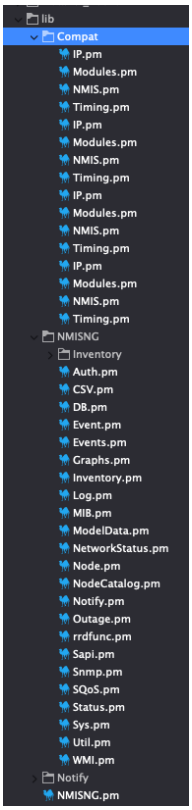
NMIS 8 - Migrate plugins to NMIS 9

Internal libraries

The internal libraries had been refactored.



The basic structure:

- lib/Compat: Legacy files to keep compatibility with some system functions.
- lib/NMISNG: All the domain entities, like Nodes, Events or inventory objects.
- lib/Notify: All the notification methods.
- lib/NMISNG.pm: The main module that have access to all the other objects and instantiates the DB access. Instantiate this object carefully: If we create an object without reusing it we could have connection leak issues.

Some replacements in NMIS 8:

- use NMIS; Replaced by use NMISNG;
- use func; Replaced by use NMISNG::Util;

Please, check the internal structure for other libraries.

Database Access

As the new data backend has been moved from NMIS files to the mongo database, so the node information access is different.

Here you can find a guide about the main structures and how to replace them:

Sys::ndinfo has been replaced by ***Sys::nmisng_node*** and ***Node::nmisng_node*** can be accessed directly rather than accessing ***Sys::nmisng_node***

- ***Sys::ndinfo->{system}*** becomes hash returned by ***Node::configuration()***
  - ***Node::Configuration()->{roleType}*** replaces ***NMIS::loadLocalNodeTable()>{<a_node_name>} {role}***
  - Be warned that ***Sys::ndinfo->{system}*** key values often carry the strings "true" and "false" for boolean whereas ***Node::configuration()*** returns hash key values will carry 0 and 1 for boolean.
    - Therefore one should always use Common::getBool() to evaluate key values.
  - Furthermore, ***Node::configuration()*** returns a clone copy each call, therefore it is advisable to set a variable if re-used:
- ***Sys::ndinfo->{status}*** becomes ***Node::get_status_model_data()***
  - NMIS8 ***ref(Sys::ndinfo->{status})*** versus NMIS9 ***ref(Node::get_status_model_data)***
    - NMIS8 ***Sys::ndinfo->{status}*** was a **hash of hashes**, whereas
    - NMIS9 ***Node::get_status_model_data()*** is an **array of hashes**.
  - NMIS8 ***Sys::ndinfo->{status}->{source}*** is not a hashkey in ***Node::get_status_model_data()***
    - NMIS8 ***Sys::ndinfo->{status}*** has entries either by 'source' or by 'index', whereas
    - NMIS9 ***Node::get_status_model_data()*** only has entries by 'index'
  - NMIS8 ***<object>->{<a_node>}->{active}*** should be replaced by
    - ***Node::configuration{active}***
- ***Sys::ndinfo->{sysUpTime}*** is replaced by ***Node::node_summary->{sysUpTimeSec}***

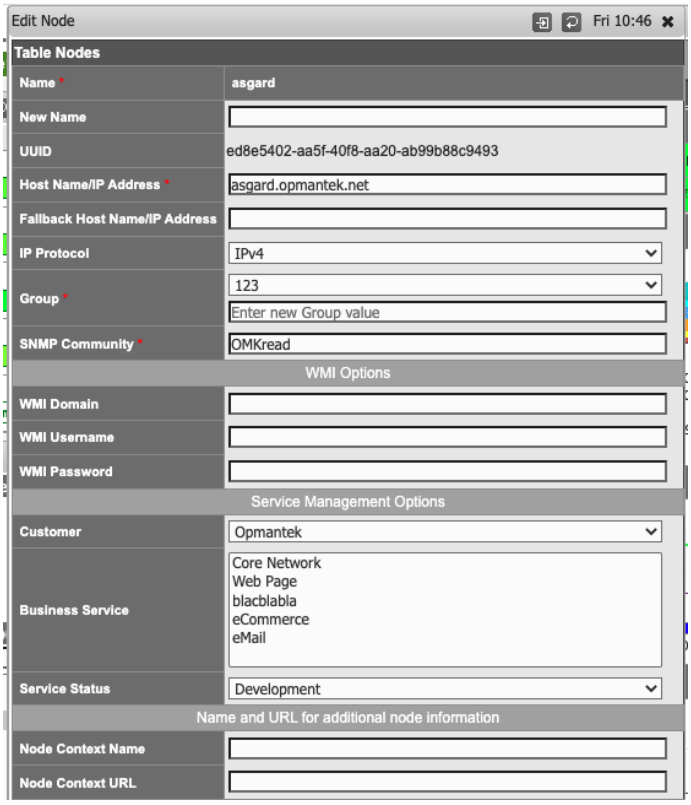
Get the node

Now it is possible to get the node object using the main object nmisng.

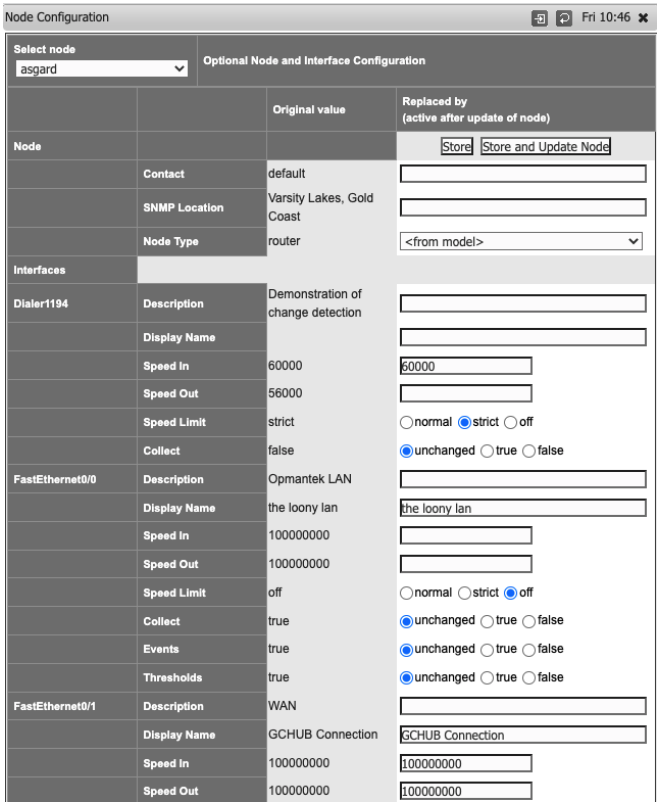
```
my $S = NMISNG::Sys->new(nmisng => $nmisng);
my $nodeobj = $nmisng->node(name => $node);
```

Get the node configuration

The node configuration:



And the node overrides:




```
my $conf = $nodeobj->configuration;
my $overrides = $nodeobj->overrides;
```

Get the node model

```
$S->init(node => $nodeobj, snmp => 0);
my $mdl = $S->mdl;
```

Get the node catchall

Catchall Is a part of the node inventory and this is where all the main information collected from the node is saved.

The node model, the last poll date, or the health data collected like the sysDescr or the sysLocation:

```
my $catchall_data = $S->inventory( concept => 'catchall' )->{_data};
```

Get the node interfaces

```
my $sectionIds = $S->nmisng_node->get_inventory_ids(
                                        concept => "interface",
                                        filter => { historic => 0 });

if (@$sectionIds)
{
                                for my $sectionId (@$sectionIds)
                                {

                                        my ($section, $error) = $S->nmisng_node->inventory(_id => $sectionId);
                                        if ($error)
                                        {
                                                print "Failed to get inventory $sectionId: $error \n";
                                                next;
                                        }
                                        my $interface = $section->data();
                                }
}
```

Get the node inventory

```
                        my $sectionIds = $S->nmisng_node->get_inventory_ids(
                                        concept => $concept,
                                        filter => { historic => 0 });

                        if (@$sectionIds)
                        {
                                for my $sectionId (@$sectionIds)
                                {
                                        my ($section, $error) = $S->nmisng_node->inventory(_id => $sectionId);
                                        if ($error)
                                        {
                                                print "Failed to get inventory $sectionId: $error \n";
                                                next;
                                        }
                                        my $data = $section->data();
                                }
                        }
```

Example

- You can download and run the complete example 

:

    - Place it /usr/local/nmis9/admin
    - Run with:

```
/usr/local/nmis9/admin/dev_tests.pl act=show_node node=asgard what=ALL concept=addressTable
```

Related Documentation

- You can see a complete example of a collect plugin in the Host_Resources plugin (Released in 9.1.2).
- NMIS 9 collect and update plugins