

opHA 3 - Centralised configuration

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Introduction

Managing and monitoring a large network of devices requires a scalable, high availability and easy to manage solution. opHA 3.0.5 brings a new feature that allows you to centralise the configuration files from the Primary and send it to the pollers. The configuration files can be applied in NMIS and OMK. This partial configuration file would override the configuration that the poller has.

The screenshot displays the opHA 3.0.6 web interface. The top navigation bar includes a status icon, the version 'opHA 3.0.6', and dropdown menus for 'Views', 'Events', 'System', and 'Modules'. The main content area is divided into two primary sections: 'opHA Menu' on the left and 'Peers List' on the right.

opHA Menu: This section contains three main functional areas:

- Peers:** Represented by a group of people icon, with the text 'Discover and manage peers'.
- Configuration:** Represented by a document icon, with the text 'Edit remote configuration files'.
- Log:** Represented by a list icon, with the text 'Peers last activity'.

Peers List: This section displays a table of configured peers. The table has columns for the peer name, a status icon, and a table of details.

peer	status	details								
poller-nine	✓	<table><tr><td>Last pull</td><td>Tue Dec 24 16:22:01 2019</td></tr><tr><td>Pull Status</td><td>Success</td></tr><tr><td>Nodes</td><td>506</td></tr><tr><td>DB status</td><td>Unknown</td></tr></table>	Last pull	Tue Dec 24 16:22:01 2019	Pull Status	Success	Nodes	506	DB status	Unknown
Last pull	Tue Dec 24 16:22:01 2019									
Pull Status	Success									
Nodes	506									
DB status	Unknown									
fulla	✓	<table><tr><td>Last pull</td><td>Tue Dec 24 21:15:00 2019</td></tr><tr><td>Pull Status</td><td>Success</td></tr><tr><td>Nodes</td><td>30</td></tr><tr><td>DB status</td><td>✓</td></tr></table>	Last pull	Tue Dec 24 21:15:00 2019	Pull Status	Success	Nodes	30	DB status	✓
Last pull	Tue Dec 24 21:15:00 2019									
Pull Status	Success									
Nodes	30									
DB status	✓									
Local	✓	<table><tr><td>Last pull</td><td>-</td></tr><tr><td>Pull Status</td><td>Success</td></tr><tr><td>Nodes</td><td>2</td></tr><tr><td>DB status</td><td>✓</td></tr></table>	Last pull	-	Pull Status	Success	Nodes	2	DB status	✓
Last pull	-									
Pull Status	Success									
Nodes	2									
DB status	✓									

Below the 'Local' peer's details, there are four status indicators for specific services: 'opchartsdopevents' (Error), 'nmis9d' (Error), 'omkd' (Error), and 'omkd' (Error). Each indicator consists of a red circle with the word 'Error' inside.

Requirements

- NMIS 9.0.6
- opHA version 3.0.5
- The pollers also need to be updated with opHA version 3.0.5 or above

Configuring opHA

opHA configuration consists of the following steps:

- Create a configuration file from a template (NMIS or OMK)
- Validate and save the file

- Create a group. By default, the following groups are created:
 - Pollers - which contain all the peers
 - Primary - which contain the local machine (this is configured with opha_hostname in /usr/local/omk/conf/opCommon.json. If you set this, you must also set opha_url_base and nmis_hostname)
 - Main Primary - which monitors itself and the pollers.
- Assign peers to a group
- Assign group to a configuration file
- Push the configuration file. The file will be sent to the peers.
- Restart the daemons when required (you will see a message when it is necessary).

You can also map a role with a peer. By default, the following roles are available:

- Poller
- Primary
- Portal
- Local

And these roles are assigned:

- Primary: Server Local
- Poller: All existing peers available

Configuration files

Viewing configuration files

On the **Views > Configuration > Cluster Configuration** page, you can see a list of configured files.

opHA 3.0.6 Views ▾ Modules ▾ Help ▾ EN ▾ User: nmis ▾

Home / Cluster Configuration Cluster Configuration

New Conf. file View Conf. file Role Mapping Peers Groups

Filter Period ○

	Name	Type	Subtype	Actions	Status	Last update
☐	Users.nmis	NMIS	Users		Pushed	2019-12-14T02:39:05
☐	auth.nmis	OMK	opCommon		New	2019-12-14T02:40:02

Showing 1 to 2 of 2 entries Edit File Assign Groups << < 1 > >> Rollback Check Status Show 25 ▾

Creating a new configuration file

To start creating a new configuration file, go to **View > Configuration** and click the **New Conf. File** button on the Cluster Configuration page.

Home / Cluster Configuration Cluster Configuration

New Conf. file View Conf. file Role Mapping Peers Groups

Filter Period ○

	Name	Type	Subtype	Actions	Status	Last update
☐	Users.nmis	NMIS	Users		Pushed	2019-12-14T02:39:05
☐	auth.nmis	OMK	opCommon		New	2019-12-14T02:40:02

Showing 1 to 2 of 2 entries << < 1 > >> Show 25 ▾

On the "Create New Configuration file" window that opens -

- Select the file type - **NMIS** or **OMK**. It is very important to select the right type, as it is going to be applied on different products.
- Select the file subtype. You can only choose a file subtype depending on the file type you have selected above.
- Specify a file name. The file name must end with an appropriate extension - **.nmis** or **.json** - depending on the file type selected above.

Create New Configuration file

NMIS

Access

Access.nmis

Create

Click **Create**.
This will open the template in an editor. A generic templated will be loaded if the file is not opCommon (OMK) or Config (NMIS).

opHA 3.0.5 beta
Views
Events
System
Modules
Help
EN
User: nmis

Home / Peer Configuration / Configuration File

Validate
Save
Download File

Filter
Period

OMK

Events.nmis

Note

You are editing in json format. File will be saved as a config file [perl hash]

1

{

2

"authentication": {

3

"auth_crowd_password": "",

4

"auth_crowd_server": "",

5

"auth_crowd_user": "",

6

"auth_expire_seconds": "3600",

7

"auth_htpasswd_encrypt": "crypt",

8

"auth_htpasswd_file": "<omk_conf>/users.dat",

9

"auth_lockout_after": 0,

10

"auth_login_motd": "Authentication required: default credentials are nmis",

11

"auth_method_1": "htpasswd",

12

"auth_method_2": "",

13

"auth_method_3": "token",

14

"auth_sso_domain": ".opmantek.com",

15

"auth_token_key": [

16

"8496cc39bf15526f9f0083039065974fd7ad410540c7e3f183ee76c9ddbc61"

17

],

18

"auth_token_maxage": "300"

19

},

20

"database": {

21

"db_connection_timeout": 20000,

22

"db_name": "omk_shared",

23

"db_password": "op42flow42",

24

"db_ping_timeout": 2000,

25

"db_port": "27017",

26

"db_query_timeout": 5000,

27

"db_server": "localhost",

28

"db_use_v26_features": 1,

29

"db_username": "opUserRW",

30

"db_write_concern": 1

31

},

32

"directories": {

all

authentication

database

directories

dns

email

icons

id

macro

module_configs

nmis

omkd

opaddress

opcharts

opcharts_msp

opconfig

openauditerenterprise

opevents

opexport

opflow

opflowsdp

opha

opmantek

opreports

optrend

snmp

url

wireframe

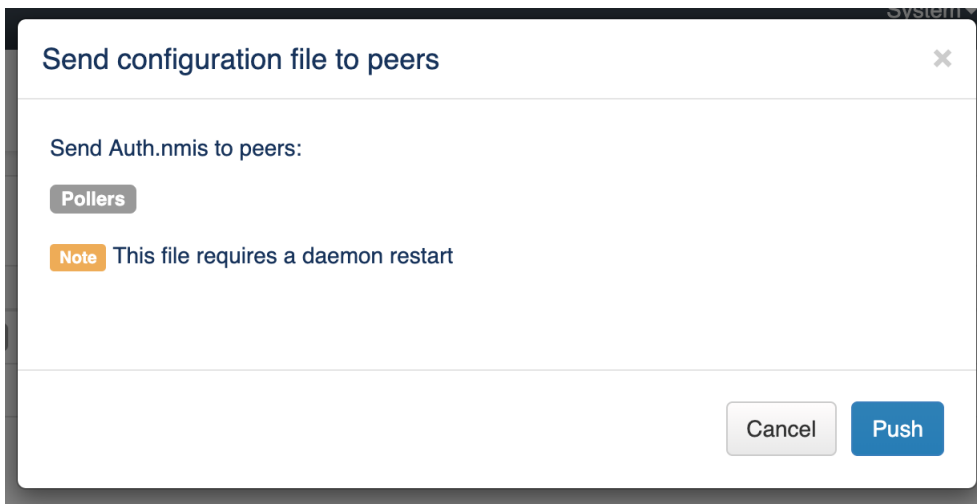
IMPORTANT considerations:

- The file is edited in json format, but it is being saved as a perl hash. You can download the file as it is being saved by clicking the **Download File** button.
- You can remove/add sections if you have selected the Section "all".
- Click **Validate** and see the **Console Output** below the editor, to know if the file you have edited is valid or not.
- After validating, **Save** the file. By default, once the file is saved, it will create a backup file, with a maximum of two.

Pushing a configuration file

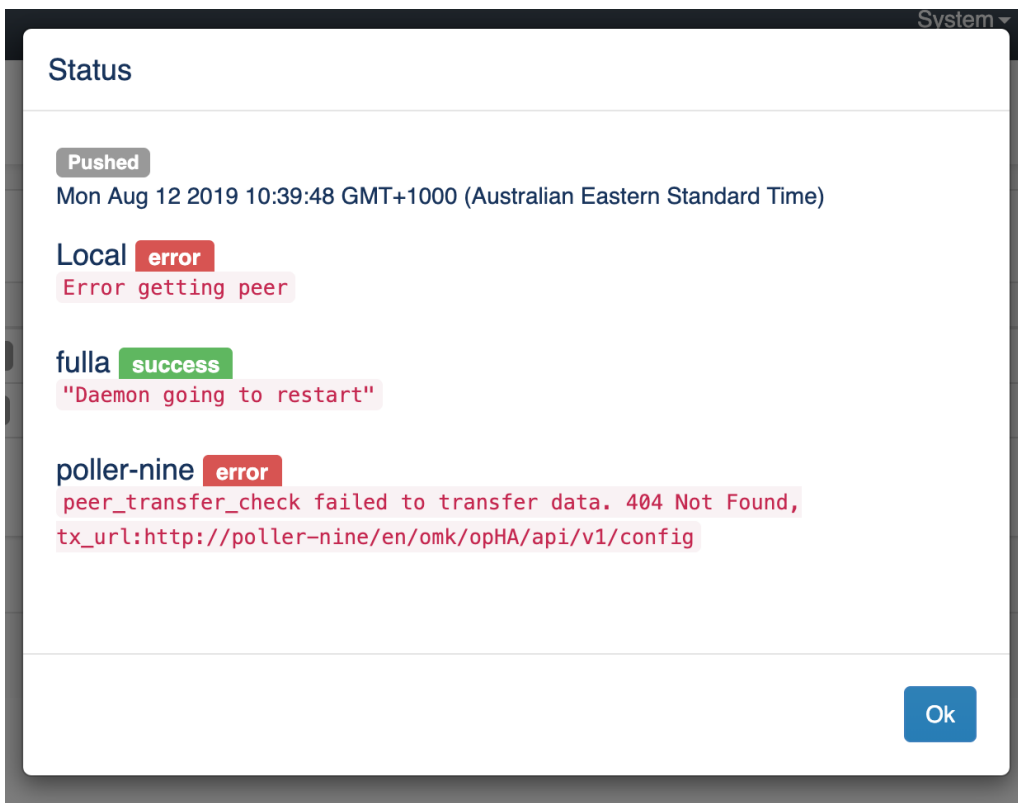
To view a list of configured files, from the menu, click **Views > Configuration** and open the Cluster Configuration page.

Click the Push button  icon to push the required configuration file to the configured groups.



On the "Send configuration file to peers" window that opens, you can see if any daemons need to be restarted.

Click the **Push** button to complete the configuration push. Open the Log to see the push status and errors, if any.



Removing a configuration file

To remove a configuration file from the peers it was successfully sent to earlier -

- Open the Cluster Configuration page from **Views > Configuration**.
- Press the **Remove**  icon against the required configuration file under the **Actions** column.
- On the "Remove configuration file from peers" window that opens, select the peers from which you want the file to be removed and click **Remove**.

Remove configuration file from peers

Peers

Local

Note The file will be removed from peers!

Cancel

Remove

Viewing the resulting configuration

To see the result configuration of a peer, click the **View Conf. file** button.

opHA 3.0.6 Views

Modules Help EN User: nmis

Home / Cluster Configuration

New Conf. file View Conf. file Role Mapping Peers Groups

Filter Period

	Name	Type	Subtype	Actions	Status	Last update
☐	Users.nmis	NMIS	Users	   	Pushed	2019-12-14T02:39:05
☐	auth.nmis	OMK	opCommon	   	New	2019-12-14T02:40:02

Showing 1 to 2 of 2 entries

<< < 1 > >>

Show 25

Select the peer.

Home / Cluster Configuration / View Peer Configuration Files

Peers Groups

Select a Peer to view its configuration files


poller-nine


fulla


Local

And select the file from the file browser.

opHA 3.0.6
Views

[Home](#) / [Cluster Configuration](#) / [View Peer Configuration Files](#)
/ Configuration File
a515c63a-0d11-4bcb-a402-39a4600aebb9

Files Explorer

> NMIS

> OMK

Contacts
EventActions
EventDB
EventEmails
EventListRules
EventNmisRules
EventParserRules
EventRules
EventSyslogRules
EventTivoliRules
EventTrapRules
OS_Rules
UserPreferences
opCommon
opLicense
opModules

File: Contacts

```

1 %hash = (
2   'Contact' => 'Contact1',
3   'DutyTime' => '06:20:MonTueWedThuFri',
4   'Email' => 'nobody@localhost',
5   'EmailTemplate' => 'default',
6   'Level' => '(Fatal|Critical|Major|Minor|Warning|Normal)',
7   'Location' => 'default',
8   'Mobile' => '5555551234',
9   'Pager' => '',
10  'Phone' => '',
11  'TimeZone' => '0',
12  'auth_require' => 1,
13  'conf' => 'Contacts.nmis',
14  'configfile' => '/usr/local/opmojo/conf/Contacts.nmis',
15  'debug' => 0,
16  'mtime' => 1530074727,
17  'server' => undef,
18  'starttime' => 1576258446
19 );
20

```

Groups

Adding/Editing Peers in a Group

To add/edit a peer in a group -

- Access the Cluster Configuration page from **Views > Configuration**.
- click the **Peers Groups** button in the menu.
- On the Peers Groups page that opens, you can see all the groups available and the peers added to them.

opHA 3.0.5 beta
Views
Events
System
Modules
Help
EN
User: nmis

[Home](#) / [Peer Configuration](#) / Peers Group

Edit Groups

Filter Period

Peers Groups

	Group	Peers
☐	Pollers	- fulla - poller-nine
☐	Master	Local
☐	Gold Coast	

Showing 1 to 3 of 3 entries

<< < 1 > >>

Show 25

To add/edit members in an exiting group, select the Group and click the **Edit** icon above the table.

On the "Add group members" window that opens, add, edit, or remove the peers and click **Save**.

System ▾

Add group members to Pollers

×

Peers

✕fulla

✕poller-nine

Cancel

Save

Creating/Editing a Group

To create a new group or edit an existing group, on the **Views > Configuration > Peers Groups** page, click the **Edit Groups**  icon.

opHA 3.0.5 beta Views ▾ Events ▾

System ▾ Modules ▾ Help ▾ EN ▾ User: nmis ▾

Home / Peer Configuration / Peers Group / Groups

opHA Groups

Filter Period ⓘ

+

☐	Name
☐	Pollers
☐	Master
☐	Gold Coast

Showing 1 to 3 of 3 entries

<< < 1 > >>

Show 25 ▾

To create a new group, click the Create  icon.

To edit or delete an existing group, select the group and use the respective icons above the table to edit/delete them.

Please be aware that, if you remove a group, all group associations will be lost.

Assigning a Group to a Config file

You can assign a group to a Configuration file on the **Views > Configuration > Cluster Configuration** page. Click the Edit  icon against the required configuration file and add groups on the "Select groups to apply to this config file" window.

Select groups to apply to this config file

Groups

×

Pollers

Cancel

Save

Roles

Role Mapping

To assign a peer to a role, click the **Role Mapping** button from the Configuration menu.

opHA 3.0.5 betaViewsEventsSystemModulesHelpENUser: nmis

Home / Peer Configuration / Role Mapping

Role Mapping

FilterPeriod?

+

	Name	Role
☐	Local	Master
☐	poller-nine	Poller
☒	fulla	Poller

Showing 1 to 3 of 3 entries<<<1>>>

Show25

On the Role Mapping page that opens, you can add new mappings, edit or remove the existing ones.

Note that if a peer has a role assigned, it will not appear under the add button; you will need to edit it.

What Central Managed Means

Please note that after you change the NMIS or OMK configuration from the Primary, it shall not be edited from its own poller.

If a peer role is set to be a poller, opHA menu will not be available:

This is a poller server managed by **volla**.

The opHA configuration is not available in a poller.

Central configuration and data management should be done from the master server **volla**.

Further information can be found in the [documentation](#).


Last pull: Sat Dec 14 03:30:03 2019

When you update the configuration in NMIS from a Primary, you cannot edit/update the config from NMIS (on the NMIS configuration screen).

NMIS Configuration

There are files from the master overriding the configuration

NMIS Configuration

Select section

authentication

authentication		
	auth_method_1	pam
	auth_method_2	htpasswd
	auth_expire	+30min
	auth_htpasswd_encrypt	crypt
	auth_htpasswd_file	<nmis_conf>/users.dat
	auth_ldap_server	192.168.1.5
	auth_ldap_server	
	auth_ldap_attr	

Restoring a Backup

opHA, by default saves two backup files in every poller in the <nmis>/backups directory or <omk/conf/conf.d/backups> directory. You can change the backup location by editing the opha_backup_master_location file.

Similarly, you can also change the number of backup files by modifying the same in opha_max_backup_files.

Restoring a backup can only be done manually, in each poller where required. To do so -

- Go to the backup directory in the Primary. By default, the backup directories are -
 - NMIS: <nmis>/backups
 - OMK: <omk/conf/conf.d/backups>.
- The backup file would be named in the file_name.nmis.version format. For example, authentication.nmis.3.
- Remove the version number from the file name. For example, authentication.nmis.
- Move the file to the external configuration folder. By default -
 - NMIS: <nmis>/conf/conf.d
 - OMK: <omk>/conf/conf.d

- For some of the changes to take effect, the corresponding daemon should be restarted. For example:
 - `service nmis9d restart`

Cleanup Utilities

opHA has two utility tools to cleanup orphaned files and orphaned metadata:

- **<omk>/bin> ./opha-cli.pl act=cleanup** : The purpose is cleaning Primary files and metadata. Must be run from the Primary. Will check for:
 - Metadata without a file associated in the file system
 - Orphan files in the file system
 - Backup files
- **<omk>/bin> ./opha-cli.pl act=cleanup_poller** : The purpose is cleaning poller files. Will check for:
 - Orphan backup files from OMK.
 - Check for duplicated configuration items in OMK: This means that there is the same configuration item in different configuration external files. This could led us to errors, as the one which is loaded first is going to override the other.
 - Check for duplicated configuration items in NMIS.
- **<omk>/bin> ./opha-cli.pl act=clean_orphan-nodes** : Will remove the nodes with no cluster_id associated. Will ask for confirmation for each node if simulate=f is specified.

Important: Cleanup utilities run in simulation mode by default. It is a good practice to run as simulation to check all the files that are going to be removed. `simulate=f` will remove all files and metadata.

New configuration Items

These are new configuration values:

- `opha_conf_templates_url`: '/install/templates'
- `opha_backup_master_location`: `$self->{app_path}/conf/conf.d/backups`
- `opha_master_config_location`: `$self->{app_path}/conf/conf.d`
- `opha_conf_files_url`: `$self->{app_path}/conf/peers`
- `opha_max_backup_files`: 2
- `opha_restart_nmis_needed_sections`: The sections for NMIS that require a daemon update.
- `opha_restart_omk_needed_sections`: The sections of the configuration for OMK that require a daemon update.
- `opha_config_file_types`: ['NMIS', 'OMK']

New configuration items for nmis:

- `<nmis_conf_ext> => <nmis_conf>/conf.d'`

Considerations

Once a peer is edited from opHA, is important to know:

- Backup files are saved, but it is **not possible to rollback** from the GUI. By default, configuration files have 2 backup files.
- Once you edit **NMIS configuration**, it is **not possible to edit from the GUI**. You will see a message when there are some configuration files overriding the local configuration.
- If the **daemon is going to be restarted**, it is not going to see the result on the log. But you can check the opHA landing page to see the daemon's state.