StruxureWare Operations

Server Configuration Guide

Version
7.2

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Optimizing performance of StruxureWare Data Center Operation running on VMware

You can deploy the StruxureWare Data Center Operation platform on a physical or virtual server.
If you deploy as a virtual server on VMware, you can install VMware tools to optimize performance significantly.

Follow the below steps or watch this short video tutorial (5:02).

1. Open the Data Center Operation server console, for example through the vSphere Client.
2. Log on to the Data Center Operation server with the root credentials (default: `root / apc`) and press Enter.
3. Enable Debian packages.
    a. Type `nano /etc/apt/sources.list` to open the file and press Enter
    b. Place the cursor in front of each line and remove #. Press Ctrl+X to save and exit.
    c. Type `Y` to the save buffer question and press Enter.
4. Press Ctrl+X to exit and save.
5. Update the package cache: Type `aptitude update` and press Enter.
6. Install development packages: Type `aptitude install build-essential linux-headers-`uname -r`.`

    Tip: Use back quote ` not ' (Alt+96).

7. If prompted to continue, press Y.
8. Insert a virtual CD in the virtual machine's drive: Select Inventory > Virtual Machine > Guest > Install/Upgrade VMware Tools (in the vSphere Client).
   The option may be located in another menu in other VMware products, such as Player or Workstation.
9. Click OK to the Install VMware Tools message.
10. Mount the CD in StruxureWare Data Center Operation: Type: `mount /dev/cdrom /mnt/` and press Enter.
    The mount: block device... message is expected. The VMware Tools on the CD is now available on the Data Center Operation server.
11. Extract the VMware Tools from the CD to the server: Type `tar xvf /mnt/VMwareTools-*.tar.gz -C /tmp/` and press Enter.
12. Run the installer: Type `/tmp/vmware-tools-distrib/vmware-install.pl` and press Enter.
    You will be prompted with questions and instructions.
13. Press Enter to all of these.
    VMware Tools are now installed on the server.
14. Comment all lines in /etc/apt/sources.list again:
    a. Type `nano /etc/apt/sources.list` to open the file and press Enter.
    b. Place the cursor in front of each line and type #. Press Ctrl+X to save and exit.
    c. Type `Y` to the save buffer question and press Enter.
15. Open the Summary tab and verify the line VMware Tools: OK (in the vSphere Client).
    The option may be available in another place in other VMware products, such as Player or Workstation.

Managing server settings

Server Management settings, such as server time synchronization, can be configured in the Webmin server management interface.

Accessing Webmin

The server management interface, Webmin, provides a web-based interface for server configuration.

1. Open the Webmin web interface by typing the address of your Data Center Operation server followed by `:10000` in a Web browser, https://yourservername:10000.
2. Log on to Webmin using the root credentials (default `root / apc`).

To change the password, see here.

3. Use the menu to the left to access server management features, such as
    - PostgreSQLDatabase Server
    - System Time
    - System Logs

See also

Configuring system time synchronization (NTP)
Mounting a Windows share
Uploading data to the StruxureWare Data Center Operation server
Backing up and restoring backup
Scheduling regular backup jobs
Managing the status of nodes when migrating to a cluster environment
Managing StruxureWare Data Center Operation services

Configuring system time synchronization (NTP)

System time synchronization is needed, especially if you are running in a clustered environment with multiple servers.

1. Log on to Webmin using the root credentials (default root / apc).
2. In the left menu, select System>System Time.
3. Click the Time server sync tab.
4. Enter the server host information.
5. Select Synchronize on schedule, at All Hours.

You must configure time synchronization separately on each node.

> Recommendation: Synchronize the time on all nodes with the same NTP server.

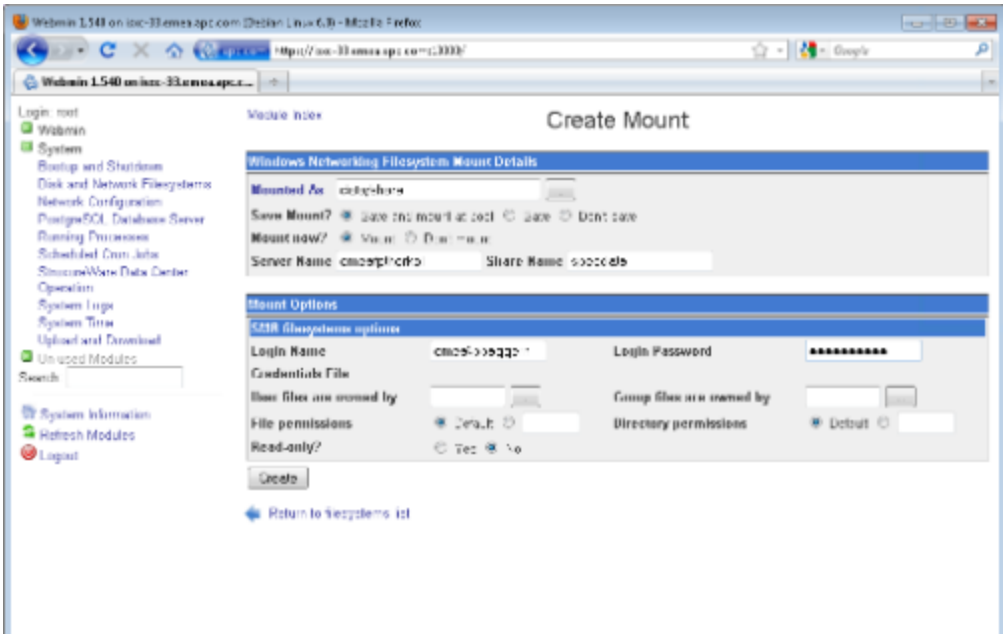
See also

Managing server settings
Installing StruxureWare Data Center Operation in a cluster environment

Mounting a Windows share

To enable sharing of files between the Data Center Operation server (Linux) and folders on your network (Windows), you must share the network server in which the folder is and give it a share name.
A Windows share can be used to configure for example backups of StruxureWare Data Center Operation on your network or migrate data to the Data Center Operation server from previous versions.

Follow the below steps or watch this short video tutorial (2:20) to see how to mount a Windows share.



1. Open the Webmin web interface in one of these ways:
    - Type the address of the Data Center Operation server followed by :10000 in a Web browser, https://yourservername:10000.
    - Type the address of your Data Center Operation server and click Server Configuration.
2. Log on to Webmin using the root credentials (default root / apc).
   To change the password, see here.
3. In the left menu, select System>Disk and Network Filesystems.
4. In the Type drop-down list, select Windows Networking Filesystem (smbfs).
5. Click Add Mount.
6. In Mounted As, browse to the folder on the Data Center Operation server that you want to use for sharing the files.
   It is recommended that you create a share folder at /data/share/.
7. Select Save and mount at boot and Mount.
8. In Server Name, type the hostname or IP address of the network server on which the folder resides.
9. In Share Name, type the name of the drive or folder on the network server that you want to share.
10. If needed for accessing the server, type the login credentials.
11. Click Create.

If, at any point, you want to delete a mounted share:

1. Reopen the Webmin web interface.
2. In the left menu, System>Disk and Network Filesystems.
3. In the list of file systems, click the share that you want to delete.
4. Select Don't save and Unmount.

See also

Backing up and restoring backup
Scheduling regular backup jobs
Uploading data to the StruxureWare Data Center Operation server
Migrating data from StruxureWare Central

Uploading data to the StruxureWare Data Center Operation server

You can upload data to the Data Center Operation server in the Webmin server management interface.

1. Open the new Data Center Operation server's Webmin web interface by typing the address of the Data Center Operation server followed by :10000 in a Web browser, https://yourservername:10000.
2. Log on to Webmin using the root credentials (default root / apc).
   To change the password, see here.

3. In the left menu, select System>Upload and Download.
4. Select Upload to server and browse to the location of data file (.tar file), and then specify the new location on the Data Center Operation server, and select Upload.

See also

Upgrading to StruxureWare Data Center Operation 7.2
Mounting a Windows share

Backing up and restoring backup

The backup is a data backup. It does not include server configuration files, such as configuration of server time, locale, or cluster setup. To ensure backup of any customized server configuration files, verify that your enterprise backup system covers these files.

Running a backup

By default, the system backs up to a local backup directory on the same disk.

1. Open the Webmin web interface by typing the address of your Data Center Operation server followed by :10000 in a Web browser, https://yourservername:10000.
2. Log on to Webmin using the root credentials (default root / apc).
   To change the password, see here.
3. In the left menu, select StruxureWare Data Center Operation.
4. In the Backup tab, type a comment for the backup if you want to be able to differentiate the backups from each other.
5. To backup immediately, click Backup now or see here for information about scheduling regular backup jobs.

For information on how to configure an external backup location, see here.

Configuring backup settings

1. Open the Webmin web interface by typing the address of your Data Center Operation server followed by :10000 in a Web browser, https://yourservername:10000.
2. Log on to Webmin using the root credentials (default root / apc).
   To change the password, see here.
3. In the left menu, select StruxureWare Data Center Operation.
4. Click Module Config.
5. In the Backup tab, select a Backup directory by clicking ... and browsing to the folder in which to save the backup file: /data/backup.
6. Specify whether to cleanup and how often:
   - Never: to never clean up
   - Days: to delete files older than the specified amount of days
   - Number: to delete old files when the specified amount of backup files have been reached
7. Click Save.

Restoring backup

1. Open the Webmin web interface by typing the address of your Data Center Operation server followed by :10000 in a Web browser, https://yourservername:10000.
   If you are working with a cluster environment, type virtual IP address of the cluster server.
2. Log on to Webmin using the root credentials (default root / apc).
   To change the password, see here.
3. In the left menu, click System and select StruxureWare Data Center Operation.
4. In the Restore tab, select an uploaded backup file in /data/backup and click Restore selected Backup.
   If the backup file you want to restore is not in the list, upload the file as described below.

Note: A restore will wipe all current data.

Uploading a backup file

Open the Webmin web interface by typing the address of your Data Center Operation server followed by :10000 in a Web browser, https://yourservername:10000.
If you are working with a cluster environment, type virtual IP address of the cluster server.

1. Log on to Webmin using the root credentials (default root / apc).
   To change the password, see here.
2. In the left menu, select Upload and Download
3. Click the Upload to server tab.
4. In Files to upload, browse to the location of your saved backup file.
   Make sure the file format is: <name><yyyy-mm-dd><hh.mm>.tar.gz
5. In File or directory to upload to, select the location on the Data Center Operation server in which to save the file: /data/backup.

See also

Scheduling regular backup jobs
Restoring IT Optimize backup
Managing server settings

Scheduling regular backup jobs

When you have created the backup configuration, you can set up the system to automatically backup regularly according to your backup strategy.

1. Open the Webmin web interface by typing the address of your Data Center Operation server followed by :10000 in a Web browser, https://yourservername:10000.
2. Log on to Webmin using the root credentials (default root / apc).
   To change the password, see here.
3. In the left menu, select System>Scheduled Cron Jobs.
4. To enable the default backup schedule:
   a. Select one of the 3 backup Data Center Operation server options as needed:
      - daily
      - weekly
      - monthly
   b. Click Enable Selected Jobs to enable the job with the default settings.
5. To customize the backup schedule:
   a. Click one of the 3 backup Data Center Operation server options as needed:
      - daily
      - weekly
      - monthly
   b. Edit the time for the system to automatically execute the backup job as needed.
   c. Select Active: Yes and save to enable the selected backup job.
      The system will automatically run the job regularly with the specified interval.

See also

Backing up and restoring backup

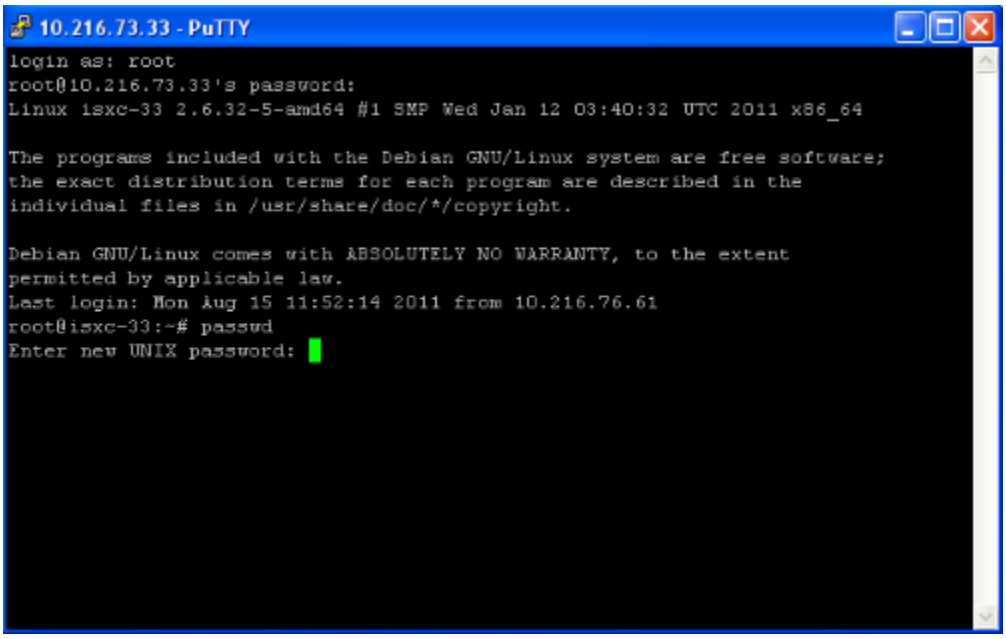
Enhancing security on the StruxureWare Data Center Operation server

Changing the root password

For security reasons, it is highly recommended that you change the root password on the Data Center Operation server.
Keep this password secure at all times and make it available to Schneider Electric service engineers who need it to be able to perform maintenance on the system.

DISCLAIMER: THERE IS NO WAY TO RESET THE ROOT PASSWORD IF YOU FORGOT IT.

1. Log on to the server with an SSH client.
   For example, use PuTTY. You can download it from here.
2. Type the command `passwd`.
3. Type the new password and type it again to confirm it.
4. Type exit.



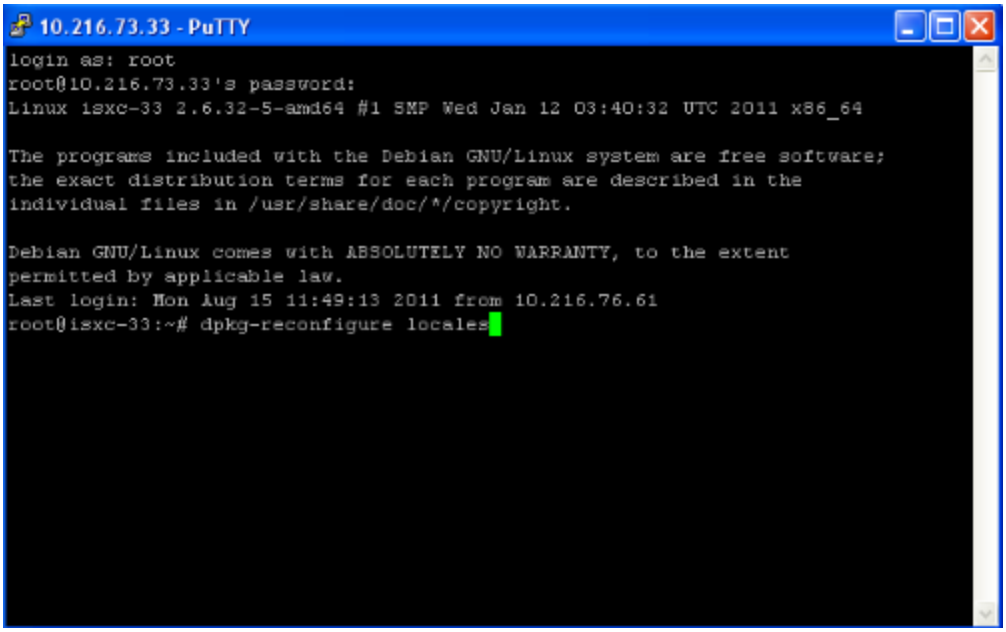
See also

Managing server settings

Reconfiguring locale on the StruxureWare Data Center Operation server

The locale settings on the Data Center Operation server control the language of the alarm messages, etc. displayed in Data Center Operation. The locale is configured during installation and you can subsequently reconfigure it as follows:

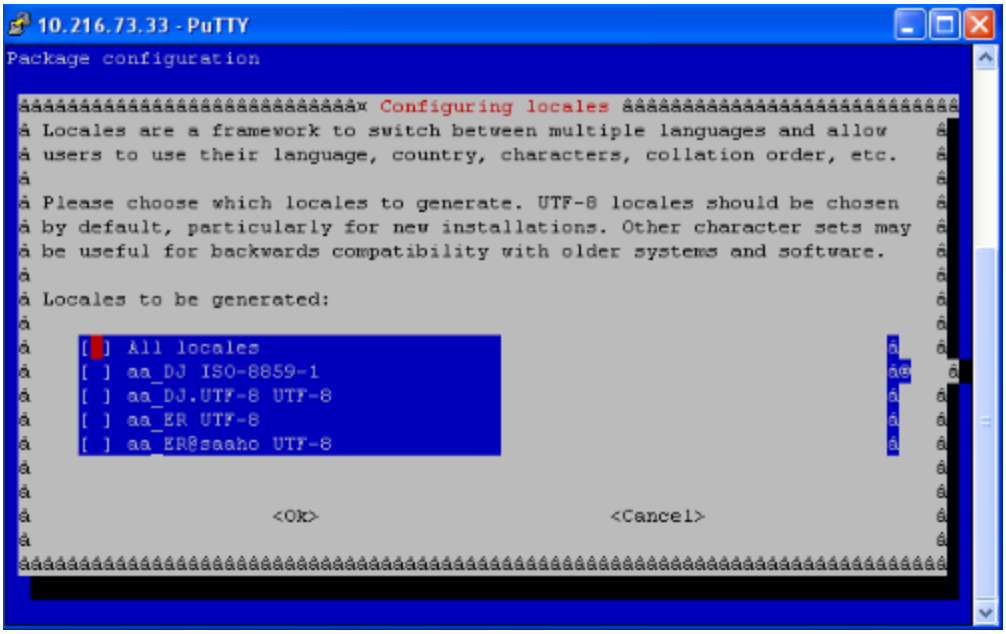
1. Log on to the server with an SSH client.
   For example, use PuTTY. You can download it from here.
2. Type the command `dpkg-reconfigure locales` and press Enter.



3. Select one of the locales supported in StruxureWare Data Center Operation, and select Ok.

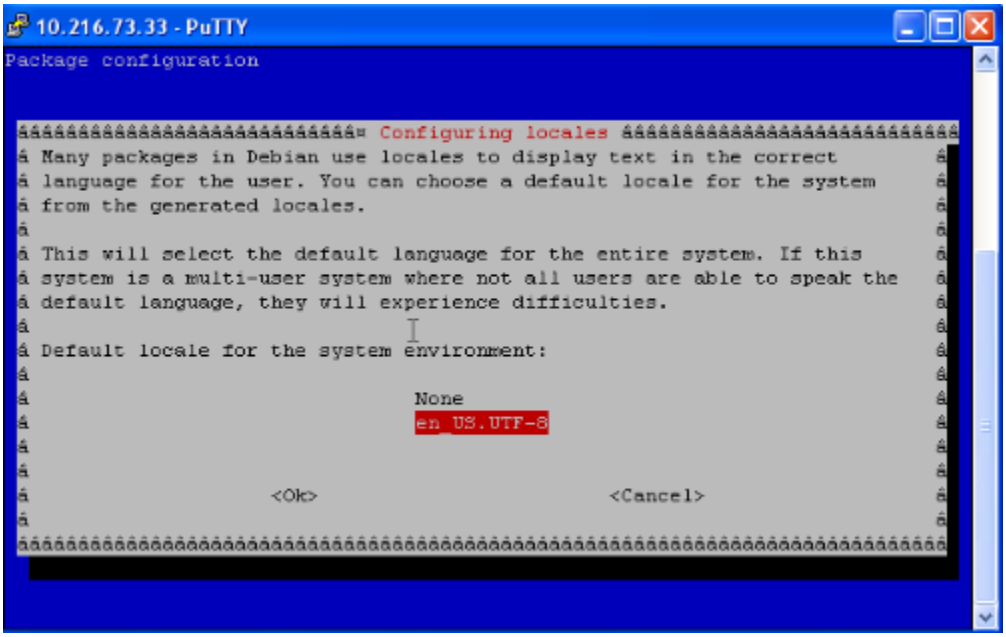
Language	Country Code
Brazilian Portuguese	pt_BR.UTF-8 UTF-8
Chinese Simplified	zh_CN.UTF-8 UTF-8
Chinese Traditional	zh_TW.UTF-8 UTF-8
English	en_US.UTF-8 UTF-8
French	fr_FR.UTF-8 UTF-8
German	de_DE.UTF-8 UTF-8
Italian	it_IT.UTF-8 UTF-8
Japanese	ja_JP.UTF-8 UTF-8
Korean	ko_KR.UTF-8 UTF-8
Russian	ru_RU.UTF-8 UTF-8
Spanish	es_ES.UTF-8 UTF-8

Tip: Use the arrows to move up and down the list, space key to select an option, and Tab key to move the cursor to Ok.



4. Select the locale that you want to use again, and select Ok.

> Tip: Use the arrows to move up and down the list, space key to select an option, and Tab key to move the cursor to Ok.



5. Type `reboot` and wait for the server to restart.

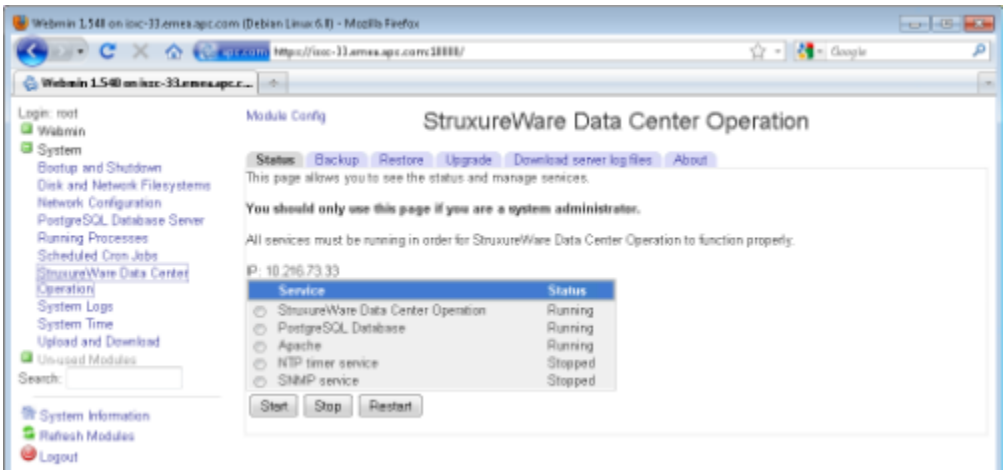
6. Type `exit` to close the command prompt.

See also

Managing server settings
Enhancing security on the StruxureWare Data Center Operation server
Working with localized reports

Managing StruxureWare Data Center Operation services

In the Webmin server management interface, you can monitor and manage the status of services running on the Data Center Operation server. All services must be running in order for StruxureWare Data Center Operation to function properly.



Services

StruxureWare Data Center Operation: Ensures the StruxureWare Data Center Operation process functions.

PostgreSQL Database: Ensures the configuration database functions. The database contains all the data about your configuration, such as the rooms, equipment, power path, and network, etc.
If this service shows as Detached, the database on this server cannot synchronize with other databases. For example in a cluster environment, the database on this server cannot synchronize with the databases on the other nodes in the cluster. To resolve this issue, select Attach DB.

Apache: Ensures the web server functions and is used for example in configurations running secure connections and for load balancing between nodes in a cluster environment.

Keepalived: Acts as an agent in a cluster environment to monitor the other services and assign a virtual IP to a specific node.

Service status in a cluster environment

If you are installing or running StruxureWare Data Center Operation in a cluster environment, services will be listed per node.

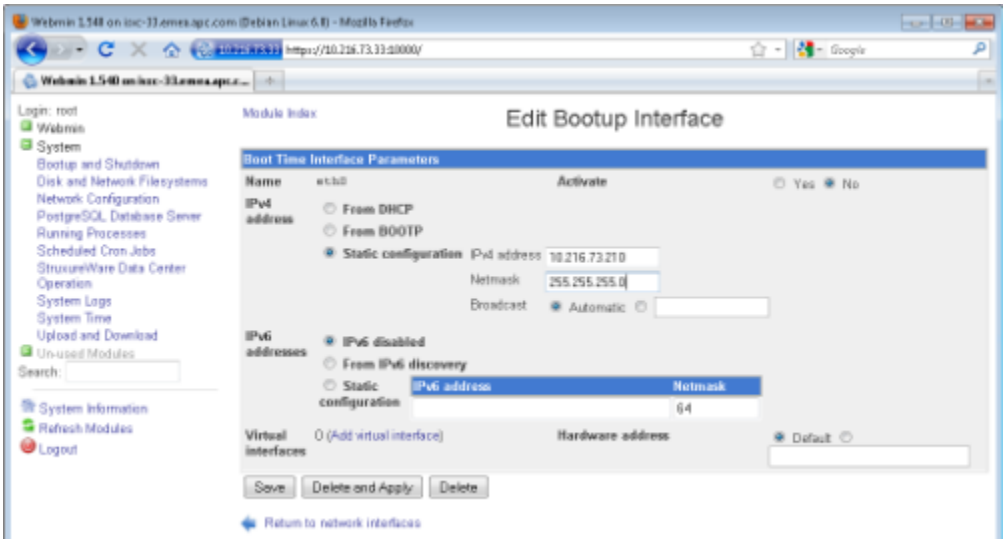
You must ensure services are running on one node only when migrating to a cluster environment. More...

123 Steps to...	See also
Monitoring and changing the status of a service 1. Open the Webmin web interface by typing the address of your Data Center Operation server followed by `:10000` in a Web browser, https://yourservername:10000 2. Log on to Webmin using the root credentials (default `root / apc`). To change the password, see here. 3. In the left menu, select StruxureWare Data Center Operation. 4. In the Status tab, monitor if the services are all running. 5. Select a service and use the buttons to start or stop it. When you have started a service, wait 5 minutes for the operation to complete.	Managing server settings Installing StruxureWare Data Center Operation in a cluster environment Migrating data to a StruxureWare Data Center Operation cluster environment

Changing the IP address of the StruxureWare Data Center Operation server

through Webmin

1. Log on to Webmin using the root credentials (default root / apc).
2. Change the IP address.
    a. In the left menu, select System>Network Configuration.
    b. Select Network Interfaces.
    c. Click the Activated at Boot tab.
    d. Set Activate to Yes.
    e. Click the interface you want to change (for example eth0).
    f. Select Static configuration (recommended for cluster setup), and type the IP address in IPv4 address and the Netmask, then save.
    It is recommended that you do not use IPv6 (not supported).
3. Specify the Gateway.
    a. In the left menu, select Network Configuration.
    b. Select Routing and Gateways.
    c. In the Boot time configuration tab, set Default router to Gateway and type the default route, then save.
    If you see this error message: Failed to save routing: '' is not a valid IPv6 gateway, ignore it.
4. Specify the DNS server.
    a. In the left menu, select Network Configuration.
    b. Select Hostname and DNS Client.
    c. In DNS servers, type the primary and secondary DNS servers, then save.
5. Restart the server.
    a. In the left menu, select Boot and Shutdown.
    b. Click Reboot System and wait for the system to finish rebooting.



See also

Managing server settings

The importance of system time synchronization for accurate power values

When you have configured system integration correctly, StruxureWare Data Center Operation retrieves accurate and up-to-date power measurements from StruxureWare Central.
The StruxureWare Data Center Operation and StruxureWare Central servers can be physically positioned in different time zones. The system integration handles the time difference.

However, both servers must be configured to synchronize time with the same NTP server:

Server	Time Synchronization Settings
StruxureWare Data Center Operation	In the server's Webmin interface, System>System Time, Time server sync tab
StruxureWare Central	In System>Server Administration Settings, Time Settings option

Otherwise, the retrieved power measurements may be out of sync:

Server Time	Consequence
StruxureWare Data Center Operation ahead of StruxureWare Central	No measured peak data retrieved
StruxureWare Data Center Operation behind StruxureWare Central	Incorrect measured peak data retrieved (out of sync)

For further instructions on how to configure system time synchronization for the StruxureWare Data Center Operation server, see here.
For further instructions on how to configure system time synchronization for the StruxureWare Central server, see the StruxureWare Central help documentation.

See also

Configuring system time synchronization (NTP)