

Customer Maintenance Guide

FUJITSU Integrated System

PRIMEFLEX for Hadoop



Content	
Introduction	2
Rack Systems	2
Adding Nodes	2
Replacing a Node	3
Reinstallation of Operating System	3
Backup Hints	3
Replacing the Service Node	3
Entry Systems	3
Backup Hints	3

Introduction

This document describes maintenance tasks for PRIMEFLEX for Hadoop done by the customer.

Rack Systems

Adding Nodes

If new nodes are added to the cluster you can use the service node to automatically deploy the operating system (RHEL 6) including complete network setup. This is done by cobbler (s. <http://www.cobblerd.org/>) running on the service node. Only prerequisite for this is a network connection from LAN1 of the new node to the service node. When a server is turned on the first time it will boot a mac detection image through PXE from the service node. This will add a system for this node to the cobbler configuration. For IP address and hostname assignment the configuration file `/root/systems.csv` is used containing following fields:

- Serial number
- 1GBE IP address
- 10GBE IP address
- iRMC IP address (optional)
- hostname (optional)
- role (optional).

If no IP address for the iRMC is given the network settings on the iRMC are not changed. If no hostname is given the serial number in lower case will be used as hostname. The role field is only evaluated for RX200S8 nodes. The values can be **master** (default) or **datameer**.

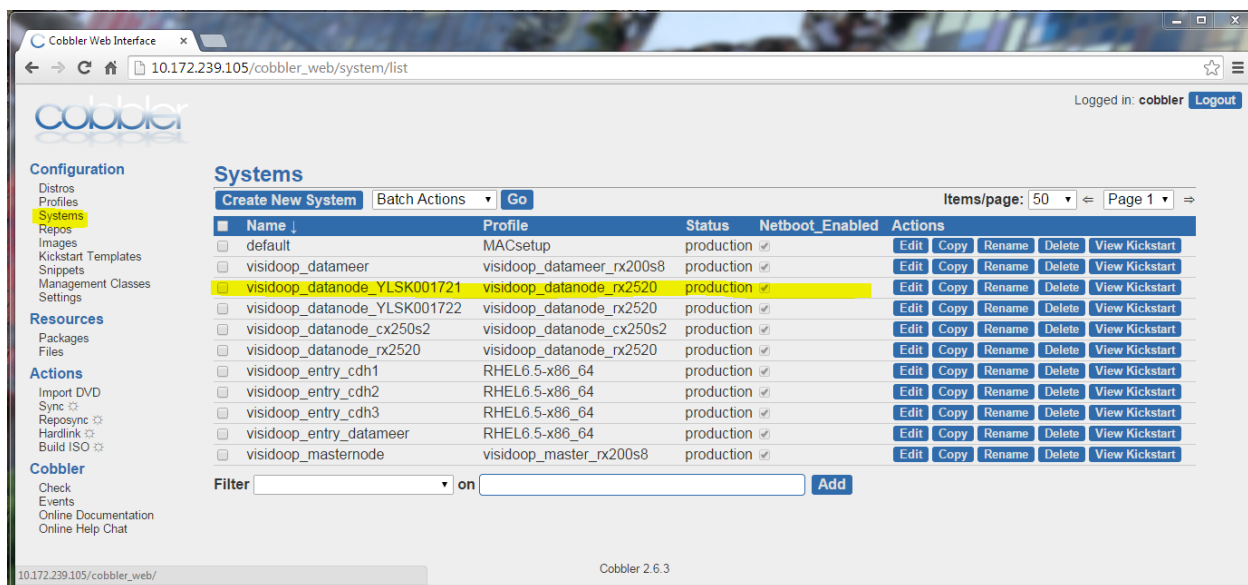
Login to the Service Node as root (default password is **pf4hpf4h**) and add a line for each new node before turning it on. Order of lines does not matter.

Example:

```
YLSK001721,10.172.239.161,192.168.239.161,10.172.239.61
YLSK001722,10.172.239.162,192.168.239.162,10.172.239.62
YLNS012091,10.172.239.100,192.168.239.100,,dm100,datameer
YLNS012092,10.172.239.101,192.168.239.101,,cdhm101,master
YLNS012093,10.172.239.102,192.168.239.102,,cdhm102
```

After turning on the nodes they will be installed automatically. You can also check the results of the mac setup script in the file `/tmp/macsetup.log` on the service node. During installation you can connect to the system with ssh.

You can check the configuration of the new nodes in the cobbler web interface http://<ip of service node>/cobbler_web (User/Password: cobbler).



The new nodes will appear with their serial number in the systems list. After the node is installed it can be added to the cluster with Cloudera Manager.

Replacing a Node

If an existing node fails completely and is replaced by a new server, this node can also be installed from the service node. It is almost the same procedure as adding a new node, but the system for the failed node must be removed from the cobbler configuration before the new node can be installed. You can do this by pressing the **Delete** button next to the failed system in the cobbler web interface shown above.

After confirming the deletion you must press "Sync" (second entry in the **Actions** list on the left side of the cobbler web interface) to activate the modified configuration. After this, change the serial number of the failed node to the serial number of the new node in the configuration file `/root/systems.csv` and turn on the new node.

Reinstallation of Operating System

If the OS disk of a Data Node fails and is replaced by a blank disk, the server will automatically run into PXE boot after it is turned on. It will then be automatically installed with RHEL6 from the service node. After installation has finished it can be added to the cluster again with Cloudera Manager.

Backup Hints

For backup hints of CDH5 and Cloudera Manager refer to the Cloudera documentation:

http://www.cloudera.com/documentation/enterprise/5-4-x/topics/cm_bdr_about.html

For backup hints of Datameer software refer to the Datameer documentation:

<http://www.datameer.com/documentation/current/Setup+Guide>

For Service Node recovery you should create periodical system backups of the Service Node after the cluster staging is finished.

Replacing the Service Node

If the service node fails completely and is replaced by a new system use your latest backup to restore the system image on the new node.

Entry Systems

Backup Hints

You should do complete system backups of all nodes in the Entry System on a regular basis. The HDFS disks must not be part of this backup.

If a node fails completely use the latest system backup to restore the failed node on the replacement server.

Contact

FUJITSU
Fujitsu Technology Solutions GmbH
Mies-van-der-Rohe-Str. 8, 80807 Munich, Germany
E-mail: BigData@ts.fujitsu.com
Website: www.fujitsu.com

© 2016 Fujitsu and the Fujitsu logo are trademarks or registered trademarks of Fujitsu Limited in Japan and other countries. Other company, product and service names may be trademarks or registered trademarks of their respective owners. Technical data subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.