opCharts - Customising Table Columns

Feature Description

This feature is available from opCharts version 3.2.2 and newer. This is an advanced feature that allows customers to modify the data presented in tables. The default table content has been carefully selected based on Opmantek's numerous years of network management experience. This said there are cases where customers would like to alter the table data to display information that is important to their organisation. Most opCharts pages with table data can be customised to display different content. This feature allows table columns to be removed or added as required.

> If when following these steps the View that is being modified does not behave normally; remove the custom configuration file and normality should be restored.

Views That Support Custom Columns

- Interfaces
- Nodes
- Scheduled Outages
- Node Context - Node Info Widget

Available Columns

Interface View

Executing an API call such as the following will reveal the available properties that can be made into columns for the Interface view.

```
### API call for interface properties
http://<server_name>/omk/opCharts/v1/nodes/<node_uuid>?properties=["info.system.name","info.interface"]

### API call for node UUID's
http://<server_name>/omk/opCharts/v1/nodes?properties=["info.system.name","info.system.uuid"]
```

Node View & Node Context - Node Info Widget

Executing an API call such as the following will reveal the available properties that can be made into columns for the Node view as well as the Node Context - Node Info Widget.

opCharts 3

```
### API call for node properties
http://<server_name>/omk/opCharts/v1/nodes/9b3bd935-9a7c-11e7-81dd-cfe2a8622c76?properties=["info.system"]

### API call for node UUID's
http://<server_name>/omk/opCharts/v1/nodes?properties=["info.system.name","info.system.uuid"]
```

opCharts 4

For opCharts 4, the API call will be different:

```
http://<server_name>/omk/opCharts/v2/nodes/dcab7ffb-2c81-4ba7-91be-f85325d94f41?properties=["configuration"]
```

Here you can check the common node properties.

Scheduled Outages View

The properties that may be used for columns for the Scheduled Outages view may be found in the /usr/local/nmis8/conf/Outages.nmis file.

Configuration

Configuration Files

Each view has a separate configuration file that will be found in the following directory (by default this directory does not exist; reference the next step):

/usr/local/omk/conf/table_schemas

opCharts-3.x

View	Configuration file
Interfaces	opCharts_interface-list.json
Nodes	opCharts_node-list.json
Scheduled Outages	opCharts_outage-schema.json
Node Context - Node Info Widget	opCharts_node-summary-table.json

opCharts-4.x

View	Configuration file
Interfaces	opCharts_interface-list.json
Nodes	opCharts_node-list.json
Scheduled Outages	opCharts_outage-schema.json
Node Context - Node Info Widget	opCharts_node-summary-table.json
Business Service - Nodes	opCharts_business-services-nodes.json

Enabling the Feature

In order to enable this feature the following must be done.

- Create a directory called /usr/local/omk/conf/table_schemas
- Copy the specific view configuration file that requires modification from /usr/local/omk/lib/json/opCharts/table_schemas/ into /usr/local/omk /conf/table_schemas.
    - Only the necessary json files should be copied to the /usr/local/omk/conf/table_schemas directory as having unecessary config files in this directory will result in future upgrades being unpredictable.

> **Caution!**
>
> Enable this feature with care.
>
> Future opCharts upgrades will need to be watched carefully as tables and node properties can change across versions. Based on this an upgrade has the potential to break the functionality of a custom table configuration. If this feature is enabled it is highly recommend to upgrade in a test environment prior to upgrading the production environment.

Configuration

The configuration files are json files that have a specific syntax that must be observed. Add the desired property to the json file in the order it should appear in. The table will be constructed left to right based on attributed that are read from the top down.

Property Attributes

Each property that is added will require a set of attributes. This is an example of the attributes that belong to the 'configuration.country' property.

```
{ "name": "configuration.country",
  "label": "Country",
  "cell": "String"
},
```

Attribute Descriptions

- name: Name of the node property
- label: The column name that will render in the web page.
- cell: The cell type, usually this will be "string". For other options please contact support@opmantek.com.

Optional Attributes

- comment: used to document the item inside the json file. It is otherwise ignored.
- formatter: a formatter will format the output string in certain ways. The following is a partial list of available formatters:
    - RelativeTimeFormatter
    - UnixTimeFormatter
    - MacAddress
    - UpTimeFormatter
    - NumberOrNullFormatter
    - StringOrListFormatter
    - ShortendedStringFormatter

Adding and Removing Columns

To remove a column simply remove the associated section from the applicable json file. To add a column add a new section in the json file. The column placement will be relative to the order it is put in the json file.

The example below is the opCharts_node-list.json file. The version on the left is the default version. The version on the right adds the Country column between the Node Status and Group columns, it also removes the Links column.

Default - opCharts_node-list.json

```
// VERSION=1.8.0
[
  { "name": "node_name",
    "label": "Name",
    "cell": "NodeLinkCell",
    "renderable": 1,
    "comment": "must be present for NodeLinkCell
to work on any column, use 'renderable': 0 to hide"
  },
  { "name": "configuration.host",
    "label": "Host",
    "cell": "String"
  },
    {
    "name": "",
    "label": "Links",
    "cell": "UriButtonGroup",
    "links": [
      { "name": "remote_connection_details.url",
"label": "remote_connection_details.label",
"glyph": "fa fa-shield" },
      { "name": "custom_context_details.url",
"label": "custom_context_details.label", "glyph":
"fa fa-link" }
    ],
    "sort": false,
    "button_group_class": "btn-group btn-group-xs"
  },
  { "name": "node_summary.nodestatus",
    "label": "Node Status",
    "cell": "NodeStatusCell"
  },
  { "name": "configuration.group",
    "label": "Group",
    "cell": "String"
  },
  { "name": "node_summary.nodeType",
    "label": "Node Type",
    "cell": "String"
  },
  { "name": "configuration.roleType",
    "label": "Role",
    "cell": "String"
  },
  { "name": "node_summary.nodeVendor",
    "label": "Vendor",
    "cell": "String"
  },
  { "name": "node_summary.sysLocation",
    "label": "Location",
    "cell": "String"
  },
  { "name": "node_summary8.health",
    "label": "Health",
    "cell": "ColouredByLevelCell",
    "levels": [ "green", 100, "yellow", 99,
"orange", 80, "red", 0 ]
  },
  { "name": "node_summary.lastUpdateSec",
    "label": "Last Update",
    "cell": "String",
    "formatter": "UnixTimeFormatter"
  }
]
```

Example - opCharts_node-list.json

```
// VERSION=1.8.0
[
  { "name": "node_name",
    "label": "Name",
    "cell": "NodeLinkCell",
    "renderable": 1,
    "comment": "must be present for NodeLinkCell
to work on any column, use 'renderable': 0 to hide"
  },
  { "name": "configuration.host",
    "label": "Host",
    "cell": "String"
  },
  { "name": "node_summary.nodestatus",
    "label": "Node Status",
    "cell": "NodeStatusCell"
  },
  { "name": "configuration.country",
    "label": "Country",
    "cell": "String"
  },
  { "name": "configuration.group",
    "label": "Group",
    "cell": "String"
  },
  { "name": "node_summary.nodeType",
    "label": "Node Type",
    "cell": "String"
  },
  { "name": "configuration.roleType",
    "label": "Role",
    "cell": "String"
  },
  { "name": "node_summary.nodeVendor",
    "label": "Vendor",
    "cell": "String"
  },
  { "name": "node_summary.sysLocation",
    "label": "Location",
    "cell": "String"
  },
  { "name": "node_summary8.health",
    "label": "Health",
    "cell": "ColouredByLevelCell",
    "levels": [ "green", 100, "yellow", 99,
"orange", 80, "red", 0 ]
  },
  { "name": "node_summary.lastUpdateSec",
    "label": "Last Update",
    "cell": "String",
    "formatter": "UnixTimeFormatter"
  }
]
```

Verification

JSON File Syntax Check

The syntax of a json file may be tested with the following command.

```
json_xs -t null < somefile.json
```

Please note that the version line at the top of the file will need to be removed in order to test in the manner.

```
### Test with version line
[root@opmantek table_schemas]# json_xs -t null < opCharts_node-list.json
malformed JSON string, neither array, object, number, string or atom, at character offset 0 (before "//
VERSION=1.8.0\n[\n...") at /usr/bin/json_xs line 138, <STDIN> line 1.

### Successful test without the version line
[root@opmantek table_schemas]# json_xs -t null < opCharts_node-list.json.checksyntax
[root@opmantek table_schemas]#
```

Testing View Functionality

It is not necessary to restart any daemons. After editing the associated json file simply load (or reload) the view in question.

For more information on customizing fields with NMIS integration view our Wiki page Here: NMIS/opCharts Integration - Custom Fields

Per Role Schema

In opCharts 4.3.8 we introduced per role schema. This allows administrators to setup table schemas for users configured with Portal Roles.

Create a directory under the conf/table_schemas directory with your desired Portal Role name, for example: <omk install dir>/conf/table_schemas /<role_name>

Place any custom table schemas you wish only users with the named role to view, in the new directory.

When opCharts goes to find which schema file to use for the table of data being displayed, it will

1. firstly check if there is a custom directory for the users role and check if there is a schema file for the current table of data,
2. if it cannot find this it will check in conf/table_schemas
3. if no schema is found in this location it will use the default shipped with opCharts, /usr/local/omk/lib/json/opCharts/table_schemas/

Limitations

This feature only works for users configured for Portal Roles.

Role names must contain only A-Z, a-z characters or 0-9 numbers. Spaces or any other non ASCII characters are not supported for role names.