uDCV Administator Guide Documentation

Release 3.0.3

uinnova

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1 Preface **1**

2 Contents **3**
2.1 Management Console 3
2.2 Change Password 4
2.3 User Management 5
2.4 Permission and Role Management 8
2.5 Scene Management 11
2.6 Asset Management 15
2.7 Monitor and Alarms 16
2.8 Datasource and Mapping 20
2.9 Misc Management Functions 25

CHAPTER 1

Preface

This documentation provides guidelines to manage and configure uinnova DataCenter Visualizer, or uDCV. uDCV is the data integration and visualization platform, which enables users to visualize the information about the data center facilities.

- **Asset Visualization**
  - Asset location,physical appearance, advance multi-criteria search
  - Large 3D datacenter models library of IT infrastructure and equipment available
  - Integrated asset, configuration and alert information
- **Environment Visualization**
  - 3D Datacenter campus, buildings, floors, rooms and cages views
  - Landscape and drone style fly-over views
- **Cabling Visualization**
  - Electrical wires and conduits
  - Patch panel and cabling
  - Port-to-Port connection path
  - HVAC Utility pipeline
- **Monitoring Visualization**
  - IT equipment performance and alerting
  - Datacenter room temperature and humidity
  - UPS/PDU/Air Conditioning electrical power
- **Presentation Visualization**
  - Self-direct 3D animation
  - Embedded Microsoft PowerPoint presentation in 3D datacenter view

CHAPTER 2

Contents

2.1 Management Console

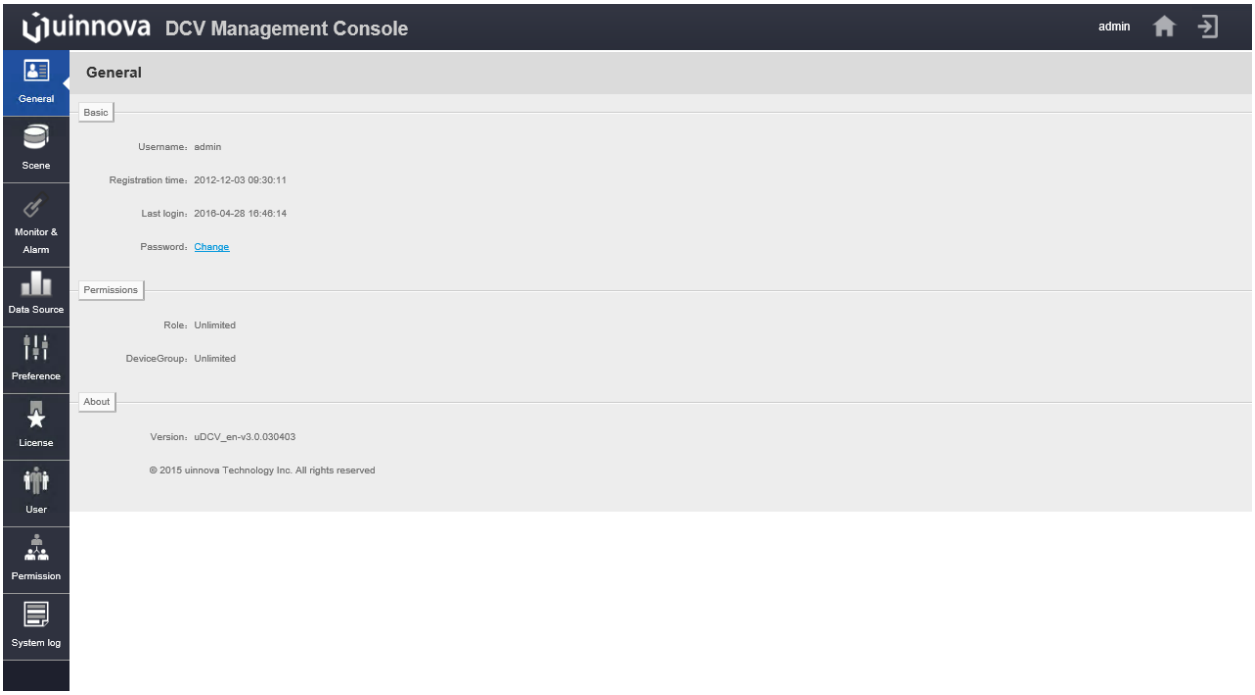
uDCV Administrator can manage license, 3D scene, users and privileges thought management console.

2.1.1 Open Management Console

On uDCV homepage, click “Management Console” to enter Administration UI, as shown below:

2.1.2 Access Management Functions

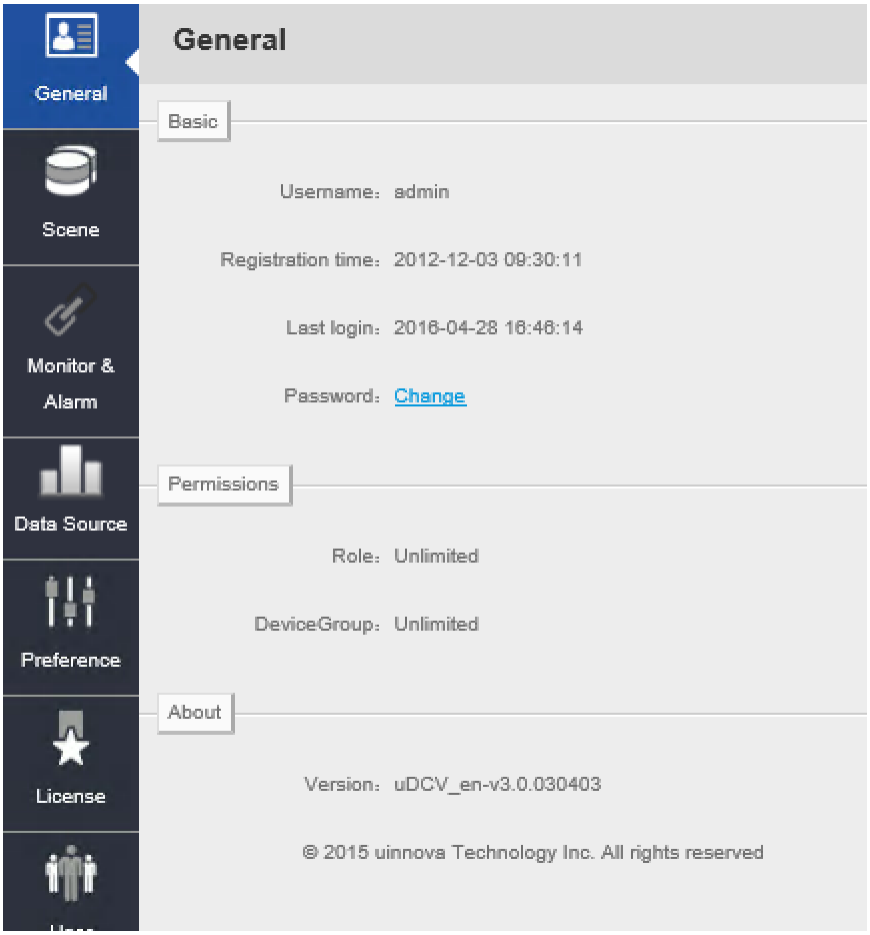
Administration functions can be access by navigation bar on the left, as show below:



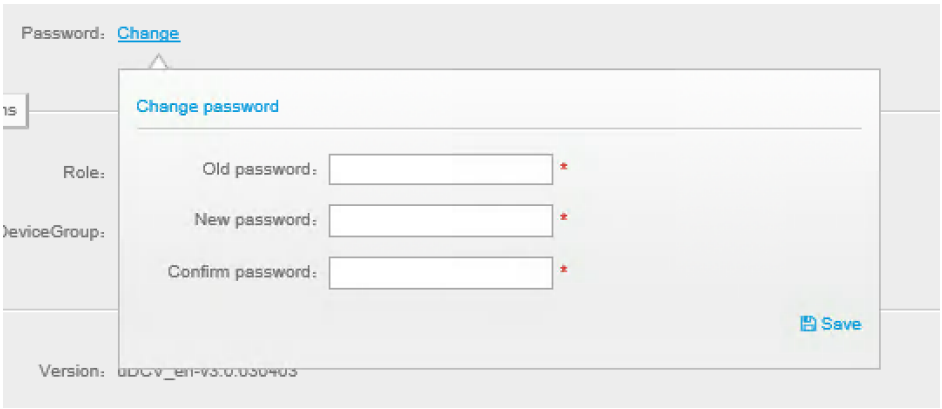
2.2 Change Password

User can change her password through management console:

1. Click **Change** link under **General** tag on the left-hand side navigation bar



2. Enter old password as well as new password, then click **Save** button at the lower right corner.



2.3 User Management

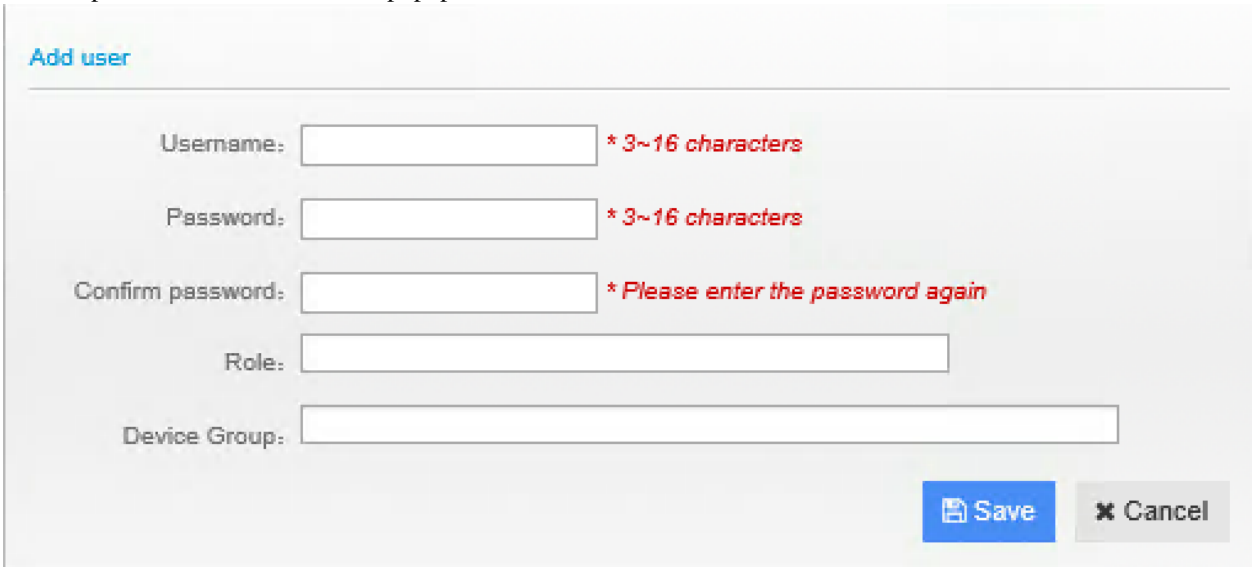
User Management module has following functions:

- Search, create, modify and delete uDCV user.
- Assign roles to user.
- Assign device group to user.

To access User Management module, click **User** button on the left-hand navigation bar in the **Management Console**

2.3.1 Add New User

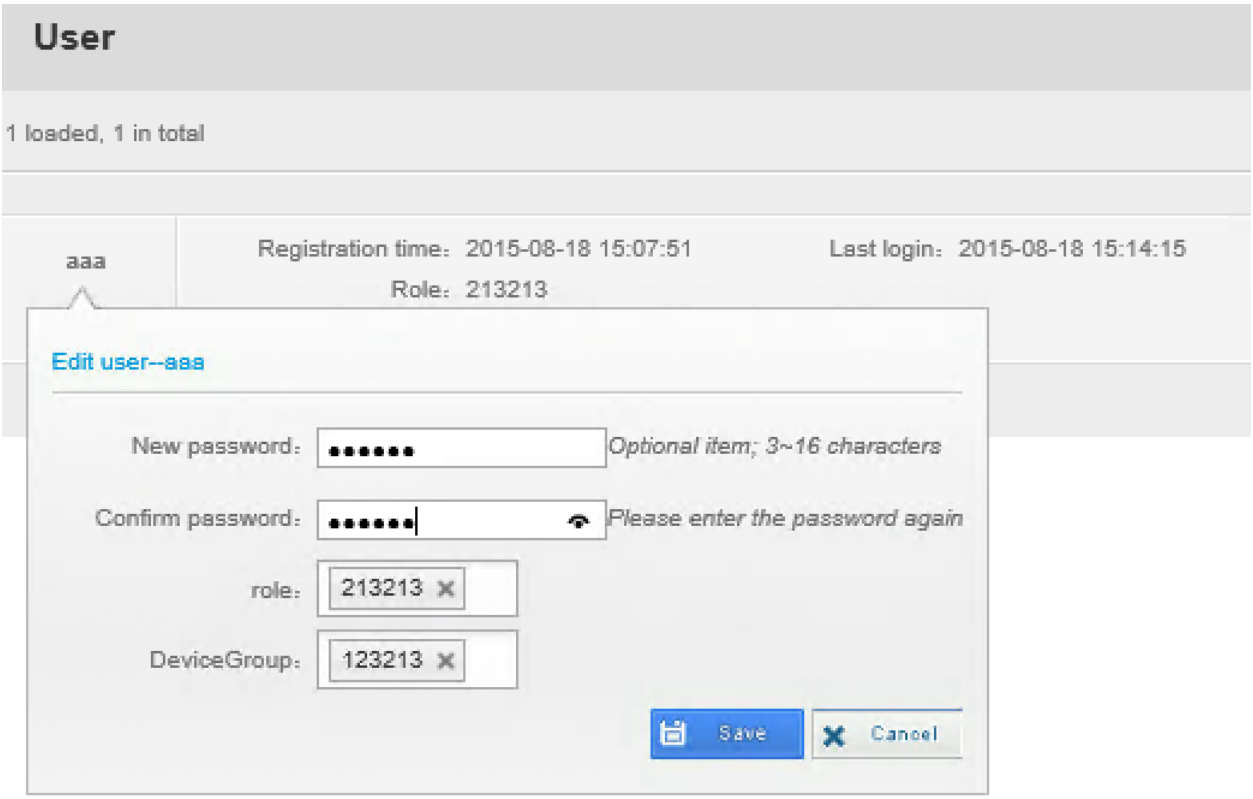
1. Click **+Add** button on the upper right corner in **User** management UI
2. Input user information on the popup window, as shown below:



3. Click **Save** button to save new user.

2.3.2 Edit Existing User

1. Select user to be edit from user list under **User** management UI, and click edit icon on the right hand side
2. Modify user information on the popup window, as shown below:



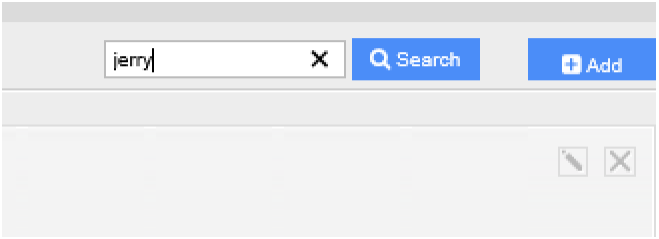
3. Click **Save** button to save change.

2.3.3 Delete User

1. Select user to be deleted from user list under **User** management UI, and click delete icon on the right hand side.
2. Click **OK** to confirm delete. Click **Cancel** to cancel operation.

2.3.4 Search User

1. Input search criteria in the search box on upper right corner of **User** management UI and click **Search** button.



2. View search results on user list table of **User** management UI

2.4 Permission and Role Management

uDCV leverage Role Base Access Control, a.k.a RBAC model to management permissions to access system resource. There are two key component in uDCV's RBAC model:

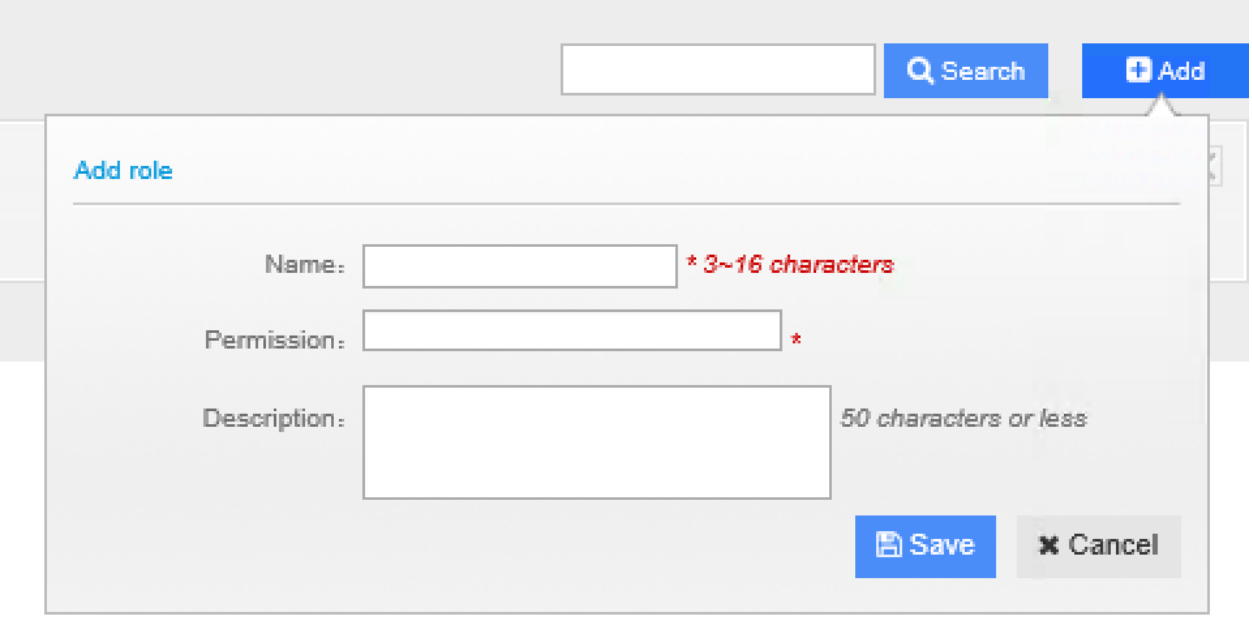
- Role: defines which actions are allowed given a particular role.
- Device Group: defines the *scope* of actions given a particular role.

2.4.1 Role Management

Role management functions is located under **Permission** -> **Role** .

Create New Role

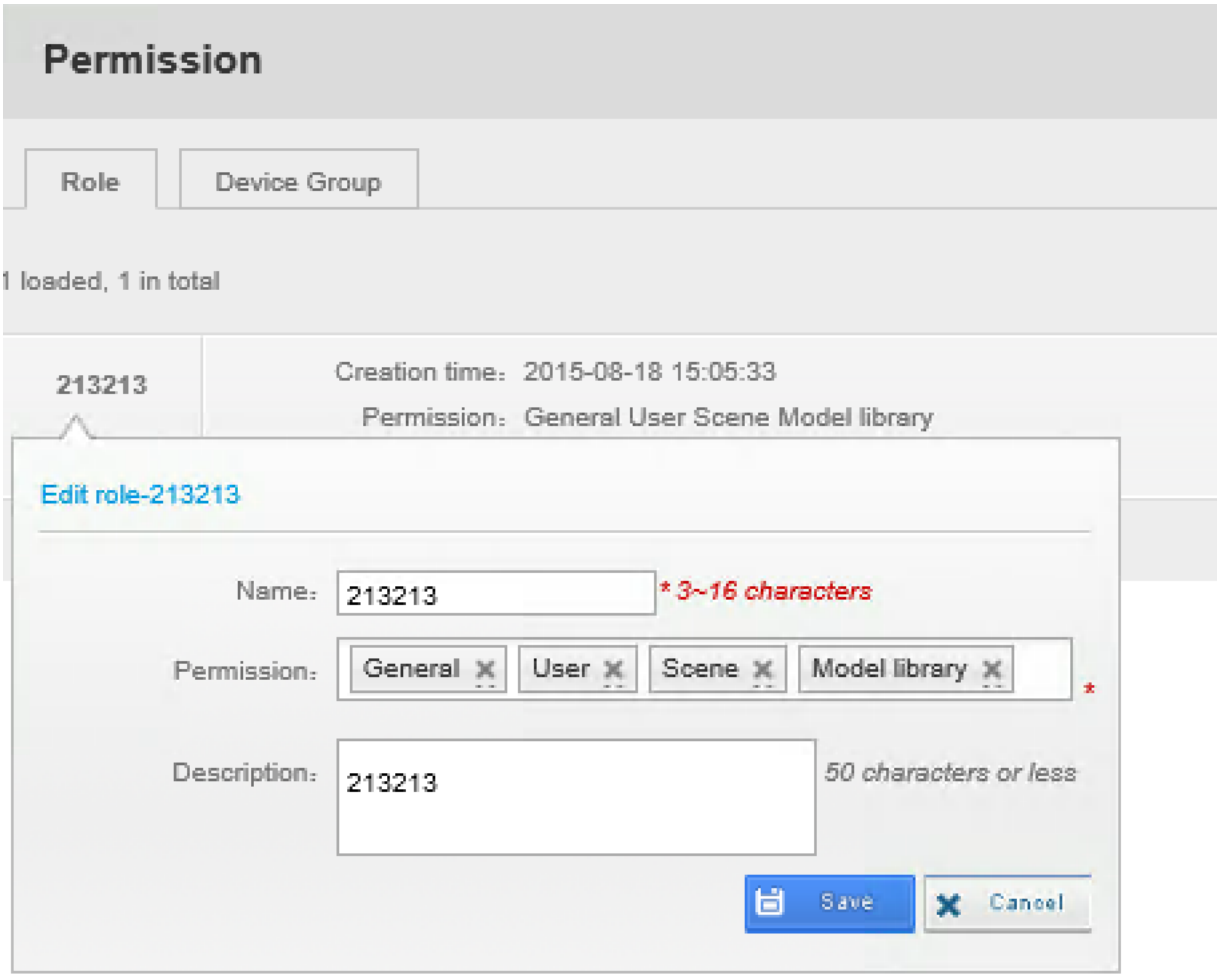
1. Click **+Add** button on the upper right corner in **Role** management UI
2. Input role information on the popup window, as shown below:



3. Click **Save** button to save new role.

Edit Existing Role

1. Select role to be edit from role list under **Role** management UI, and click edit icon on the right hand side
2. Modify role information on the popup window, as shown below:



3. Click **Save** button to save change.

Delete Role

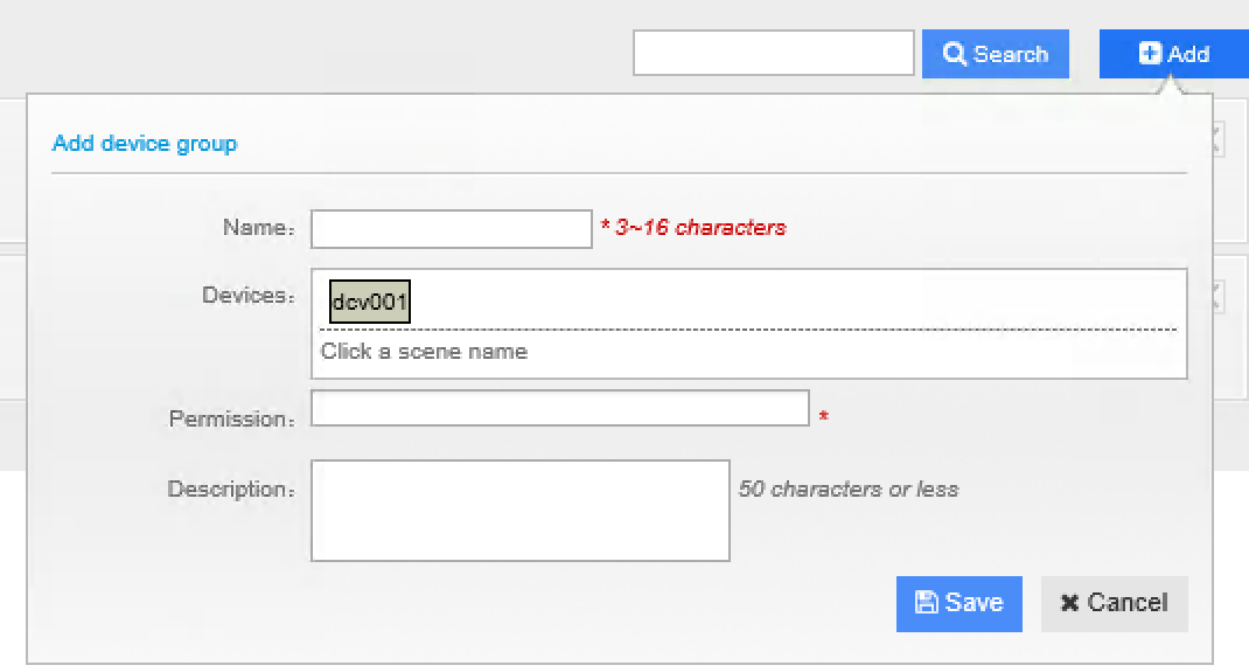
1. Select role to be deleted from user list under **Role** management UI, and click delete icon on the right hand side.
2. Click **OK** to confirm delete. Click **Cancel** to cancel operation.

2.4.2 Device Group Management

Device group management functions is located under **Permission -> Device Group** .

Create New Device Group

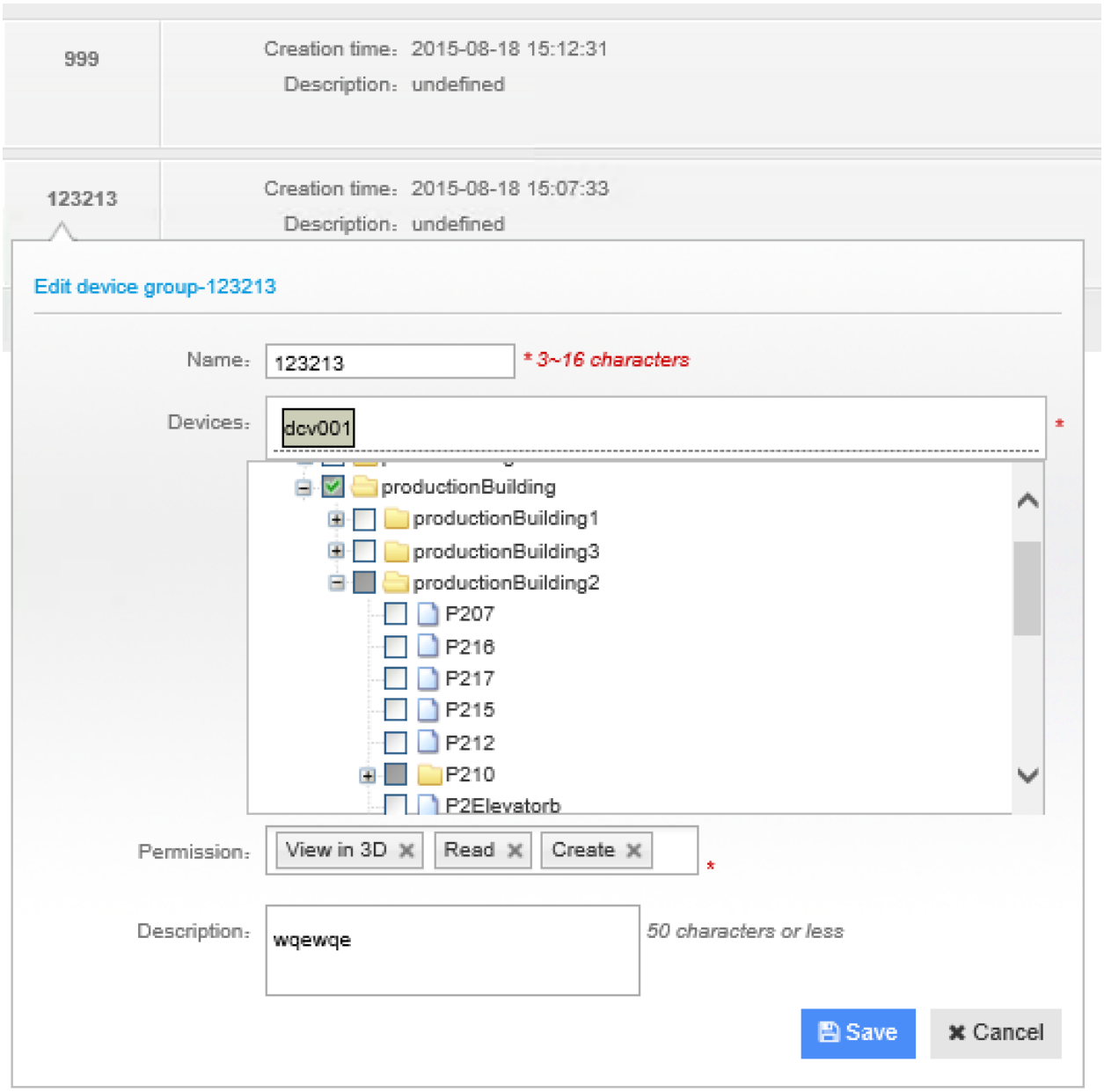
1. Click **+Add** button on the upper right corner in **Device Group** management UI
2. Input device group information on the popup window, as shown below:



3. Click **Save** button to save new device group.

Edit Existing Device Group

1. Select device to be edit from device group list under **Device Group** management UI, and click edit icon on the right hand side
2. Modify device group information on the popup window, as shown below:



3. Click **Save** button to save change.

Delete Device Group

1. Select device group to be deleted from device list under **Device Group** management UI, and click delete icon on the right hand side.
2. Click **OK** to confirm delete. Click **Cancel** to cancel operation.

2.5 Scene Management

By scene management UI, administrator can create new scene, upload 3D model of datacenter, product library, asset and wiring data to scene, as well as preview scene thought T3D plug-in.

To access Scene Management module, click **Scene** button on the left-hand navigation bar in the **Management Console**

Below is the major steps to create 3D datacenter scene:

2.5.1 Create 3D model in online uDCB

uinnova provides online datacenter modelling tool called uDCB (uinnova DataCenter Builder) for **FREE**. Utilizing the WYSIWYG UI, uDCB enables users to design and build 3D datacenter with great flexibility and freedom.

uDCB is a comprehensive online design platform, where users can simply drag and drop objects into the drawing. CAD and Visio drawings can be easily imported into the uDCB to create a 3D model.

uDCB supports online viewing and community based sharing. Users can share their design with others, which effectively increase the number of availables templates for everyone.

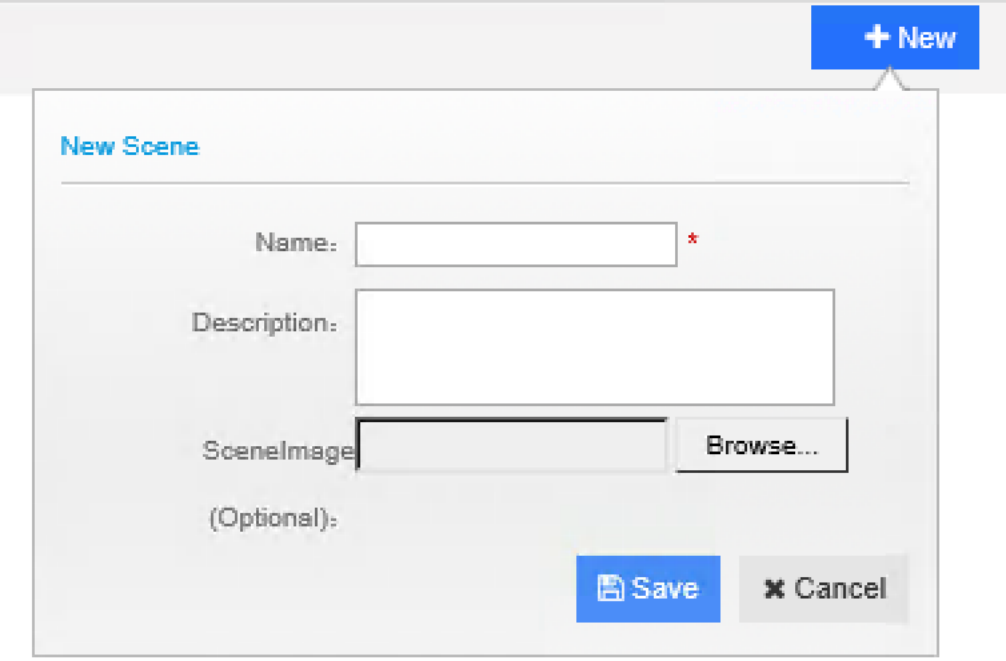
Please refer to http://uinnova.com/dcb.html for further information.

2.5.2 Export uDCB Model to Local Disk

After drawings DataCenter 3D model online in uDCB, click **Export** button to export datacenter model to local disk.

2.5.3 Create New Scene

1. Click **+New** button on the upper right corner in **Scene** management UI
2. Input scene information on the popup window, as shown below:



3. Click **Save** button to save your change.

Note: Newly created scene by click **New** button are empty, to put 3D modelas, objects and asset data in new scenes, please use **import** function under scene panel.

2.5.4 Import Scene Data

Click **import** button under individual scene panel to enter data import UI. Import data by following order

1. import model library 3. import uDCB model 4. import asset data 5. import wiring data

Import Model library

Click **Model Library** icon in scene import UI, select model library file from popup file explorer windows, and click **OK** to upload.

The **Model Library** icon will turn to green if upload successfully.

Note: uDCV shipped with default model library named `product_lib.zip` under `DCV_DATA` folder in product tarball.

Import uDCB Scene

Click **uDCB** icon in scene import UI, select uDCB exported scene file from popup file explorer windows, and click **OK** to upload.

The **uDCB** icon will turn to green if upload successfully.

Note: For sample datacenter scenes and exported scene files, please visit http://uinnova.com/app/topic/35/sample-exported-scene-and-asset-data

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Import Texture

Click **Texture** icon in scene import UI, select texture file from popup file explorer windows, and click **OK** to upload.

The **Texture** icon will turn to green if upload successfully.

Note: uDCV shipped with default texture file named `unity_pic.zip` under `DCV_DATA` folder in product tarball.

Import Asset Data

Click **Asset** icon in scene import UI, select asset file from popup file explorer windows, and click **OK** to upload.

The **Asset** icon will turn to green if upload successfully.

Note: To learn about asset file format and sample asset data, please visit http://uinnova.com/app/topic/35/sample-exported-scene-and-asset-data

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Import Wiring Data

Click **Wiring** icon in scene import UI, select wiring file from popup file explorer windows, and click **OK** to upload.

The **Wiring** icon will turn to green if upload successfully.

Note: To learn about wiring file format and sample wiring data, please visit http://uinnova.com/app/topic/35/sample-exported-scene-and-asset-data

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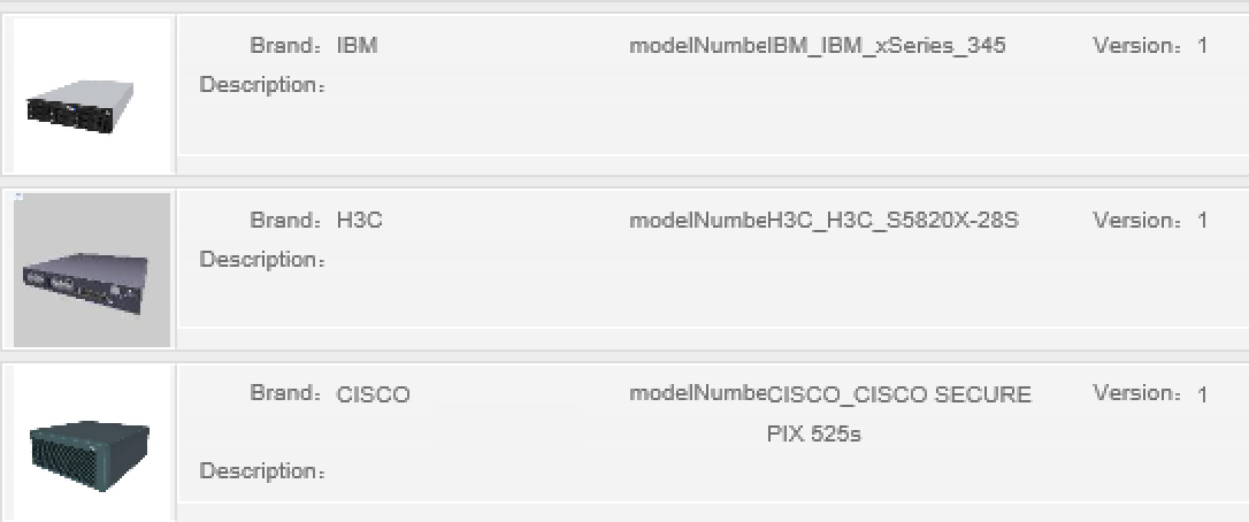
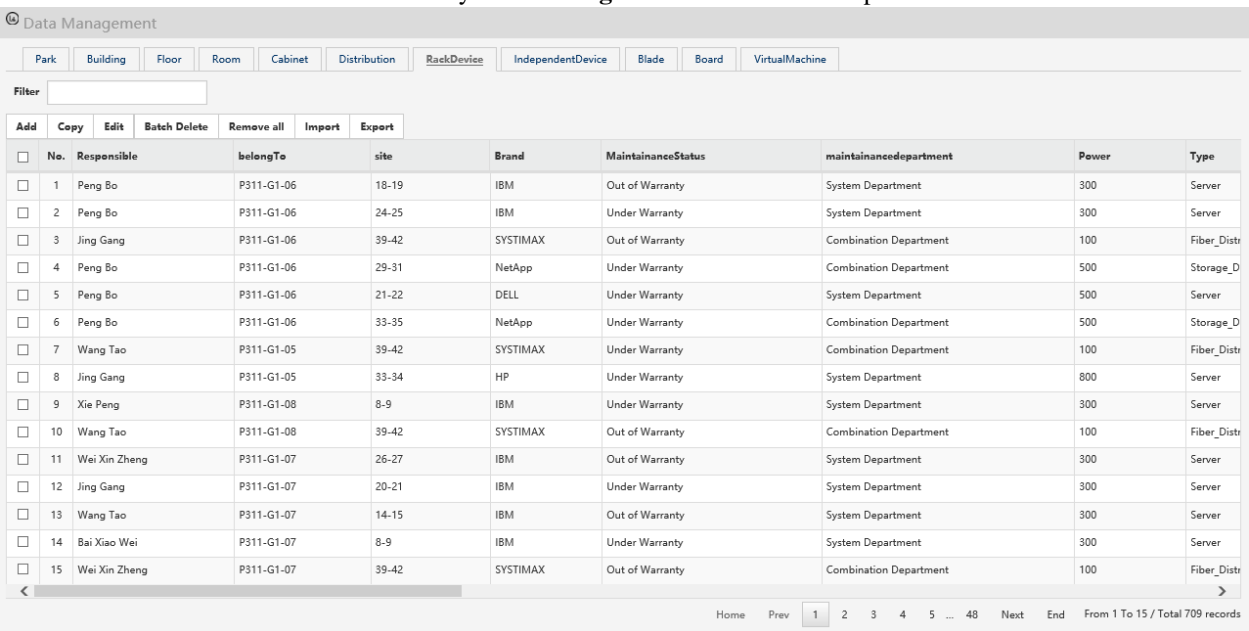
View Uploaded Scene Data

- View model library of individual scene by click **Model Library** button under scene panel



- View asset data of individual scene by click **Configure** button under scene panel

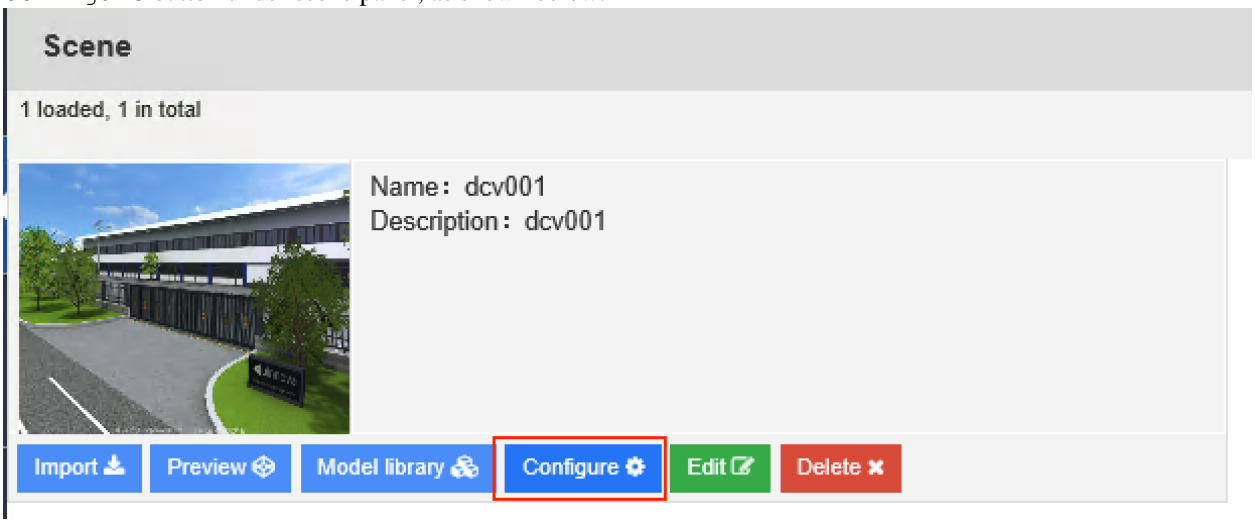


2.5.5 Preview Scene

Click **Preview** button under individual scene panel to preview scene in 3D.

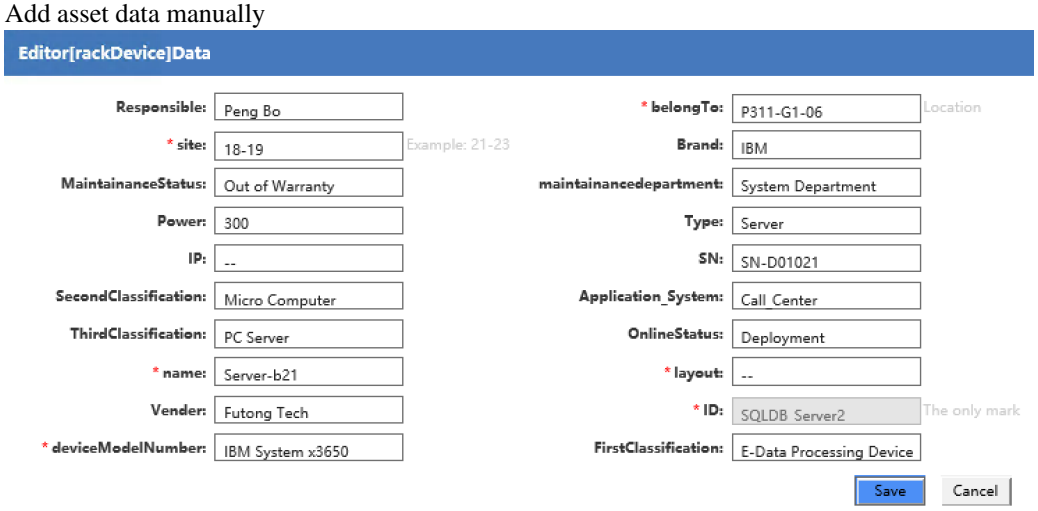
2.6 Asset Management

In uDCV, each scene has its own asset dataset, to access asset management UI for a scene, go to scene list, click `configure` button under scene panel, as shown below:



User can perform following operation on alarm data as listed in table below:

Table 2.1: **Asset Data Management**

Action Name	Description
Add New Asset Data	Add asset data manually 
Copy	Copy one data record to an new one.
Edit	Edit existing data record.
Batch Delete	Delete selected data records.
Remove All	Delete *ALL* asset records.
Import	Import data from local disk file, in excel format.
Export	Export data to local disk file, in excel format.

2.7 Monitor and Alarms

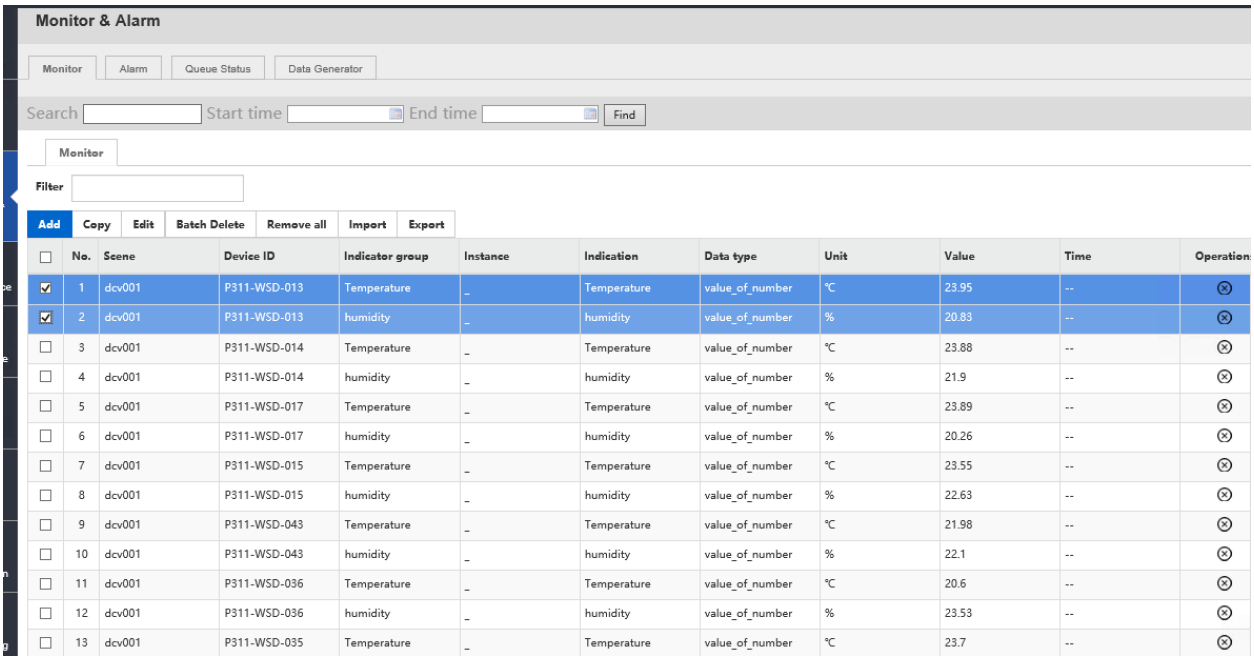
uDCV supports monitoring visualization by receive performance and alarm data from 3-party system via its open API, and show the index in realtime 3D scene. Typical data source could be:

- IT equipment performance and alerting
- Datacenter room temperature and humidity
- UPS/PDU/Air Conditioning electrical power

For more information about send performance and alarm data thought uDCV open API, please refer to uDCV Developer Guide.

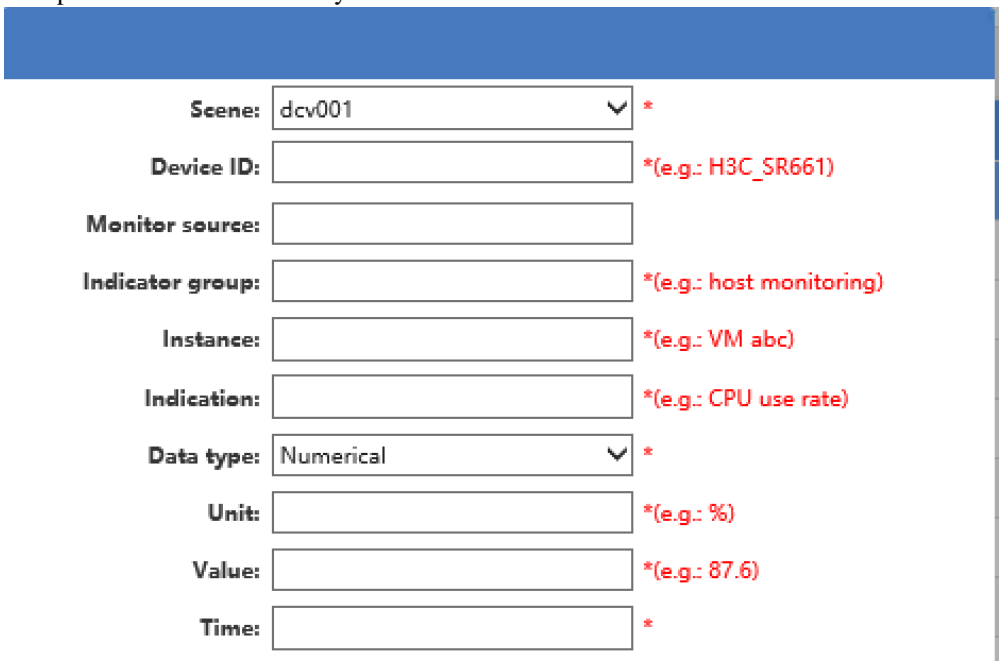
2.7.1 Performance

Performance data management functions is located under **Monitor and Alarm -> Monitor** :



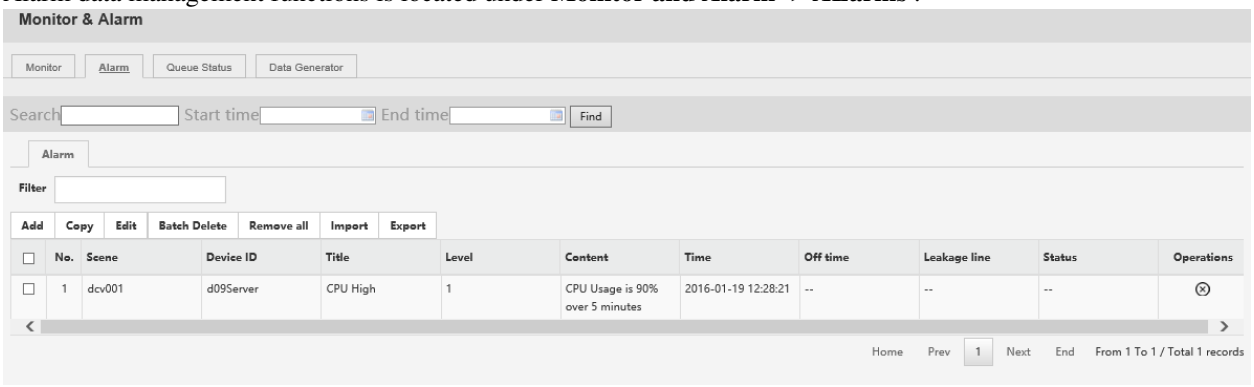
User can perform following operation on performance data as listed in table below:

Table 2.2: **Performance Data Management**

Action Name	Description
Add New Performance Data	Add performance data manually 
Copy	Copy one data record to an new one.
Edit	Edit existing data record.
Batch Delete	Delete selected data records.
Remove All	Delete *ALL* performance records.
Import	Import data from local disk file, in excel format.
Export	Export data to local disk file, in excel format.

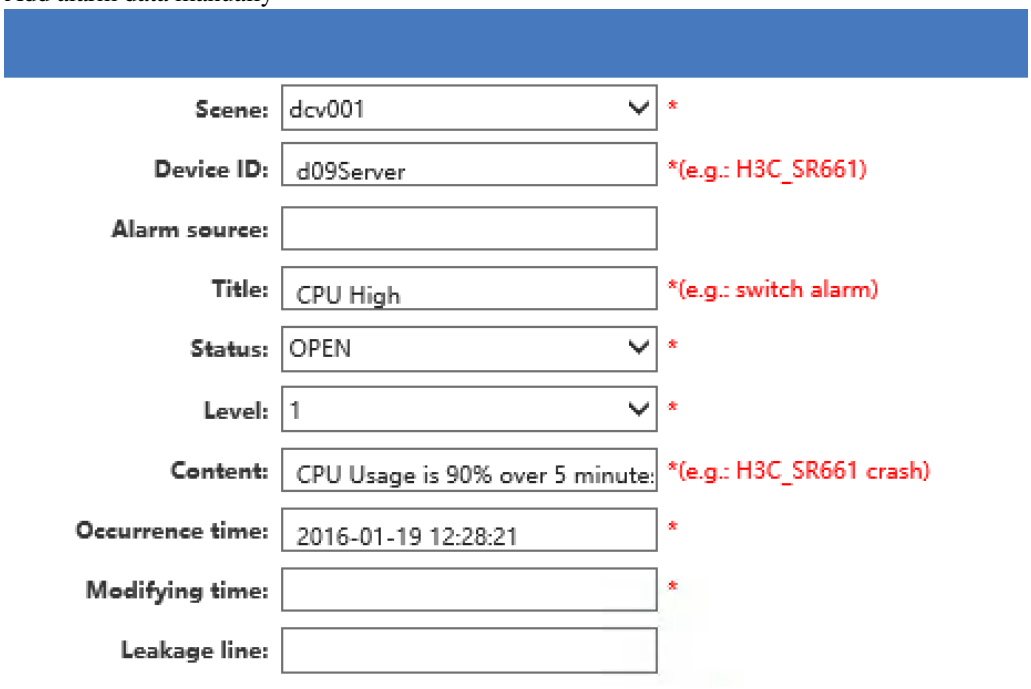
2.7.2 Alarms

Alarm data management functions is located under **Monitor and Alarm -> ALarms** :



User can perform following operation on alarm data as listed in table below:

Table 2.3: **Alarm Data Management**

Action Name	Description
Add New Alarm Data	Add alarm data manually 
Copy	Copy one data record to an new one.
Edit	Edit existing data record.
Batch Delete	Delete selected data records.
Remove All	Delete *ALL* alarm records.
Import	Import data from local disk file, in excel format.
Export	Export data to local disk file, in excel format.

2.7.3 Queue Status

Status of data processing queue can be view under **Monitor and Alarm -> Queue Status** . it summaries the following information:

- Queue Name
- Number of pending messages
- Number of consumers
- Messages dequeue
- Message enqueue

2.7.4 Data Generator

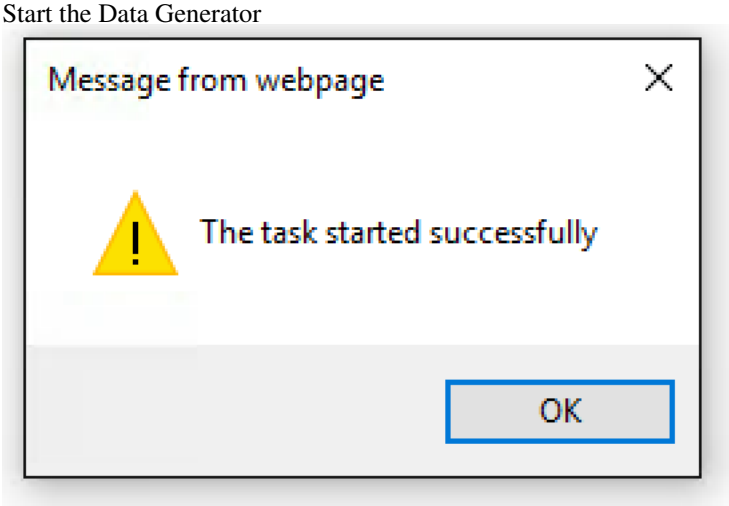
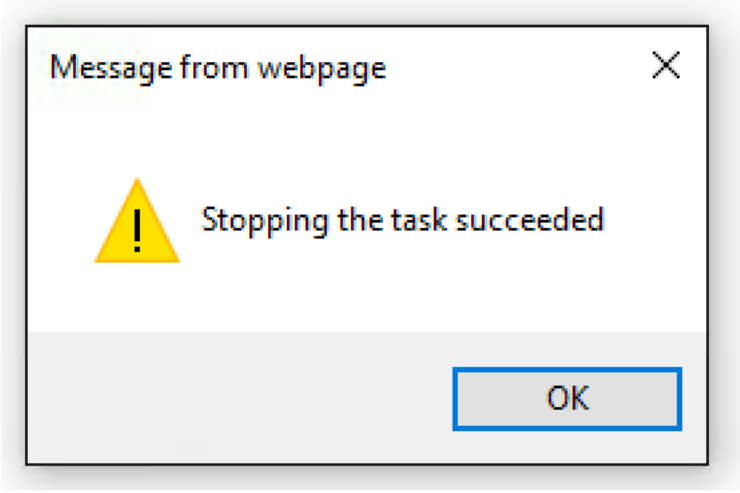
User can generate performance records using **Data Generator** for **demo** purpose. Data Generator function is located at **Monitor and Alarm -> Data Generator**. One of the typical user case is to generate data to build **HeatMap** from

a group of temperature sensors.

To generate sample data, the following fields are required:

- Scene Name
- Category
- Target, either `logic server` or `Temperature and Humidity`, or both

Table 2.4: **Data Generator**

Action Name	Description
Run	Start the Data Generator 
Stop	Stop the Data Generator 

2.8 Datasource and Mapping

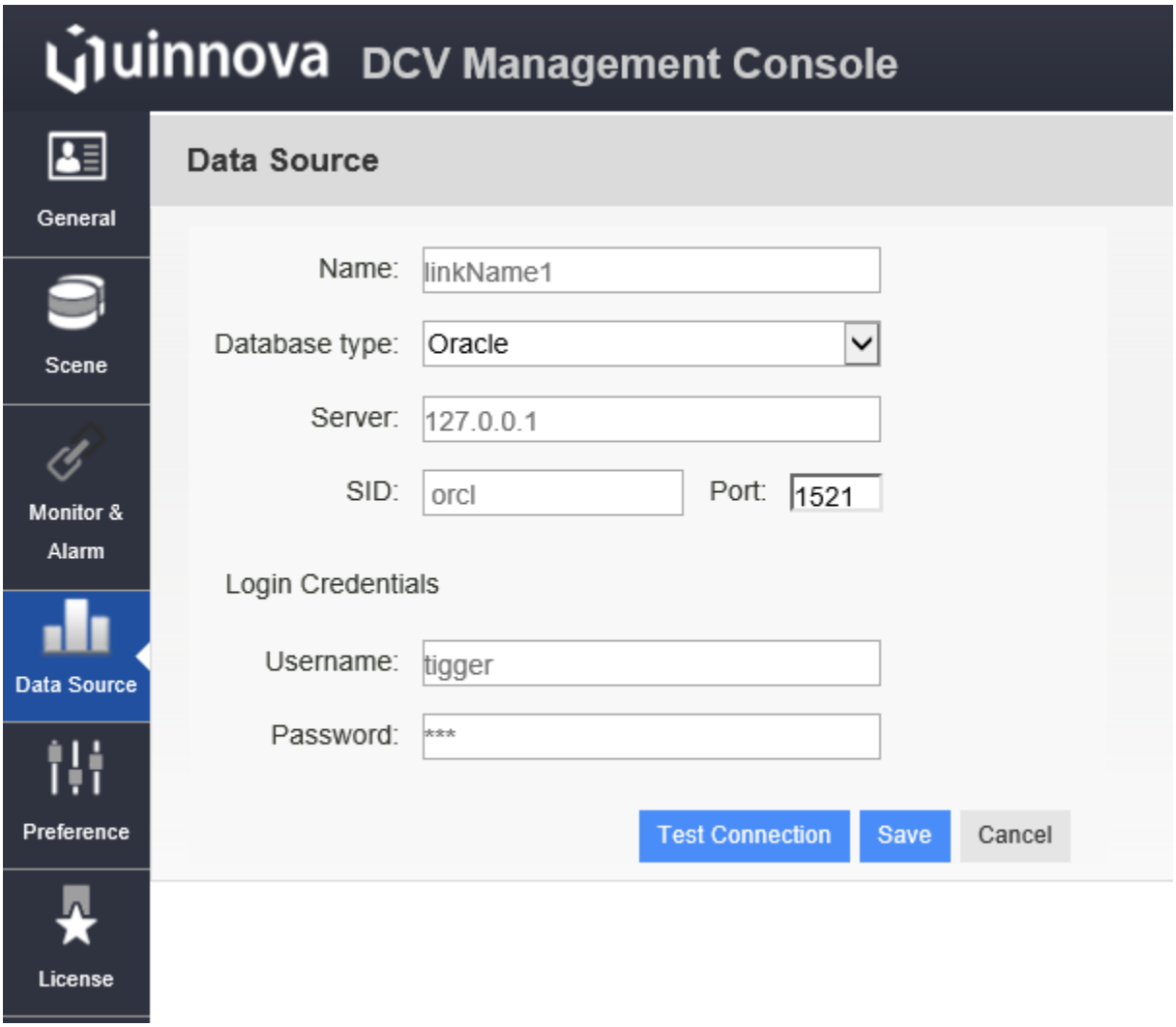
uDCV can connect and fetch data from external database using JDBC, to setup database connection, configure field mapping and schedule data fetch job.

2.8.1 DataSource Management

To access Datasource Management module, click **Data Source** button on the left-hand navigation bar in the **Management Console**

Create New Datasource

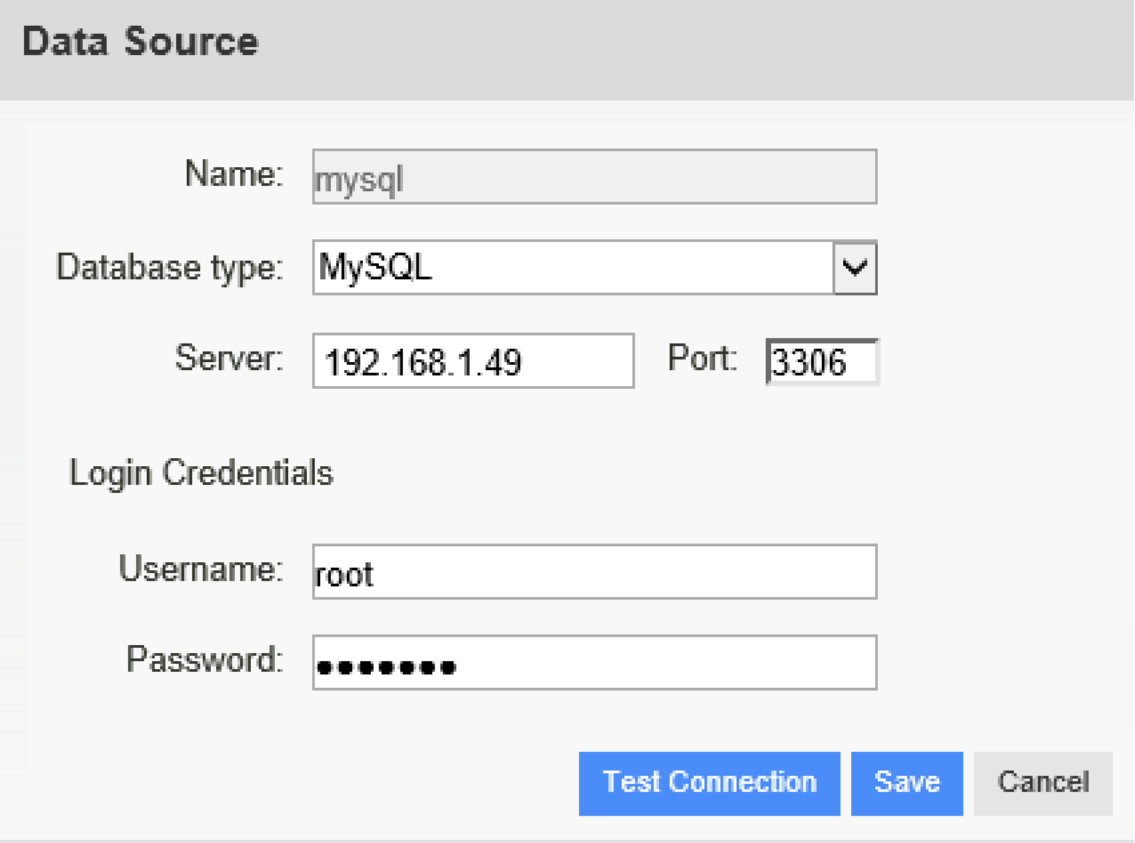
1. Click **+Add data source** button on the upper right corner in **Data Source** management UI
2. Input data source information, as shown below:



3. Click **Test Connection** button to test database connection.
4. Click **Save** to save new data source.

Edit Existing Datasource

1. Select user to be edit from datasource list under **Data Source** management UI, and click edit icon on the right hand side.
3. Modify datasource information, as shown below:



3. Click **Save** button to save change.

Delete Datasource

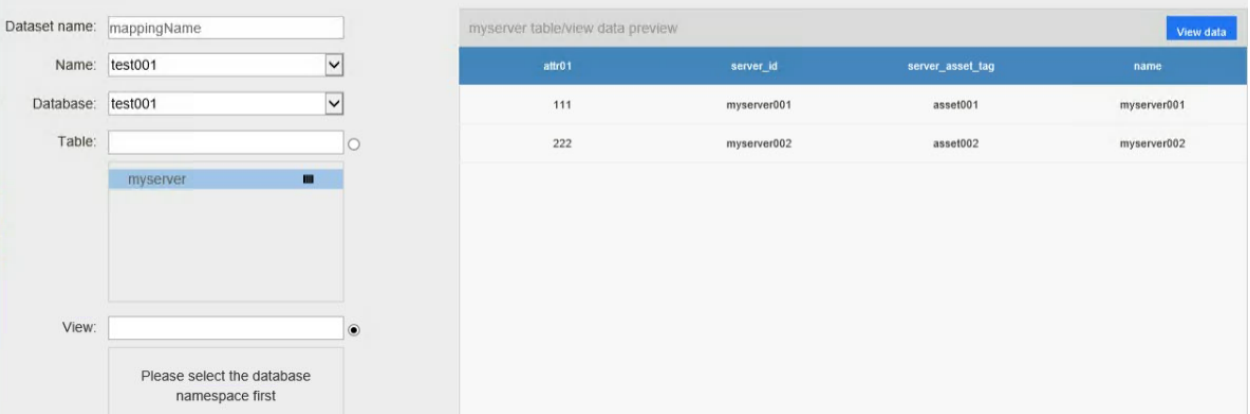
1. Select datasource to be deleted from datasource list under **Data Source** management UI, and click delete icon on the right hand side.
2. Click **OK** to confirm delete. Click **Cancel** to cancel operation.

2.8.2 Dataset Management

Click **Dataset** tag in **Data Source** management UI to access dataset management functions.

Create New Dataset

1. Click **+Add dataset** button on the upper right corner.
2. Input data set information, as shown below:



3. Click **Preview** button to preview data from dataset.

Note: First 20 records are shown in preview mode.

4. Click **Save** to save new dataset.

Edit Existing Dataset

1. Click **+Edit dataset** button on the right hand side.
2. Input data set information.
3. Click **Preview** button to preview data from dataset.

Note: First 20 records are shown in preview mode.

5. Click **Save** to save change.

Delete Dataset

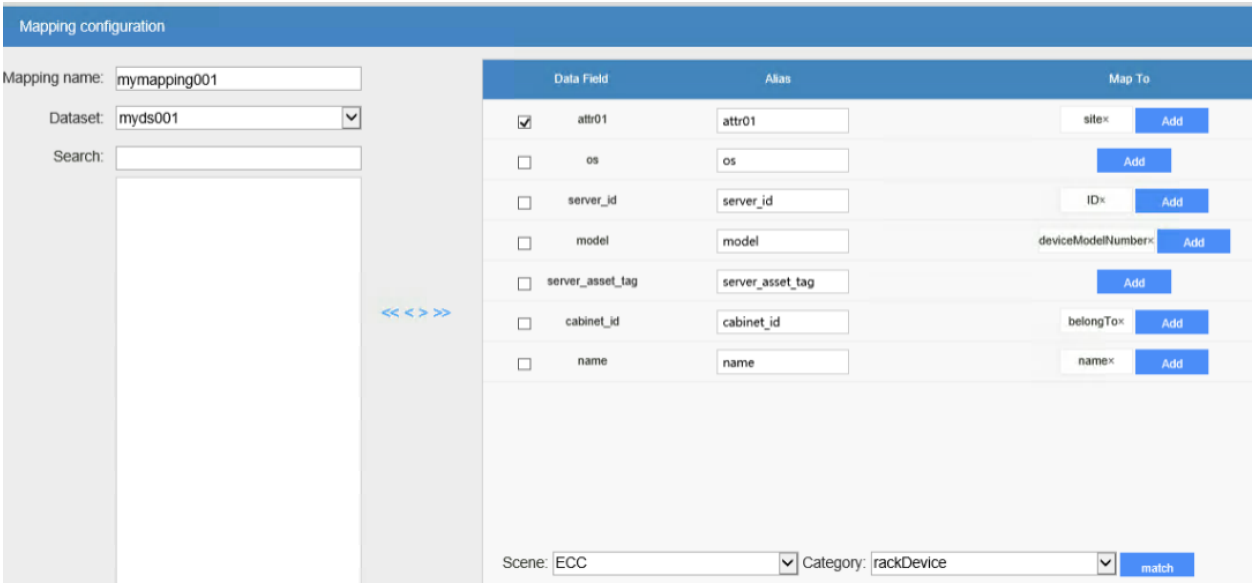
1. Select dataset to be deleted from dataset list, and click delete icon on the right hand side.
2. Click **OK** to confirm delete. Click **Cancel** to cancel operation.

2.8.3 Data Mapping

Click **Data Mapping** tag in **Data Source** management UI to access data mapping functions.

Create New Data Mapping

1. Click **+Add Category Mapping** button on the upper right corner.
2. Input mapping ans scheduler information, as shown below:



3. Click **Save** to save new data mapping.

Note: There are 6 required field which must exist and mapped from dataset, namely:

- ID
- Name
- Belong to
- Site
- Layout
- deviceModelNumber

Edit Existing Data Mapping

1. Click **+Edit dataset** button on the right hand side.
2. Input mapping information.
3. Click **Save** to save change.

Delete Data Mapping

1. Select data mapping to be deleted from data mapping list, and click delete icon on the right hand side.
2. Click **OK** to confirm delete. Click **Cancel** to cancel operation.

Run Data Mapping Job

Data mapping can be run manually or by scheduler.

- Run Once

  Click **Execute once only** to run data import once.

- Run by Scheduler

  Click **Start execution** to run data import job by scheduler.

Stop Scheduler

Click **Stop execution** button under data mapping definition to stop data import scheduler for that particular data mapping.

2.9 Misc Management Functions

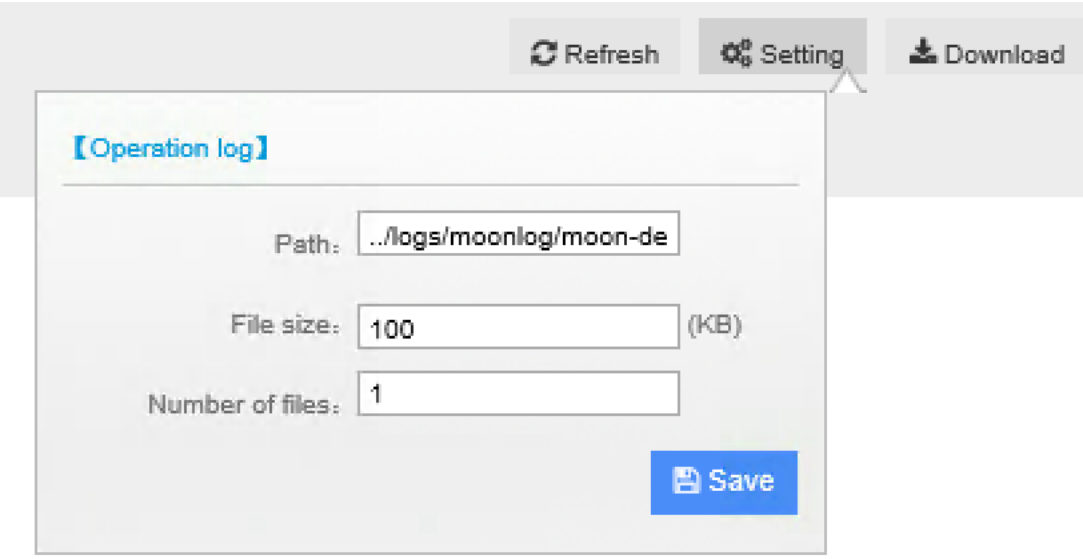
2.9.1 License

- View license information by click **License** tag on left navigation bar.
- To renew license, click `relicense` link on license information page.
- Get obtain machine code required to apply new license, click `Click to copy license code` button on the right hand side.

2.9.2 System Log

System log, includes operation log and exceptions, can be viewed online under **System log** tab.

- `Refresh` to refresh log
- `Setting` to configure the logger



- `Download` to download log to local disk

2.9.3 Advance UI Settings

uDCV 3D scene UI can be customized under **Preference** tab, please contact uinnova or your sale representative for further details.