SCUtils Management Pack for APC PDU Guide

Solution for Microsoft System Center 2012 Operations Manager

Published: 16th September 2016

Version: 1.2

Authors:

Marat Kuanyshev

Feedback:

support@scutils.com

Contents

1. Getting started

SCUtils Management Pack for APC PDU is an extension for Microsoft System Center 2012 Operations Manager to monitor APC PDU devices. The product is based on the 'powernet417.mib' MIB file.

APC is a trademark of the [Schneider Electric](#). All other trademarks are property of their respective owners.

2. Compatibility

SCUtils Management Pack for APC PDU has been designed and tested for the following versions of Microsoft System Center 2012 Operations Manager:

- Microsoft System Center 2012 Operations Manager R2.

The product might work in Microsoft System Center 2012 Operations Manager and Microsoft System Center 2012 Operations Manager SP1, but it is not tested. If you intend to use **SCUtils Management Pack for APC PDU** in pre-R2 environments, please carefully evaluate the product in the testing environment.

2.1. Try before buy

SCUtils Management Pack for APC PDU has a unified installer for trial and full versions and can be obtained on http://www.scutils.com on the Download page. We highly recommend to evaluate the software in a testing lab before an implementing in the production environment.

The free 15-day trial version is fully functional and offers every feature of the product. Please become familiar with this guide before starting using **SCUtils Management Pack for APC PDU** and do not hesitate to contact us at support@scutils.com with any questions. You are also more than welcome to our YouTube channel where you will find video tutorials for **SCUtils Management Pack for APC PDU** and our other products.

2.2. Feedback

Our team is always on the way of the improvement of our solutions. We highly appreciate every feedback from our customers. Please send us your thoughts, complains, and feature requests at support@scutils.com.

3. Requirements

All APC PDU devices must be discovered as network devises. Please refer to the [Operations Manager guide](#) to details.

4. Installation

Download the installation package **SCUtils Management Pack for APC PDU Setup.msi** from Download page of www.scutils.com. Copy the installation package to the Operations Manager management server.

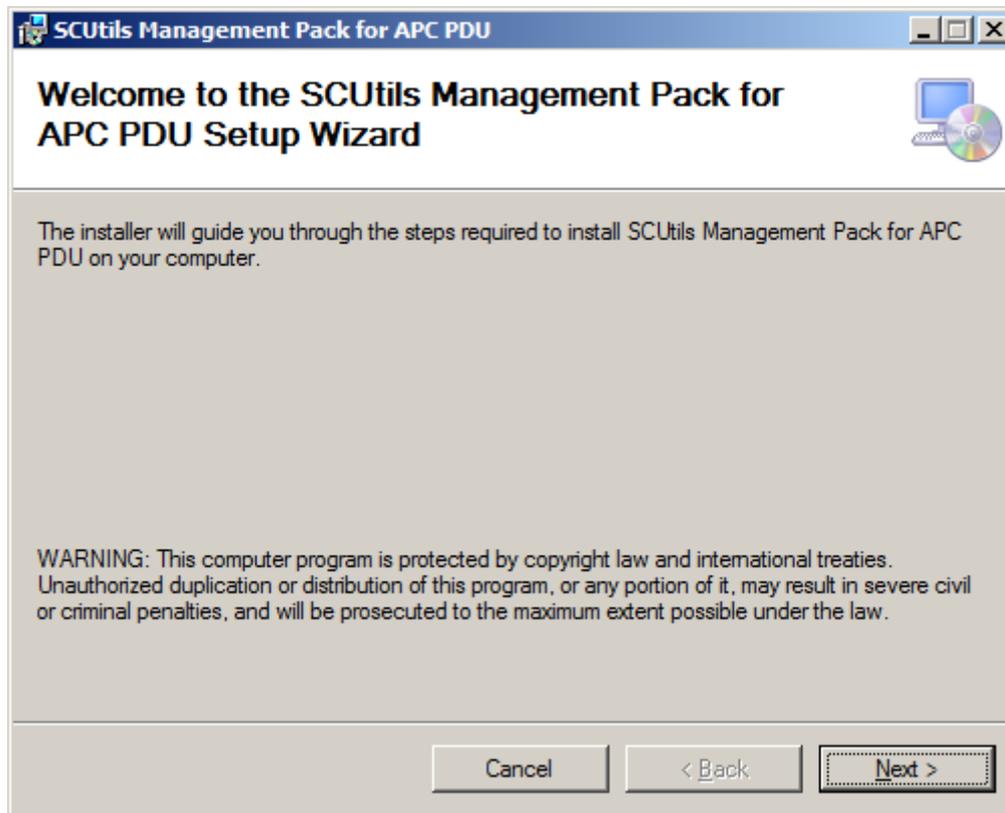Run **SCUtils Management Pack for APC PDU Setup.msi** file on the server.

Fig.1 Installing

Follow the installation wizard steps (Fig.1). On the **Select Installation Folder** page you can change the location in which **SCUtils Management Pack for APC PDU** will be installed.

After the successful installation, the installation folder will be opened automatically.
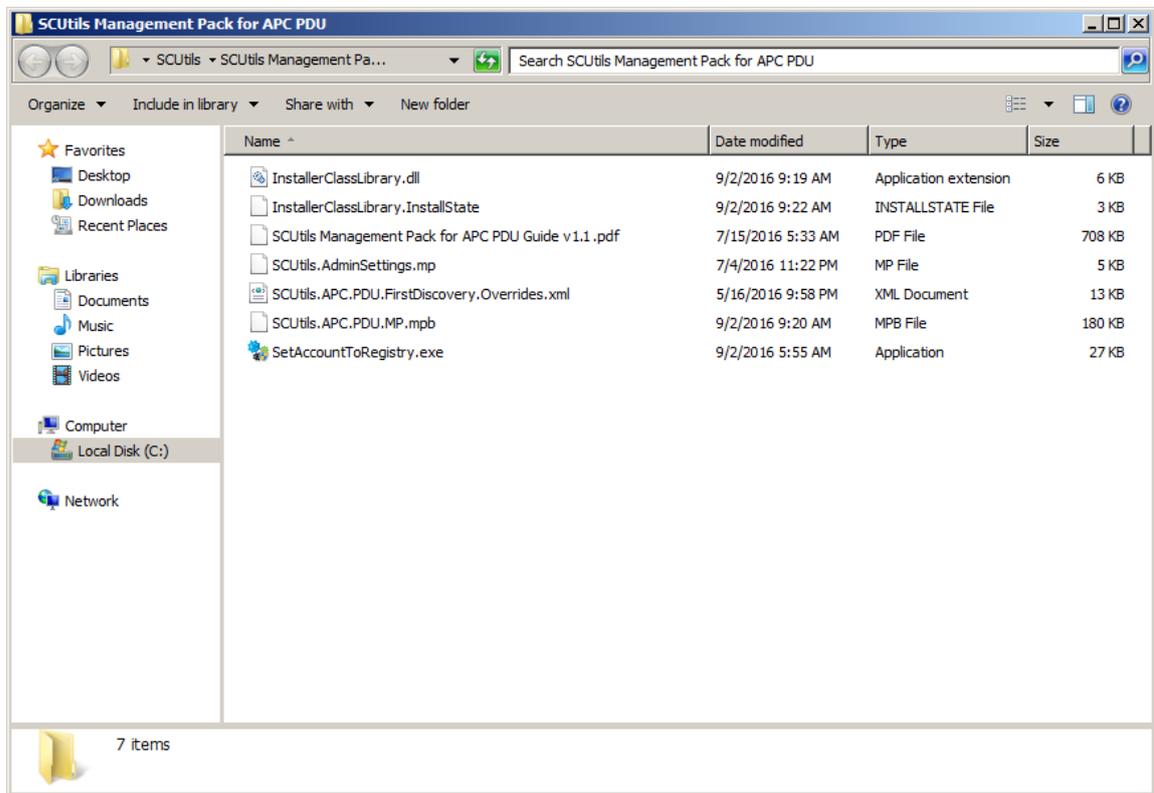
Fig. 2 Installation folder

To install the management packs:

1. Log on to the computer that hosts the **Operations Manager console** using an account that administrative rights in the Operations Manager.
2. In the Operations Manager console, select **Administration**.
3. In the **Administration** pane, select **Management Packs.**
4. In the **Tasks** pane, under **Actions**, click **Import Management Packs**.
5. In the **Select Management Packs** box, click on **Add** button, select **Add from disk**, in the **Online Catalog Connection** dialog select **No**.
6. In the **Select Management Packs to Import** box, point to the location of **SCUtils Management Pack for APC PDU** installation folder (the default path is '*C:\Program Files\SCUtils\ SCUtils Management Pack for APC PDU*').
7. In the list of files, select the management packs **SCUtils.AdminSettings.mp** (might be already presented if you have deployed our other products) and **SCUtils.APC.PDU.MP.mpb**, and then click **Open**.
8. In the window **Import Management Packs,** click **Install**.

After the installation you have to activate your copy of the software. There are two ways to activate the product: online (recommended) and offline.

4.1. Using with gateway servers

If you plan to use Operations Manager gateway server as members of a resource pool to monitor APC PDUs, you have the following actions in this manner:

1. Install the **Operations Manager console** on **each gateway server** that is a member of a resource pool for monitoring APC PDUs.
2. Adjust a firewall if a gateway server and its management server are separated by the firewall.

3. Specify the **credentials** for an account that will be used to connect to a management server of the gateway. This action has to be performed on **each gateway server** that is a member of a resource pool for monitoring APC PDUs.

If the gateway server and management server are separated by a firewall, you have to adjust the firewall to open the following ports in both directions between the gateway server and its management server:

1. TCP 5723
2. TCP 5724

Please refer to the [Microsoft article](#) to find an additional information about ports used by Operations Manager servers.

> If you have already specified the **credentials** on gateway servers for **other SCUtils products**, you don't need to repeat the procedure. If not, you need to set the credentials for the connectivity.

To specify the credentials:

1. Prepare an account that is a member of **Operations Manager Read-Only Operators** group.
2. Copy **SetAccountToRegistry.exe** from the installation folder (the default path is '*C:\Program Files\SCUtils\ SCUtils Management Pack for APC PDU*') to **each gateway server** that is a member of a resource pool for monitoring APC PDUs.
3. Run **SetAccountToRegistry.exe** using a local administrator account.
4. Fill in all the required fields.
5. Click on **Test** button.
6. If the connectivity test has succeeded, click on **Save** button (the password will be encrypted before saving). Otherwise, reenter the information and try to test again.
7. Repeat the procedure on **each gateway server** that is a member of a resource pool for monitoring APC PDUs.
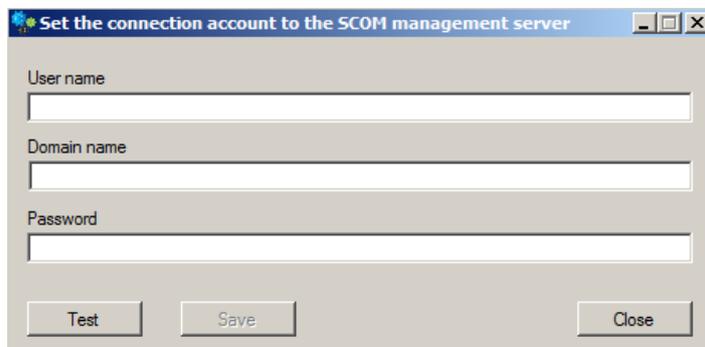
Fig. 3 SetAccountToRegistry dialog.

4.2. Online activation

Run the Operations Manager console under an Operations Manager administrative account on the computer connected to internet. Open **SCUtils Management Pack for APC PDU Activation** to activate the copy of the product:

1. In the Operations Manager console, select **Administration.**
2. In the **Administration** pane, expand **SCUtils Settings**.
3. In the **SCUtils Products Activation** view, click **SCUtils Management Pack for APC PDU Activation.**
4. In the **Tasks** pane, under **SCUtils Management Pack for APC PDU Activation Tasks**, click **Activate**.

5. **Run Task - Activate** window will be opened (Fig.4).

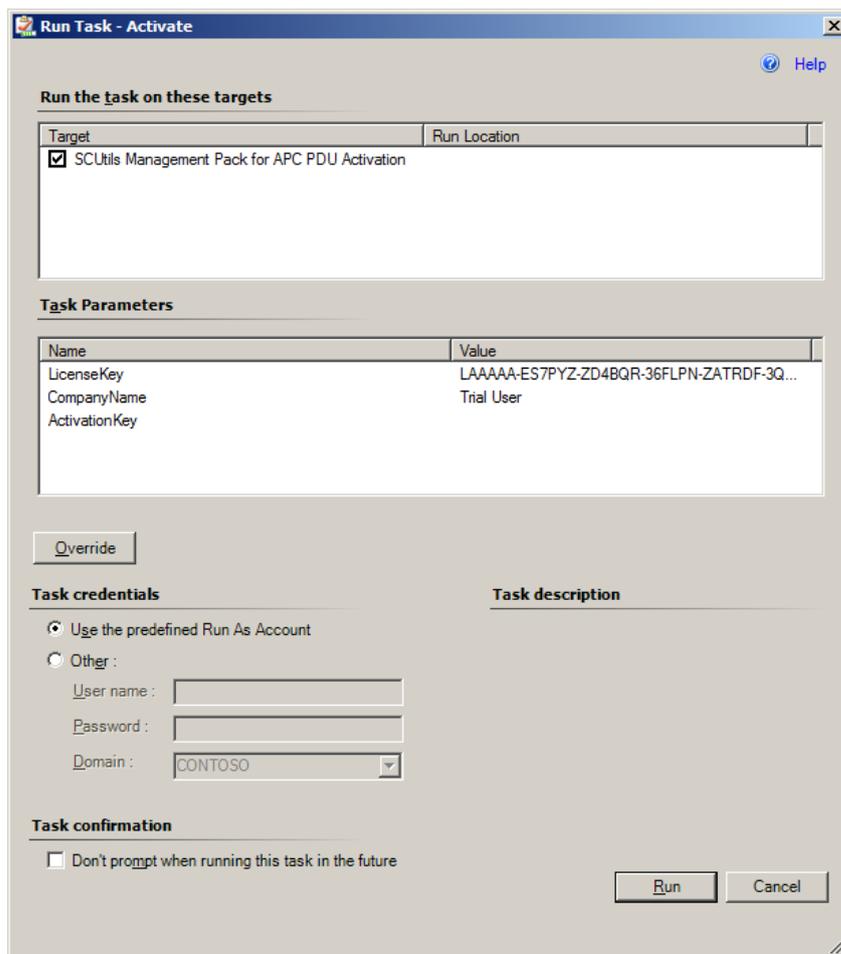

Fig.4 SCUtils Management Pack for APC PDU Activation

If you want to evaluate the product, simply click on **Run** button.

If you want to activate a full version, click on **Override** button, then define new values for **CompanyName** and **LicenseKey** (exactly as in the license), then click on **Run** button.

If the management server haven't finished the deployment of the management pack's resources, you could receive errors or the task will stay in a scheduled state. In this case, just wait for 2-5 minutes and run the **Activate** task again.

If you have any issues with the activation process or are not able to use the online activation, please send your **Unique ID** at support@scutils.com and we will provide you with an offline **Activation Key**. To get the **Unique ID** of your environment, use **Get a Unique ID for an offline activation** task.

4.3. Offline activation

If you prefer to activate offline or for some reasons you are not able to use the online activation, send your **Unique ID** at support@scutils.com and specify what activation type you need (trial or full) and we will provide you with offline **Activation Key**.

After you receive the Activation Key, use **Override** button fill out **CompanyName**, **LicenseKey,** and **ActivationKey** (of just **ActivationKey** for a trial activation), then click on **Run** button.

5. Uninstallation

To uninstall **SCUtils Management Pack for APC PDU** log in the Operations Manager management server where the product was installed. Open **Control Panel**, click on **Uninstall a program**, select **SCUtils Management Pack for APC PDU**, and click on **Uninstall**.

Open Operations Manager 2012 console, go to **Administration** -> **Management Packs.** Select **SCUtils Management Pack for APC PDU** and click on **Delete** task. If required, delete all depending management pack as well. If you don't have any other SCUtils products, you can also delete **SCUtils Base Settings Library** management pack.

6. Using SCUtils Management Pack for APC PDU

Once you complete the activation process, you can start using **SCUtils Management Pack for APC PDU**.

6.1. Discovery APC PDU devices

After the successful activation the discovery process will start. The default intervals for discoveries have different values. It allows to discover all APC PDU instances within 1 or 2 days. You can use override to specify shorter intervals to speed up the process. The installation folder includes a management pack named **SCUtils.APC.PDU.FirstDiscovery.Overrides.xml**. You could import it to set the intervals for all discoveries to 300 seconds (5 minutes). When the discovery is over, please don't forget to delete this management pack (**Overrides for SCUtils Management Pack for APC PDU**).

After the discovery is completed, please use overrides to increase the discovery intervals to **86400** seconds (24 hours). Please refer to the Operations Manager guide to details.

To change the scope in the Object Discoveries view in the Authoring Pane, please filter objects by '*PDU*'.
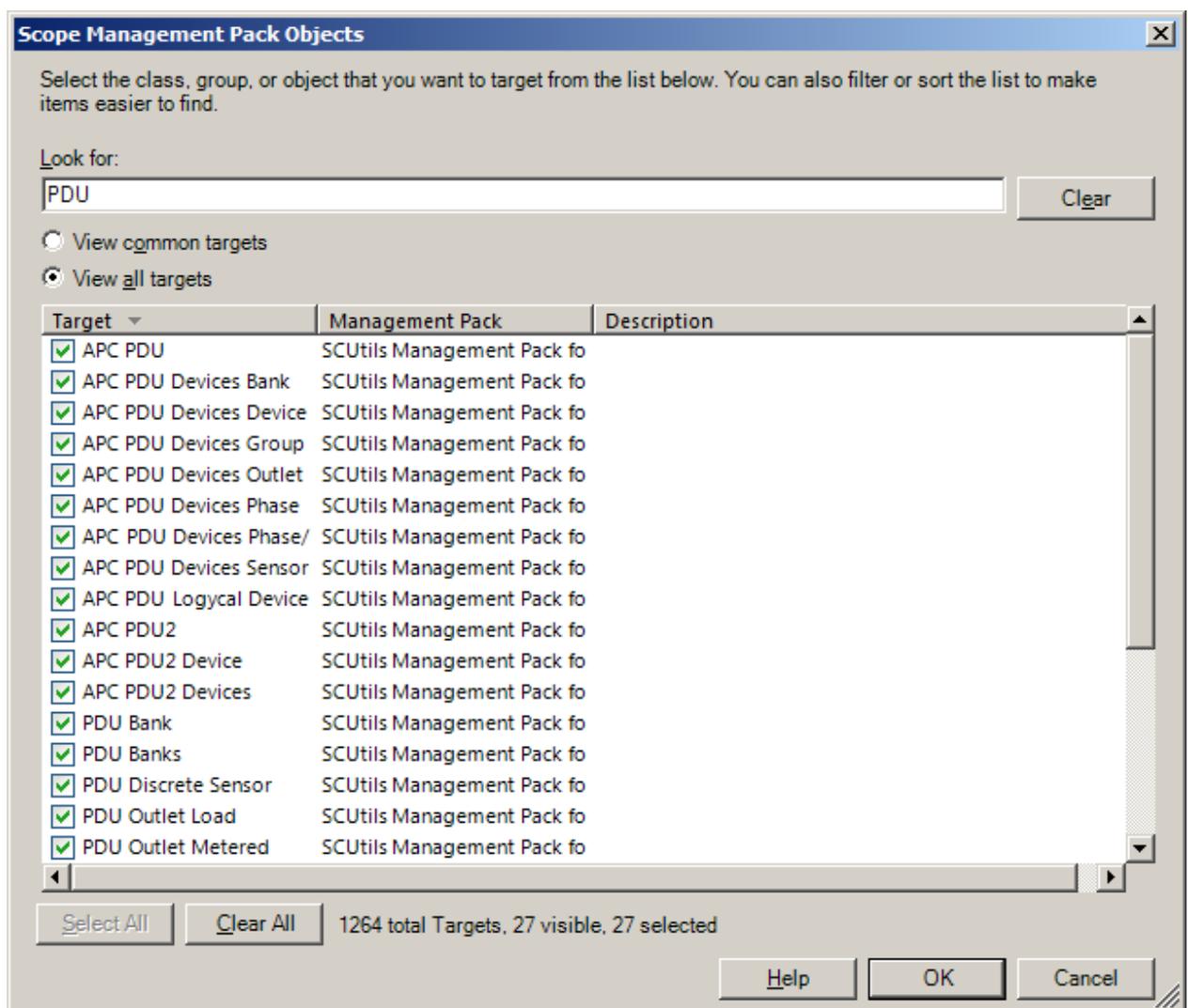

Fig. 5 Changing the scope in Object Discoveries

6.2. Types of APC PDU devices

SCUtils Management Pack for APC PDU is intended to use with any type of metered or switched APC PDU devices. There are two main types of APC PDU devices as stated in 'powernet417.mib': **rPDU** and **rPDU2**.

The **rPDU** and **rPDU2** use different SNMP OIDs to communicate. That causes the information about APC PDU devices is presented in double views for alerts, performance, states, etc.

6.3. Monitors

SCUtils Management Pack for APC PDU uses monitors to control the state of PDU's components as well as connected sensors if presented.

All monitors are enabled by default. Please use overrides to disable any monitor if required.

6.4. Informative rules

6.4.1. Phase/Bank Load Rule

The rule presents a phase/bank load measured in Amps.

6.4.2. PDU load in kilowatts Rule

The rule presents the power consumption of the Rack PDU load in kilowatts.

6.4.3. PDU load energy Rule

The rule presents a user resettable energy meter measuring Rack PDU load energy consumption in kilowatt-hours.

6.4.4. PDU load in kiloVoltAmps (kVA) Rule

The rule presents an apparent power consumption of the Rack PDU load in kiloVoltAmps (kVA).

6.4.5. Phase current draw in Amps Rule

The rule indicates the current draw, in Amps, of the load on the Rack PDU phase.

6.4.6. Phase Voltage, in Volts Rule

The rule indicates the Voltage, in Volts, of the Rack PDU phase.

6.4.7. Phase load power in kilowatts (kW) Rule

The rule indicates the load power, in kilowatts (kW), consumed on the Rack PDU phase.

6.4.8. Phase load apparent power in kiloVoltAmps (kVA) Rule

The rule indicates the load apparent power, in kiloVoltAmps (kVA), consumed on the Rack PDU phase.

6.4.9. Phase load power factor Rule

The rule indicates the load power factor of the Rack PDU phase.

6.4.10. Bank current draw, in Amps Rule

The rule indicates the current draw, in Amps, of the load on the Rack PDU bank.

6.4.11. Outlet current draw, in Amps Rule

The rule indicates the current draw, in Amps, of the load on the Rack PDU outlet.

6.4.12. Power draw of the load Rule

The rule indicates the power draw of the load on the Rack PDU outlet.

6.4.13. Outlet load energy consumption, in kilowatt-hours Rule

A rule indicates a user resettable energy meter measuring Rack PDU load energy consumption in kilowatt-hours.

6.4.14. Sensor temperature reading in degrees Fahrenheit Rule

A rule indicates a sensor temperature reading in degrees Fahrenheit.

6.4.15. Sensor temperature reading in degrees Celsius Rule

A rule indicates a sensor temperature reading in degrees Celsius.

6.4.16. Sensor humidity reading in percent relative humidity Rule

A rule indicates a sensor humidity reading in percent relative humidity.

6.5. SNMP traps

SCUtils Management Pack for APC PDU supports monitoring with SNMP traps.

Please make sure that SNNMP Trap service is not running on the management servers belong to resource pools used for network monitoring.

Name	Description	Status	Startu... ▲	Log On As
Routing and Remot...	Offers rout...		Disabled	Local System
SNMP Trap	Receives tr...		Disabled	Local Service
SQL Server Browser	Provides S...		Disabled	Local Service
SSDP Discovery	Discovers ...		Disabled	Local Service
UPnP Device Host	Allows UPn...		Disabled	Local Service
Application Experie...	Processes ...		Manual	Local System
Application Identity	Determines...		Manual	Local Service

Fig. 6 Inactive SNMP Trap service

Then set up APC PDUs to send SNMP traps to specific events using **IP address** or **hostname** of the **management server** from the network monitoring resource pool.

Specify **SNMP v1** *(SNMP trap rules are not supported for SNMP v3 devices in Operations Manager 2012 – more details* https://technet.microsoft.com/en-us/library/hh212935.aspx*)*.

Specify the **same community string** as in a discovery rule for that APC PDU.

Please refer to a manual of your APC PDU for details.

Fig. 7 Setting up SNMP trap receiver.

The management pack contains of around 190 rules for each trap type. For each rule you can specify your own **Priority** and **Severity** level using **overrides**. Please refer to the Operations Manager guide to details.

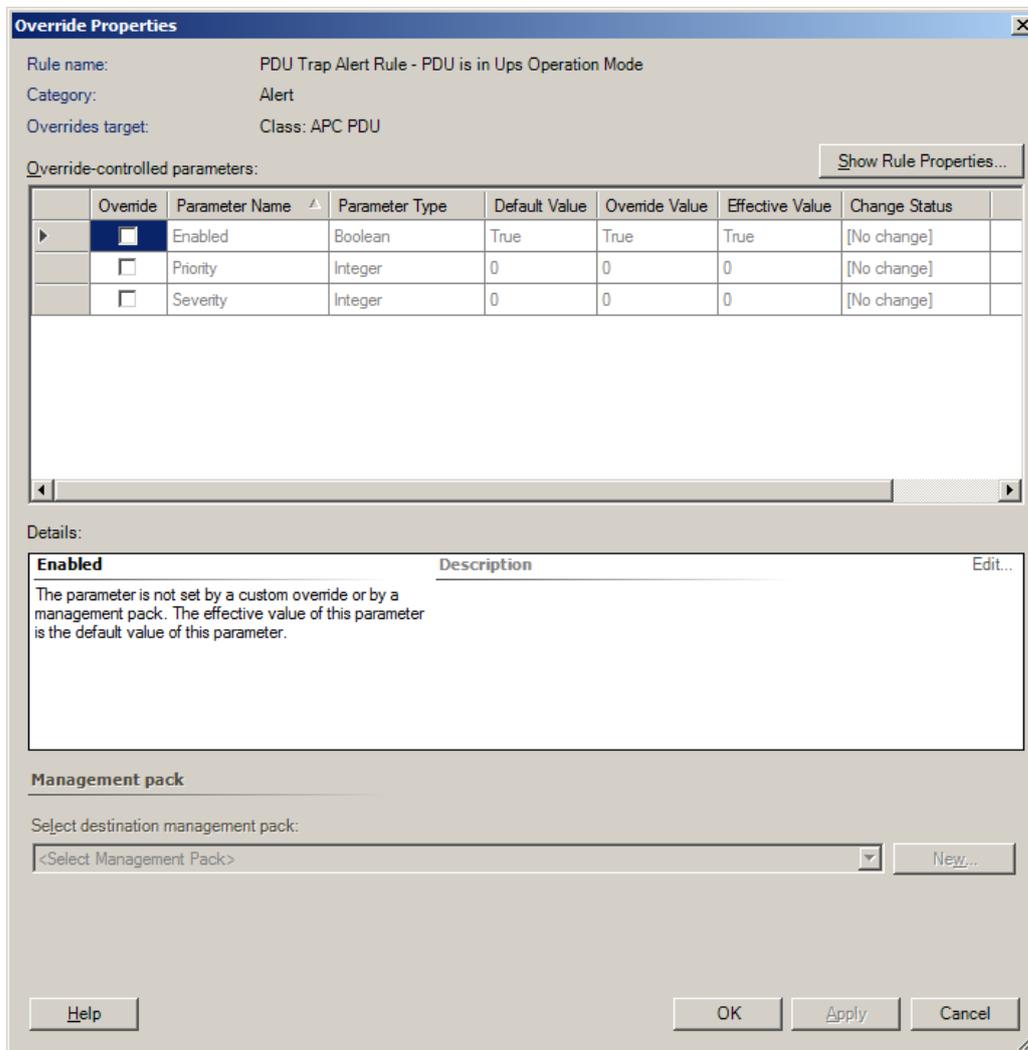The name of trap alert rule starts with 'PDU Trap Alert Rule' of 'PDU2 Trap Alert Rule'.

Fig. 8 Overriding Priority and Severity.

Severity defines the alert severity and can be one of the following values:

- 0 - Information
- 1 - Warning
- 2 – Critical

Priority defines the alert priority and the mapping, and it can be one of the following values:

- 0 - Low
- 1 – Medium
- 2 – High

6.6. Reports

SCUtils Management Pack for APC PDU includes 19 reports available in the Reporting workspace.

7. Known issues and troubleshooting

Here we describe the known issues. If you haven't found a solution in this section, please contact us at support@scutils.com.

7.1. The Activate task fails to complete

If you've just installed the management packs and try to activate the product, the Activate task may fail to complete. It happens because the management servers require some time to complete the deployment of the management pack's resources. Please wait for 2-5 minutes and try to activate again. If the task fails again, just give a bit more time and repeat the attempt.