

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.

opHA 3.0.6 Views Events System Modules

Home
opHA 3.0 Home

opHA Menu

- Peers
Discover and manage peers
- Configuration
Edit remote configuration files
- Log
Peers last activity

Peers List

Peer	Status	Last pull	Pull Status	Nodes	DB status	Module Status
poller-nine	✓	Tue Dec 24 16:22:01 2019	Success	506	Unknown	opchartsdopevents: Not Ok, nmis9d: Not Ok, omkd: Ok
fulla	✓	Tue Dec 24 21:15:00 2019	Success	30	✓	opchartsdopevents: Not Ok, nmis9d: Not Ok, omkd: Ok
Local	✓	-	Success	2	✓	opchartsdopevents: Error, nmis9d: Error, omkd: Error

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.

	Name	Type	Subtype	Actions	Status	Last update
<input type="checkbox"/>	Users.nmis	NMIS	Users		Pushed	2019-12-14T02:39:05
<input type="checkbox"/>	auth.nmis	OMK	opCommon		New	2019-12-14T02:40:02

Showing 1 to 2 of 2 entries **Edit File** **Assign Groups** **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.

	Name	Type	Subtype	Actions	Status	Last update
<input type="checkbox"/>	Users.nmis	NMIS	Users		Pushed	2019-12-14T02:39:05
<input type="checkbox"/>	auth.nmis	OMK	opCommon		New	2019-12-14T02:40:02

Showing 1 to 2 of 2 entries **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 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
- openauditenterprise
- opevents
- opexport
- opflow
- opflowspace
- opha
- opmantek
- opreports
- optrend
- snmp
- url
- wireframe

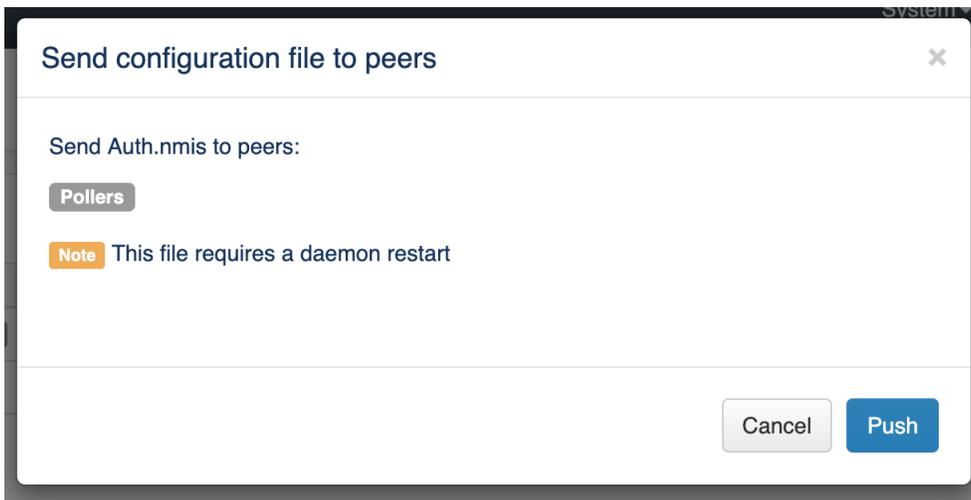
IMPORTANT considerations:

- 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

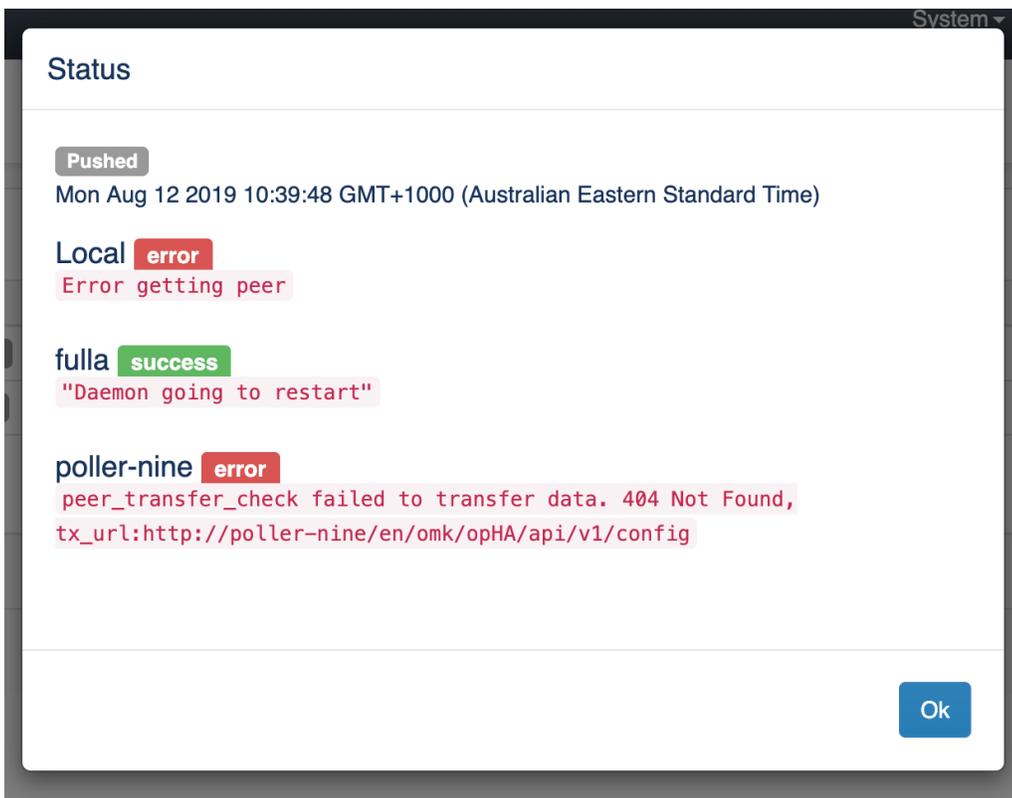
To view a list of configured files, from the menu, click **Views > Configuration** and open the Cluster Configuration page.

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

Cluster Configuration
Filter Period ▾ ⌚

<input type="checkbox"/>	Name	Type	Subtype	Actions	Status	Last update
<input type="checkbox"/>	Users.nmis	NMIS	Users		Pushed	2019-12-14T02:39:05
<input type="checkbox"/>	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
Peers Groups

Filter Period ○

<input type="checkbox"/>	Group	Peers
<input type="checkbox"/>	Pollers	<ul style="list-style-type: none"> • fulla • poller-nine
<input type="checkbox"/>	Master	<ul style="list-style-type: none"> • Local
<input type="checkbox"/>	Gold Coast	

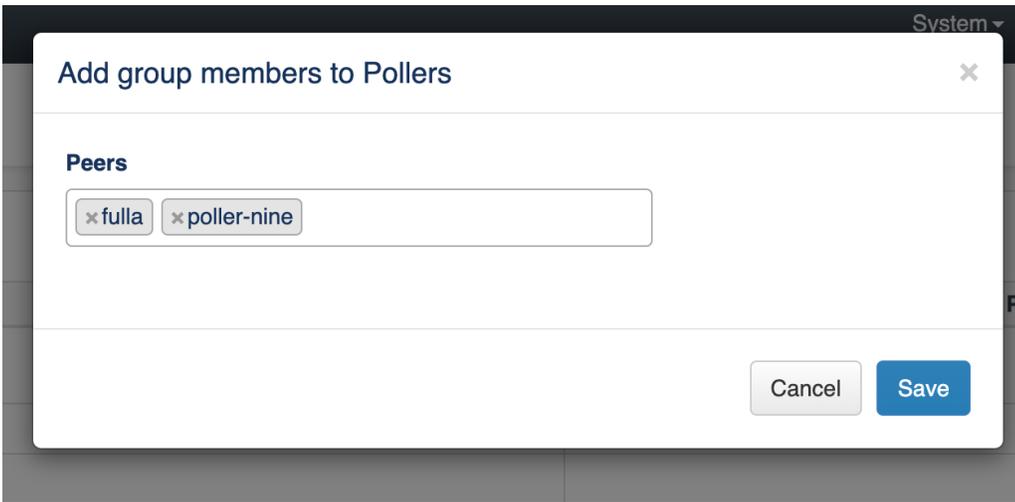
Showing 1 to 3 of 3 entries

<< < 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**.



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.

<input type="checkbox"/>	Name
<input type="checkbox"/>	Pollers
<input type="checkbox"/>	Master
<input type="checkbox"/>	Gold Coast

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.



Roles

Role Mapping

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

<input type="checkbox"/>	Name	Role
<input type="checkbox"/>	Local	Master
<input type="checkbox"/>	poller-nine	Poller
<input checked="" type="checkbox"/>	fulla	Poller

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:

Home
opHA 3.0 Home

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).

The screenshot shows a window titled "NMIS Configuration" with a yellow warning banner at the top: "There are files from the master overriding the configuration". Below the banner, there is a "Select section" dropdown menu currently set to "authentication". A table displays the configuration for this section:

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.