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# Docker PowerPack Release Notes

Version 106

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## Overview

Version 106 of the *Docker PowerPack* includes a new execution environment, support for Military Unique Deployment (MUD) environments, and adds new Run Book Automation policies, Run Book Actions, events and alerts.

- **Minimum Required SL1 Version:** 8.14.1

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## Before You Install or Upgrade

Ensure that you are running version 8.14.1 or later of SL1 before installing *Docker* version 106.

**NOTE:** For details on upgrading SL1, see the appropriate [Release Notes](#).

You must also enable the Docker API. For instructions, see the *Monitoring Docker* manual.

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## Installation or Upgrade Process

To install version 106 of the *Docker PowerPack*, perform the following steps:

**TIP:** By default, installing a new version of a PowerPack will overwrite all content in that PowerPack that has already been installed on the target system. You can use the **Enable Selective PowerPack Field Protection** setting in the **Behavior Settings** page (System > Settings > Behavior) to prevent the new version of the PowerPack from overwriting local changes for some commonly customized fields.

**NOTE:** If you are currently using the Dynamic Applications in this PowerPack to monitor devices, collection errors might occur for one or two polling cycles during the installation of a new version. To prevent collection errors during an upgrade, you can optionally disable collection for monitored devices before performing the following steps and re-enable collection after the upgrade.

1. Familiarize yourself with the [Known Issues](#) for this release.
2. See the [Before You Install or Upgrade](#) section. If you have not done so already, upgrade your system to the 8.14.1 or later release.
3. Search for and download the *Docker* PowerPack from the **PowerPacks** page on the [ScienceLogic Support Site](#).
4. In SL1, go to the **PowerPack Manager** page (System > Manage > PowerPacks).
5. Click the **[Actions]** button and choose *Import PowerPack*. The **Import PowerPack** modal appears.
6. Click **[Browse]** and navigate to the PowerPack file from step 3.
7. Select the PowerPack file and click **[Import]**. The **PowerPack Installer** modal displays a list of the PowerPack contents.
8. Click **[Install]**. After the installation is complete, the PowerPack appears on the **PowerPack Manager** page.

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## Features

Version 106 of the *Docker* PowerPack includes the following features:

- Dynamic Applications that discover and collect data from Docker component devices
- Device Classes for each type of Docker component device monitored
- Event policies that are triggered when Docker devices meet certain status criteria
- Run Book Actions and Policies that automate some aspects of the device discovery and creation process
- An example Basic/Snippet Credential and an example SSH/Key Credential for discovering Docker devices
- Device Dashboards that display information about Docker component devices

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## Enhancements and Issues Addressed

The following enhancements and addressed issues are included in version 106 of the *Docker* PowerPack:

- The "Docker EE" execution environment was added to the PowerPack.
- Support for Military Unique Deployment (MUD) environments was added to the PowerPack.
- Support for concurrent SSH collection was added to the PowerPack.
- The "Docker: Container Deleted" event policy has been updated to have a severity of *Notice*.
- The following content libraries have been added to the PowerPack:
  - em7\_api\_support 1.2.1
  - silo\_apps 2.2.0
  - silo\_ssh 0.4.0
  - silo\_ssh\_requests 0.1.1
- The "silo\_docker" content library was updated to version 0.3.0.
- The following event policies have been added to the PowerPack:

- Docker: Container Exited With Non 0 Exit Code
  - Docker: Leader Node has failed to collect
  - Docker: Service Stopped Working
- The cache time to live in the PowerPack's Dynamic Applications was reduced.
- The **Maximum Devices** field was updated to 15 by default in the following Dynamic Applications:
  - Docker: Container Configuration
  - Docker: Container Interface Performance
  - Docker: Container Performance
- The following Dynamic Applications have been updated to handle the "0.0.0.0" value delivered by the Docker API and display the correct IP address:
  - Docker: Service Configuration
  - Docker: Service Performance
  - Docker: Stack Performance
  - Docker: Swarm Cluster Discovery
  - Docker: Swarm Configuration
  - Docker: Swarm Performance
- The following alerts were added to the "Docker: Swarm Configuration" Dynamic Application:
  - Docker: Node Status Has Changed
  - Docker: Node Status Returned to Normal
- A method was implemented in the "Docker: Swarm Performance" Dynamic Application to handle exceptions when the cache is empty.
- The "Docker: Hosts and Swarm realignment to leader node Update" Run Book Automation policy and the following Run Book Actions were added to the PowerPack:
  - Docker: Hosts and Swarm realignment to leader node Retriever
  - Docker: Hosts and Swarm realignment to leader node Update
- In the following Dynamic Applications, the Class Type of the "Memory Usage" collection object was updated to Performance Gauge:
  - Docker: Service Performance
  - Docker: Stack Performance
  - Docker: Swarm Performance
- All of the collection objects in the "Docker: Swarm Cluster Discovery" Dynamic Application were updated to have the **Disable Object Maintenance** checkbox disabled by default.

**NOTE:** After a patch, it is recommended that you select the **Disable Object Maintenance** checkbox on collection objects for at least all the Manager Nodes and Worker Nodes. After nightly discovery, collection will be re-enabled on the cluster. If you disable the Docker service for a long period of time, it is also recommended that you re-enable **Disable Object Maintenance** on all collection objects to restart data collection on Docker Dynamic Applications for all nodes and clusters affected.

- The "Docker: Host Device Class Realignment" Run Book Action was updated to enable the **Auto-Update** checkbox in the **Device Properties** page (Devices > Device Manager > wrench icon) to avoid conflicts with the *Linux Base Pack* PowerPack during nightly discovery.

**NOTE:** When upgrading the *Docker* PowerPack to version 106, you must manually enable the **Auto-Update** option.

- The following Dynamic Applications were updated to address an issue with the parsing of "blkio" metrics:
  - Docker: Container Performance
  - Docker: Service Performance
  - Docker: Stack Performance
- The following Dynamic Applications were updated to address an issue with the configuration of "blkio" metrics:
  - Docker: Container Performance
  - Docker: Image Performance
  - Docker: Service Performance
  - Docker: Stack Performance
  - Docker: Swarm Performance
- All presentation objects in the *Docker* PowerPack were updated to have the **Summarization State** field enabled by default.
- The PowerPack was updated to address an issues in which deleted Docker Swarm components could not be rediscovered.
- The "Maximum RAM+Swap" collection object was removed from the "Docker: Container Performance" Dynamic Application because the metric is no longer used.
- The "Docker: Component Vanish Timer Update" Run Book Action was updated to run only for the service, container, or stack that is discovered and not for the entire DCM tree of containers. (Support Case: 00166342)
- The "Docker: Service Performance" Dynamic Application was updated to require that all nodes working with the Docker service be discovered on the same Data Collector to address an issue in which the Dynamic Application was returning an error. (Support Case: 00169948)
- The "Docker: Container Performance" Dynamic Application was updated to address an issue in which alerts and events for memory and CPU usage were not being triggered. (Support Case: 00027783)

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## Known Issues

The following known issues affect version 106 of the *Docker PowerPack*:

- The "Docker: Container Performance" Dynamic Application getting more than 100% of CPU usage is an expected Docker behavior. SL1 will report CPU usage peaks just as it reports it on the Docker CLI. CPU usage can exceed 100% depending on the number of cores the container has: for example, two CPUs can report numbers up to 200%, three CPUs can report up to 300%, and so on.
- If a discovered device is reporting the "Device Failed Availability Check: UDP/SNMP check requested but invalid or no credential was specified" message, ensure that the **Availability Port** field in the **Device Properties** page (Devices > Device Manager > wrench icon) is configured as *ICMP/ICMP*.

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