Enter the following command at the shell prompt:

```
monitor_deploy
```

3. You should see something like the following figure:

```
root@dw-sm-db1-patch-10-2-12-113:/tmp
Every 1.0s: bash -c monitor_deploy

#####
##          Monitor Deploy Process for  DB          ##
#####

System Update Vitals
=====
| Service Name | Status | RunTime | HealthCheck |
=====
| em7_patch_manager | active(running) | 2h18min | Good |
| siloupdate-spool | active(running) | 2h28min | Good |
| siloupdate-pkgserver | active(running) | 2h27min | Good |
| mariadb | active(running) | 21h | Good |
=====

Deployment Process Stats
Deployment Schedule ID : 4
Deployment Status : Completed
No. Of system_patcher processes : 0
No. Of deploy-module processes : 0
Deployment Started at : 2019-04-25 16:06:30
Deployment Completed at : 2019-04-25 16:18:54
Deployment Run Time : 00:12:24
Version Updated Count : 4 [8.13.0.smailappan_EM_26803_stop_building_el5_throwawayr428]
Deployment Summary : [Eligible=4, Complete=2, Failed=1, TimedOut=1]
  \ Completed mid(s) : [2,1]
  \ Failed mid(s) : [6]
  \ TimedOut mid(s) : [5]

Module Level Status
proc_mgr Status : Unpaused
deploy-module Status : Completed
deploy-module Completed at : 2019-04-25 16:16:35

Press CTRL-C to exit
```

- **System Update Vitals.** Displays the current status of the services that are required for System Update.
- **Deployment Process Stats.** Displays status of deployment on all Skylar One appliances.
- **Module Level Status.** Displays the status of the three deployment steps.

Installing Additional RPMs on a Skylar One Appliance

For certain patch releases, ScienceLogic might require additional RPMs to be installed on specific appliance types. If an RPM install is required, the release notes will indicate the additional RPMs to install on each specific appliance type.

To install additional RPMs on an appliance, perform the following steps:

1. Download the RPM files provided by ScienceLogic to your local machine.
2. Log in as root at the appliance console.

3. Copy each of the downloaded RPM files to the appliance. To copy the downloaded files, perform the following command as root at the console of the appliance:

```
scp <username-on-local-machine>@<ip-address-of-your-local-machine>:<full-path-to-rpm-on-your-local-machine> <full-path-on-appliance-to-copy-to>
```

4. Use the following command to run the RPM installer for each of the RPM files:

```
rpm -U <name-of-rpm-file>.rpm
```

5. If you have not yet done so, apply the latest patch to your Skylar One system.

Remove Skylar One Appliances from Maintenance Mode

To disable user maintenance mode for all the Skylar One appliances in your Skylar One system:

1. Go to the **Appliance Manager** page. Note the list of Skylar One appliances in your system.
2. Go to the **Device Manager** page (Devices > Classic Devices, or Registry > Devices > Device Manager in the classic user interface) and select the checkbox for each Skylar One appliance in your Skylar One system.
3. In the **Select Action** drop-down list, select *Change User Maintenance Mode: Disabled*. This option disables user maintenance mode for the selected devices.
4. Click the **[Go]** button.

Enabling the tmux Utility

In Skylar One (SL1) versions 12.3.4 and later, the `tmux` utility is disabled by default if you are on a non-STIG deployment and access a Skylar One system using SSH. ***ScienceLogic strongly encourages non-STIG users on these versions to enable the `tmux` utility prior to using SSH sessions, such as for upgrading MariaDB, to avoid SSH sessions timing out after 15 minutes.***

If you are on a STIG-compliant Skylar One deployment, or if you are on a non-STIG deployment between versions 12.2.1.1 and 12.3.3, the `tmux` utility is enabled by default.

The `tmux` utility, which is a terminal multiplexer that enables a number of terminals to be created, accessed, and controlled from a single screen, strengthens session-control mechanisms and aligns with industry-wide security practices.

If `tmux` is enabled, sessions are automatically locked after 15 minutes of idleness or if an unclean SSH disconnect or dropped SSH connection occurs. Upon login, Skylar One checks for and attaches any detached `tmux` session if it finds one; otherwise, it starts a new session.

The utility also facilitates advanced features like scroll-back buffering with search, built-in clipboarding, multiple sessions and panes, detaching or attaching sessions, and session supervision or sharing.

To enable the `tmux` utility in non-STIG deployments:

1. Either go to the console of the Skylar One appliance or use SSH to access the appliance.
2. Open a shell session on the server.
3. Type the following at the command line to edit the **silو.conf** file:

```
sudo visilo
```

4. Change the following line in the `[OS_HARDENING]` section of the file to enable tmux:

```
TMUX = true
```

NOTE: If the `[OS_HARDENING]` heading does not already exist in the **silو.conf** file, you must add that immediately above the `TMUX = true` setting.

5. Save and quit the file. (:wq).
6. Log out of Skylar One and then log back in. The `tmux` utility is now enabled.

For more information about `tmux` shortcuts and usage, see <https://tmuxcheatsheet.com/>.

Automatically Upgrading MariaDB

Most Skylar One updates require you to upgrade MariaDB after you update Skylar One. Refer to the release notes for your patch release to determine if you must upgrade MariaDB.

Skylar One version 12.2.1.1 and later use the command `silوupdate upgrade-mariadb` to upgrade the MariaDB server. This command also updates MariaDB-client, MariaDB-common, and MariaDB-shared RPMs in addition to the MariaDB Server RPM.

CAUTION: You should store all custom configuration settings for each MariaDB database in the file `/etc/siteconfig/mysql.siteconfig`. If you have added custom settings to the file `/etc/my.cnf.d/silo_mysql.cnf`, those changes will be overwritten each time you upgrade MariaDB. Before upgrading, copy any custom settings to the file `/etc/siteconfig/mysql.siteconfig`. Skylar One will save these custom settings and apply them after you upgrade MariaDB.

The `silوupdate upgrade-mariadb` command:

- Upgrades the following Skylar One appliances:
 - All Database Servers
 - All-In-One Appliances
 - Data Collectors
 - Message Collectors

- Upgrades High Availability (HA) and Disaster Recovery (DR) systems
- Includes a "test only" option before executing upgrade
- Enforces upgrading the primary Database Server before upgrading secondary Database Server and the Data Collectors.
- Will skip Skylar One appliances that have already been updated
- Logs entire sequence of commands and output for later analysis
- Stores log files in `/var/log/em7/mariadb_upgrade.log`
- Checks for differences between current configuration and version you are about to install and spawns an alert. To skip this check, use the `-s -s` option
- Starting with Skylar One version 12.3.7, lets you enable or disable GPG check for RPM packages and run the yum transactions accordingly

To upgrade MariaDB in newer versions of Skylar One, perform the following steps:

1. Either go to the console of the Database Server or use SSH to access the Database Server.
2. If you are on a non-STIG deployment of Skylar One running version 12.3.4 or later, [enable the `tmux` utility](#) to avoid your session timing out mid-upgrade. If you are on a STIG deployment or are running a version between 12.2.1.1 and 12.3.3, you can skip this step.
3. At the shell prompt, enter the following command:

```
siloupdate upgrade-mariadb
```

TIP: To upgrade all modules, you can use the command `siloupdate upgrade-mariadb -m all`.

4. To see all the options for the `siloupdate upgrade-mariadb` command, enter the following command at the shell prompt:

```
siloupdate upgrade-mariadb -h
```

Rebooting Appliances in the Skylar One Distributed Stack

NOTE: Refer to the release notes for your current release to determine if you must reboot all Skylar One appliances. Not every Skylar One update requires rebooting.

When an upgrade requires a reboot, use the steps listed in this section to reboot all Skylar One appliances in the Distributed stack.

Rebooting the Administration Portal

You can reboot Administration Portals either from the user interface or from the command line.

Rebooting Multiple Administration Portals

If your Skylar One system includes multiple Administration Portals, you can remotely reboot Administration Portals from another Administration Portal. To do so:

1. Go to the **Appliance Manager** page (System > Settings > Appliances).
2. Select the checkboxes for the Skylar One appliances you want to reboot.
3. In the **[Select Action]** menu, select **Reboot** and click the **[Go]** button.
4. Click the **[OK]** button when the "Are you sure you want to reboot the selected appliances?" message is displayed.
5. During the reboot, the user interface for the affected Administration Portal unavailable.
6. When the reboot has completed, the **Audit Logs** page (System > Monitor > Audit Logs) will include an entry for each appliance that was rebooted.

Rebooting a Single Administration Portal

If your Skylar One system include only a single Administration Portal, perform the following steps to reboot that Administration Portal:

1. Either go to the console of the Database Server or use SSH to access the Database Server.
2. Log in as **em7admin** with the appropriate password.
3. At the shell prompt, execute the following:

```
python -m silo_common.admin_toolbox <appliance_ID> "/usr/bin/sudo  
/usr/sbin/shutdown -r +1"
```

where:

- *appliance_ID* is the appliance ID for the Data Collector, Message Collector, or Administration Portal.

Rebooting Data Collectors and Message Collectors

You can reboot Data Collectors and Message Collectors either from the user interface or from the command line.

Rebooting Data Collectors and Message Collectors from the Appliance Manager page

From the Skylar One user interface, perform the following steps to reboot a Data Collector or a Message Collector:

1. Go to the **Appliance Manager** page (Appliance Manager).
2. Select the checkbox for each Skylar One appliance you want to reboot.
3. In the **[Select Action]** menu, select **Reboot** and click the **[Go]** button.
4. Click the **[OK]** button when the "Are you sure you want to reboot the selected appliances?" message is displayed.
5. During the reboot, go to the **System Logs** page (System > Monitor > System Logs). You should see this message:

```
Major: Could not connect to module (5) database USING SSL=TRUE:
Error attempting to connect to database with SSL enabled True: (2003,
'Can't connect to MySQL server on '10.2.12.77' (113 "No route to
host") ')
```

6. When the reboot has completed, the **Audit Logs** page (System > Monitor > Audit Logs) will include an entry for each appliance that was rebooted.

TIP: After upgrading, to ensure proper data collection, go to the **Appliance Manager** page (System > Settings > Appliances), locate one of the Data Collector or Message Collector appliances, and click the lightning bolt icon (⚡) to force configuration push for that appliance.

Rebooting Data Collectors and Message Collectors from the Command Line

From the console of the Database Server or SSH to the Database Server, perform the following steps to reboot Data Collector or Message Collector:

1. Either go to the console of a Database Server or SSH to access the Database Server.
2. Log in as **em7admin** with the appropriate password.
3. At the shell prompt, execute the following:

```
python -m silo_common.admin_toolbox <appliance_ID> "/usr/bin/sudo
/usr/sbin/shutdown -r +1"
```

where:

- *appliance_ID* is the appliance ID for the Data Collector, Message Collector, or Administration Portal.

TIP: After upgrading, to ensure proper data collection, go to the **Appliance Manager** page (System > Settings > Appliances), locate one of the Data Collector or Message Collector appliances, and click the lightning bolt icon (⚡) to force configuration push for that appliance.

Rebooting Standalone All-In-One Appliance and Standalone Database Server

Perform the following steps to reboot a standalone All-In-One Appliance or a standalone Database Server:

1. Either go to the console or use SSH to access the Skylar One appliance.
2. Log in as **em7admin** with the appropriate password.
3. On the Skylar One appliance, pause the system and shutdown MariaDB.

```
sudo touch /tmp/.proc_mgr_pause  
sudo systemctl stop mariadb
```

4. Reboot the Skylar One appliance:

```
sudo reboot
```

5. After the Skylar One appliance has rebooted, either go to the console or use SSH to access the Skylar One appliance.
6. Log in as **em7admin** with the appropriate password.
7. Un-pause the Skylar One appliance:

```
sudo rm /tmp/.proc_mgr_pause
```

Rebooting Two Database Servers Configured for Disaster Recovery

Perform the following steps to reboot two Database Servers configured for Disaster Recovery:

1. Either go to the console of the **primary** Database Server or use SSH to access the primary Database Server.
2. Log in as **em7admin** with the appropriate password.
3. Check the status of both Database Servers by typing the following command at the shell prompt:

```
drbdadm status
```

4. Pause the system and shut down MariaDB on the **primary** Database Server. Enter the password for the em7admin user when prompted:

```
sudo touch /tmp/.proc_mgr_pause
```

```
sudo systemctl stop pacemaker
```

```
sudo systemctl stop mariadb
```

NOTE: You can skip this step if your Skylar One system is on AWS with RDS.

5. Reboot the **primary** Database Server:

```
sudo reboot
```

6. After the **primary** appliance has rebooted, log in to the console of the **primary** Database Server again.
7. Run the following command on the **primary** Database Server:

```
coro_config
```

8. Select the **[Promote DRBD]** option.

NOTE: If you are doing a simple reboot of the primary, you do not need to promote the cluster again, as Skylar One automatically does it for you.

9. Execute the following commands on the **primary** Database Server:

```
sudo rm /tmp/.proc_mgr_pause
```

10. Enter the password for the em7admin user and confirm the command when prompted.
11. Log in to the **secondary** Database Server as the em7admin user using the console or SSH.
12. Execute the following command on the **secondary** Database Server to reboot the appliance:

```
sudo reboot
```

13. Enter the password for the em7admin user when prompted.

Rebooting Two Database Servers in a High Availability Cluster

Perform the following steps to reboot two Database Servers in a high availability cluster:

1. Either go to the console of the **secondary** Database Server or use SSH to access the **secondary** Database Server.
2. Log in as **em7admin** with the appropriate password.
3. Check the status of both Database Servers by typing the following command at the shell prompt:

```
drbdadm status
```

4. Stop the cluster service on the **secondary** Database Server:

```
sudo systemctl stop pacemaker
```

5. Enter the password for the em7admin user when prompted.
6. Either go to the console of the **primary** Database Server or use SSH to access the **primary** Database Server.
7. Log in as **em7admin** with the appropriate password.
8. Pause the system and stop the cluster service on the **primary** Database Server. Enter the password for the em7admin user when prompted:

```
sudo touch /tmp/.proc_mgr_pause  
sudo systemctl stop pacemaker  
sudo systemctl stop mariadb
```

9. Reboot the **primary** Database Server:

```
sudo reboot
```

10. After the **primary** Database Server has rebooted, either go to the console of the **primary** Database Server or use SSH to access the **primary** Database Server.
11. Log in as **em7admin** with the appropriate password.
12. Execute the following command on the **primary** Database Server:

```
sudo rm /tmp/.proc_mgr_pause
```

13. Enter the password for the em7admin user and confirm the command when prompted.
14. Either go to the console of the **secondary** Database Server or use SSH to access the **secondary** Database Server.
15. Log in as **em7admin** with the appropriate password.
16. Reboot the **secondary** Database Server:

```
sudo reboot
```

17. Enter the password for the em7admin user when prompted.

Rebooting Three Database Servers Configured for High Availability and Disaster Recovery

Perform the following steps to reboot three Database Servers configured for high availability and disaster recovery. In this configuration, two Database Servers are configured as a High Availability cluster and one Database Server is configured for Disaster Recovery.

1. Either go to the console of the **secondary** Database Server in the HA cluster or use SSH to access the **secondary** Database Server in the HA cluster,
2. Log in as **em7admin** with the appropriate password.
3. Check the status of both Database Servers by typing the following command at the shell prompt:

```
drbdadm status
```

4. Stop the cluster service with the following command on the **secondary** Database Server in the HA cluster:

```
sudo systemctl stop pacemaker
```

5. Enter the password for the em7admin user when prompted.
6. Either go to the console of the **primary** Database Server in the HA cluster or use SSH to access the **primary** Database Server in the HA cluster.
7. Log in as **em7admin** with the appropriate password.
8. Pause the system and stop the cluster service on the **primary** Database Server in the HA cluster :

```
sudo touch /tmp/.proc_mgr_pause  
sudo systemctl stop pacemaker
```

9. Enter the password for the em7admin user when prompted
10. Reboot the **primary** Database Server in the HA cluster:

```
sudo reboot
```

11. After the **primary** Database Server in the HA cluster has rebooted, either go to the console of the **primary** Database Server in the HA cluster or use SSH to access the **primary** Database Server in the HA cluster.

12. Execute the following command on the **primary** Database Server in the HA cluster:

```
sudo rm /tmp/.proc_mgr_pause
```

13. Enter the password for the em7admin user and confirm the command when prompted.
14. Either go to the console of the **secondary** Database Server in the HA cluster or use SSH to access the **secondary** Database Server in the HA cluster.
15. Log in as **em7admin** with the appropriate password.
16. Reboot the **secondary** Database Server in the HA cluster:

```
sudo reboot
```

17. Enter the password for the em7admin user when prompted.
18. Either go to the console of the Database Server for Disaster Recovery or use SSH to access the Database Server for Disaster Recovery.
19. Log in as **em7admin** with the appropriate password.
20. Reboot the Database Server for Disaster Recovery:

```
sudo reboot
```

21. Enter the password for the em7admin user when prompted.

Upgrading to Aurora 3 RDS (MySQL 8.0)

NOTE: This section applies only to users who deploy Skylar One on AWS and are currently running on Aurora 2 RDS (MySQL 5.7). If you do not deploy Skylar One on AWS or you are already running on Aurora 3, you can skip this section.

If you deploy Skylar One using AWS, you are currently running on Aurora 2 RDS (MySQL 5.7), and are upgrading to one of the following Skylar One versions, you can upgrade to Aurora 3 RDS (MySQL 8.0):

- Skylar One 12.1.2
- Skylar One 12.3.0 or later

NOTE: Aurora 3 upgrades are not supported for Skylar One 12.2.x.

Before You Upgrade to Aurora 3

Before you upgrade to Aurora 3, you must have already done the following:

- Ensured that you have administrator access to the AWS data engines, RDS, and IAM from the AWS console.
- Already upgraded Skylar One to a version that supports Aurora 3.
- Created an RDS snapshot.
- Created an Ansible AWX instance using the "ScienceLogic Skylar One Deployment - AWX V5" AMI.

NOTE: To obtain this AMI, contact ScienceLogic Support.

- Logged in to the AWX instance using credentials provided by ScienceLogic.
- Created a jump host using AWX, if you do not already have one.
- Updated the deploy, em7admin, and jump host credentials with the correct information.
- Updated the DE01 and jump host IP addresses.

Performing the Aurora 3 Upgrade

To upgrade to Aurora 3:

1. Ensure that your Skylar One appliances are in *maintenance mode*.
2. Log in to your AWX instance using the credentials provided by ScienceLogic.
3. Run the "AWS - RDS Aurora3 Upgrade" job with the following input:

```
---  
  
aws_region:  
  
client:  
  
vpc_id:
```

4. After the playbook has executed successfully, verify that your database and application perform the post-application validation check.

Restoring the SSL Certificates

To restore your SSL Certificates:

1. Login to the console of the Database Server or SSH to the Database Server.
2. Open a shell session.
3. Enter the following at the shell prompt:

```
cp /etc/nginx/silosssl.key.bak /etc/nginx/silosssl.key  
cp /etc/nginx/silosssl.pem.bak /etc/nginx/silosssl.pem
```

4. Repeat these steps on each Database Server in your Skylar One system.

Clearing System Cache

After upgrading Skylar One, you should clear your system cache to remove cached items from Skylar One and prevent several potential issues that can occur post-upgrade due to caching. To do so, go to Misc > Clear Skylar One Cache.

Updating Default PowerPacks

Every time you install a software update on your appliances, ScienceLogic recommends that you also install the updates for all the PowerPacks that were included in the software update.

ScienceLogic includes multiple PowerPacks in the default installation of Skylar One. When you apply an update to your system, new versions of the default PowerPacks will be automatically imported in to your system. If a PowerPack is included in an update and is not currently installed on your system, Skylar One will automatically install the PowerPack. If a PowerPack is included in an update and is currently installed on your system, Skylar One will automatically import (but not install) the PowerPack.

If PowerPacks have been imported into your system but have not been installed, the **Update** column appears in the **PowerPack Manager** page (System > Manage > PowerPacks). For each PowerPack that has been imported to your system but has not been installed, the lightning bolt icon (⚡) appears in the **Update** field on the **PowerPack Manager** page.

To install the updates for multiple PowerPacks:

1. Go to the **PowerPack Manager** page (System > Manage > PowerPacks) and click the checkbox for each PowerPack you want to install.
2. In the **Select Action** drop-down field (in the lower right), choose *Update PowerPack(s)*. Skylar One displays a warning message before updating the PowerPack(s).
3. Click the **[OK]** button to continue the installation.
4. Click the **[Go]** button. If you completed the update, updated information about the PowerPack will appear in the **PowerPack Manager** page. All the items in the PowerPack will be installed in your Skylar One system.

NOTE: You can install multiple PowerPacks with the **Select Action** drop-down list only if each selected PowerPack includes an embedded Installation Key. PowerPacks that do not include embedded Installation Keys will fail to install.

NOTE: If the **Enable Selective PowerPack Field Protection** checkbox on the **Behavior Settings** page (System > Settings > Behavior) is selected, certain fields in Event Policies, Dynamic Applications, and Device Classes will **not** be updated.

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