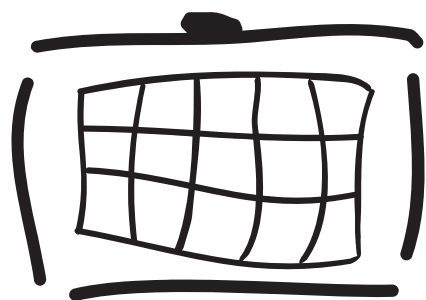


# User guide for Radiator VNF Manager GUI

Radiator VNF Flex

Copyright © 2022-2023 Radiator Software Oy.



# Radiator

## Table of contents

- [Table of contents](#)
- [Radiator VNF Manager GUI](#)
  - [Run jobs](#)
  - [Dashboard](#)
  - [Jobs](#)
  - [Nodes](#)
    - [Hosts vs instances vs nodes](#)
  - [Activity](#)
- [Jobs to manage Radiator VNF hosts](#)
  - [00 Upload OpenStack credentials](#)
  - [01 Upload OpenStack image](#)
  - [02 Import image from Radiator VNF Manager to OpenStack](#)
  - [10 Upload configuration file](#)
  - [10 Upload configuration package](#)
  - [11 Create OpenStack hosts](#)
  - [12 Setup OpenStack hosts](#)
  - [13 Start Radiator instances](#)
  - [14 Stop Radiator instances](#)
  - [15 Restart Radiator instances](#)
  - [20 Update Radiator configuration](#)
  - [21 Label Radiator configuration](#)
  - [22 Switch Radiator configuration](#)
  - [23 Update hosts](#)
  - [30 Destroy hosts](#)
  - [40 Show configuration](#)
- [Jobs to manage Radiator VNF Manager](#)
  - [00 Import certificates to Radiator VNF Manager](#)
  - [01 Export Radiator VNF Manager data](#)
  - [02 Import Radiator VNF Manager exported data](#)
  - [03 Export Radiator VNF Manager rootCA](#)
  - [04 Commission Radiator VNF Manager](#)
  - [05 Decommission Radiator VNF Manager](#)
  - [10 Define proxy for Radiator VNF Manager](#)
  - [20 Configure LDAP authentication to Radiator VNF Manager](#)

This document describes the available actions in the graphical user interface for Radiator VNF Manager.

# Radiator VNF Manager GUI



## Welcome to Radiator VNF Manager!

This is Radiator VNF Manager GUI

[Run jobs](#)


[Documents and guides](#)

[License information](#)


### Radiator VNF Manager home

Radiator VNF Manager home page shows the available functionalities. *Run jobs* requires authentication and from there user can manage both Radiator VNF hosts and Radiator VNF Manager. *Documents and guides* opens page with available Radiator VNF Flex documentation. *License information* shows the Radiator licenses and Radiator VNF Flex Lifecycle Policy.

## Run jobs



Projects



2 Projects

New Project +

0 Executions In the last day (0 Failed)

Project search: name, label or /regex/

Q

Projects	Activity	Actions
Radiator VNF Jobs	None	Action ▾
Radiator VNF Manager Jobs	None	Action ▾

### Radiator VNF Manager projects home

Radiator VNF Manager projects home page shows the available projects for the logged in user. There are two projects, **Radiator VNF Jobs** for managing the Radiator VNF hosts and **Radiator VNF Manager Jobs** for managing the Radiator VNF Manager itself. The Radiator VNF Jobs project is visible with both regular and admin user access, while the Radiator VNF Manager Jobs project is only visible for the admin user.

Once either of the available projects is selected, the **All jobs** page is shown which lists the available jobs per project.

**Radiator VNF Jobs**

**All Jobs 16**

Expand All Collapse All

- ▶ 00 Upload OpenStack credentials Upload OpenStack credential configuration file
- ▶ 01 Upload OpenStack image Upload virtual host image file and import it to OpenStack
- ▶ 02 Import existing OpenStack image Import existing OpenStack image file from Radiator VNF Manager
- ▶ 10 Upload configuration file Upload Radiator VNF Flex configuration
- ▶ 10 Upload configuration package Upload Radiator VNF Flex configuration and host configurations package
- ▶ 11 Create hosts Create Radiator VNF virtual hosts
- ▶ 12 Setup hosts Setup Radiator VNF hosts configuration
- ▶ 13 Start Radiator instances Start selected Radiator instances on Radiator VNF hosts
- ▶ 14 Stop Radiator instances Stop selected Radiator instances on Radiator VNF hosts
- ▶ 15 Restart Radiator instances Restart selected Radiator instances on Radiator VNF hosts
- ▶ 20 Update Radiator configuration Update Radiator configuration on selected Radiator instances
- ▶ 21 Label Radiator configuration Tag and name Radiator configuration on Radiator VNF Manager across selected Radiator instances
- ▶ 22 Switch Radiator configuration Switch or rollback to previously labeled Radiator configuration across selected Radiator instances
- ▶ 23 Update hosts Run software update on selected Radiator VNF hosts
- ▶ 30 Destroy hosts Destroy selected Radiator VNF hosts and Radiator instances within
- ▶ 40 Show configuration Show configuration

**Activity for Jobs**

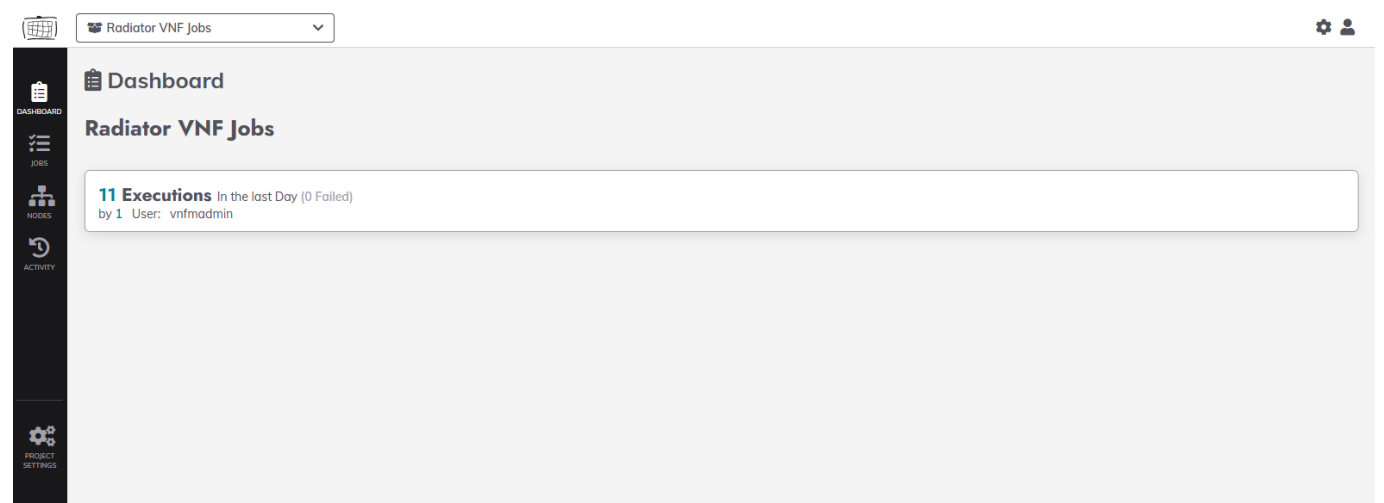
1 - 10 of 11 Executions any time Save Filter... Bulk Delete

Status	Timestamp	Duration	User	Job Name	CloudID	Job ID
✓	03/20/2023 5:25 PM Today at 5:25 PM	2 minutes	by vnfmadmin	12 Setup hosts	cloudid: Vowifi radiatorvnfhosts: Vowifi-Vowifi	#11
✓	03/20/2023 5:23 PM Today at 5:23 PM	2 minutes	by vnfmadmin	12 Setup hosts	cloudid: H2M radiatorvnfhosts: Sales-VNFH-H2M-v	#10
✓	03/20/2023 5:21 PM Today at 5:21 PM	2 minutes	by vnfmadmin	12 Setup hosts	cloudid: IoT radiatorvnfhosts: Sales-IoT-vnf-ho	#9
✓	03/20/2023 5:18 PM Today at 5:18 PM	2 minutes	by vnfmadmin	12 Setup hosts	cloudid: fixedline radiatorvnfhosts: fixedline-	#8
✓	03/20/2023 5:15 PM Today at 5:15 PM	a minute	by vnfmadmin	11 Create hosts	cloudid: Vowifi	#7
✓	03/20/2023 5:13 PM Today at 5:13 PM	3 minutes	by vnfmadmin	11 Create hosts	cloudid: IoT	#6
✓	03/20/2023 5:02 PM Today at 5:02 PM	2 minutes	by vnfmadmin	11 Create hosts	cloudid: H2M	#5
✓	03/20/2023 4:59 PM Today at 4:59 PM	2 minutes	by vnfmadmin	11 Create hosts	cloudid: fixedline	#4
✓	03/20/2023 4:56 PM Today at 4:56 PM	3 minutes	by vnfmadmin	11 Create hosts	cloudid: fixedline	#3
✓	03/20/2023 4:45 PM Today at 4:45 PM	1 ok a minute	by vnfmadmin	10 Upload configuration package	cloudinfo: fd12df55-206e-4235-b3eb-a5c6516186b	#2

### Radiator VNF Jobs

On the left side there are a *Dashboard*, *Jobs*, *Nodes*, and *Activity* options. On the top is a drop down list that allows easily changing the project if the user has access to both projects, and on the main area of the page all the available Jobs are shown with possible earlier activity.

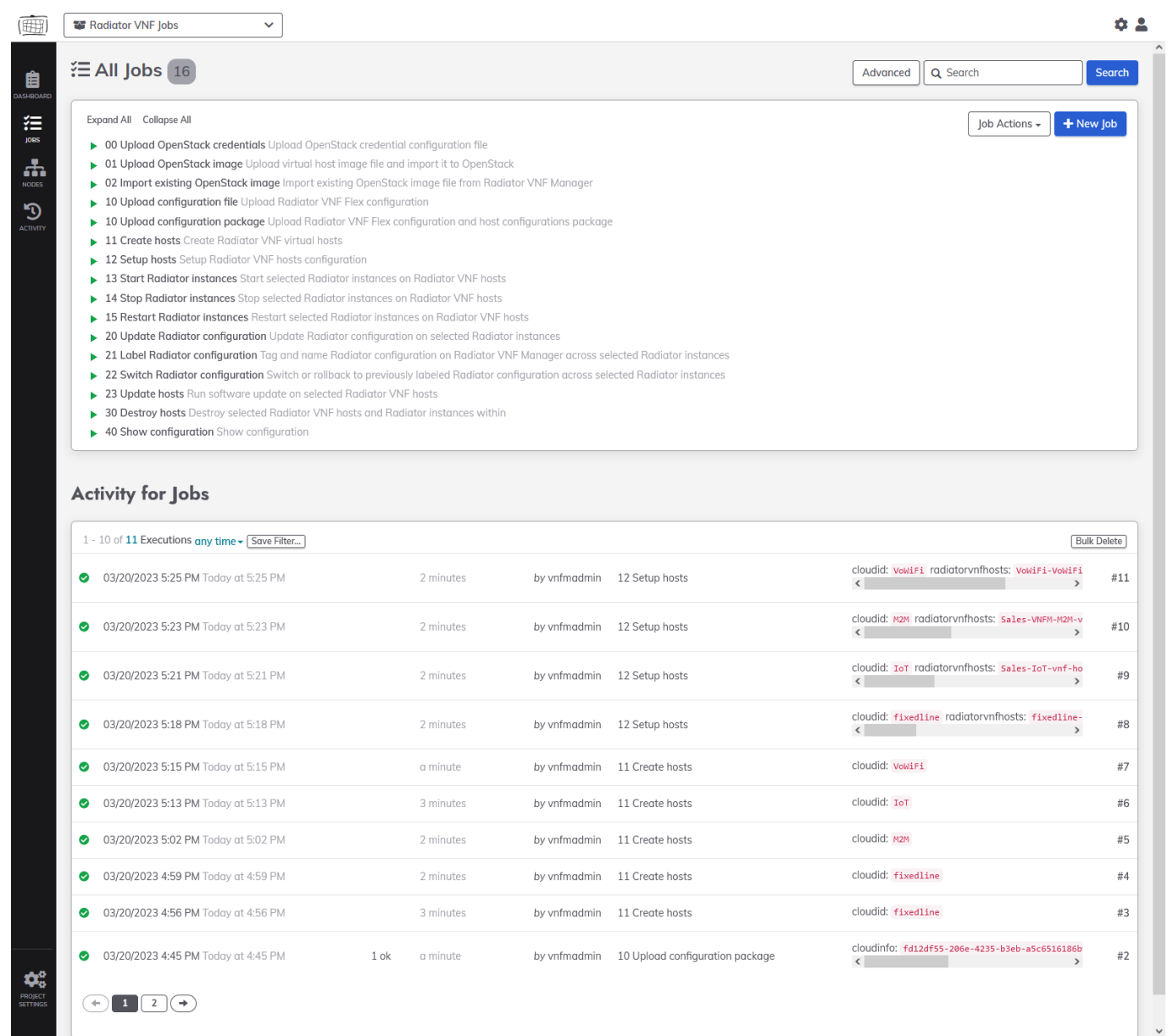
## Dashboard



Radiator VNF Jobs Dashboard

Dashboard shows the total number of executions that has happened in the selected project during last day.

Jobs



Radiator VNF Jobs

## Nodes

### Radiator VNF Nodes

### Radiator VNF Nodes

## Hosts vs instances vs nodes

Hosts or Radiator VNF hosts refer to virtual machines running in OpenStack (in OpenStack language these are usually called instances). Host can be either Radiator host (running Radiator) or any other kind of host, for example DB host where database server is running. Hosts are visible on the Radiator VNF Manager GUI *Nodes* page. Hosts are also the target node on some of the jobs, for example job [30 Destroy hosts](#) requires that the user selects the Radiator VNF hosts that should be destroyed. The actual tasks inside Radiator VNF Flex Ansible playbooks may refer to hosts also as workers, and the output can contain variable names with "worker" in them. This is Radiator VNF Flex's internal functionality, but in all these cases worker means hosts.

Instances refer to Radiator instances, that is the Radiator process running on the Radiator host. There can be multiple Radiator instances per Radiator host, for example:

- for performance reasons: multiple instances handling large loads with couple Radiator instances configured for load balancing and couple Radiator instances configured to handle authentication
- for logistic reasons: for example traffic goes to Radiator proxy instance first, which then forwards the traffic to Radiator instance doing authentication
- separating authentication and accounting to different instances

Each Radiator instance is visible on the *Nodes* page together with the Radiator VNF hosts. Instances are also the target nodes on some of the jobs, for example job [13 Start Radiator instances](#) require that the user selects the Radiator instances that should be started.

The differences between hosts and instances are:

- A single host can contain multiple Radiator instances.
- Job targeting host will affect the whole host, regardless if there are multiple Radiator instances or not.
- Job targeting multiple Radiator instances can target Radiator instances on various hosts within the cloud.
- Host does not need to be Radiator host, but it can be for example DB host. Radiator instance is always Radiator process.

"Nodes" is visible on GUI in various places. For example the "Nodes" on the left panel indicates a page that shows all the Nodes (meaning all available hosts and Radiator instances) managed by this Radiator VNF Manager along additional information that the nodes have like tags (for example which cloud the node belongs to) and IP address. "Nodes" text is also visible on the jobs, for example on job [13 Start Radiator instances](#) nodes refers to Radiator instances that the operation will target.

In short, depending on the context Nodes will mean either Radiator VNF hosts or Radiator instances.

## Activity

DASHBOARD

JOB

NODES

ACTIVITY

Radiator VNF Jobs

Activity

11 Executions any time Search... Auto refresh Bulk Delete

✓	03/20/2023 5:25 PM Today at 5:25 PM	2 minutes	by vnfmdadmin	12 Setup hosts	cloudid: VoWiFi radiatorvnfhosts: VoWiFi-VoWiFi < [REDACTED] >	#11
✓	03/20/2023 5:23 PM Today at 5:23 PM	2 minutes	by vnfmdadmin	12 Setup hosts	cloudid: M2M radiatorvnfhosts: Sales-VNFM-M2M-v < [REDACTED] >	#10
✓	03/20/2023 5:21 PM Today at 5:21 PM	2 minutes	by vnfmdadmin	12 Setup hosts	cloudid: IoT radiatorvnfhosts: Sales-IoT-vmf-ho < [REDACTED] >	#9
✓	03/20/2023 5:18 PM Today at 5:18 PM	2 minutes	by vnfmdadmin	12 Setup hosts	cloudid: fixedline radiatorvnfhosts: fixedline-< [REDACTED] >	#8
✓	03/20/2023 5:15 PM Today at 5:15 PM	a minute	by vnfmdadmin	11 Create hosts	cloudid: VoWiFi	#7
✓	03/20/2023 5:13 PM Today at 5:13 PM	3 minutes	by vnfmdadmin	11 Create hosts	cloudid: IoT	#6
✓	03/20/2023 5:02 PM Today at 5:02 PM	2 minutes	by vnfmdadmin	11 Create hosts	cloudid: M2M	#5
✓	03/20/2023 4:59 PM Today at 4:59 PM	2 minutes	by vnfmdadmin	11 Create hosts	cloudid: fixedline	#4
✓	03/20/2023 4:56 PM Today at 4:56 PM	3 minutes	by vnfmdadmin	11 Create hosts	cloudid: fixedline	#3
✓	03/20/2023 4:45 PM Today at 4:45 PM	1 ok a minute	by vnfmdadmin	10 Upload configuration package	cloudinfo: fd12df55-206e-4235-b3eb-a5c6516186b< [REDACTED] >	#2
✓	03/20/2023 4:41 PM Today at 4:41 PM	12 seconds	by vnfmdadmin	00 Upload OpenStack credentials	cloudcredentials: 3d55d3f2-163d-405a-9eb8-5883c< [REDACTED] >	#1

PROJECT SETTINGS

### Radiator VNF Activity

Activity opens the Activity page that shows execution history and information related to the executions. Execution history can be filtered when performing a search.



## Jobs to manage Radiator VNF hosts

For convenience, the jobs are ordered to match the most common execution flow where new hosts are created and set up to the OpenStack based on the uploaded configuration. Also the order indicates which information is required by the later jobs, for example it is impossible to create hosts unless the OpenStack credentials and the Radiator VNF Manager configuration files have been uploaded first.

### 00 Upload OpenStack credentials

The screenshot shows the '00 Upload OpenStack credentials' job configuration in the Radiator VNF Manager interface. The interface includes a sidebar with navigation options: DASHBOARD, JOBS, NODES, ACTIVITY, and PROJECT SETTINGS. The main panel displays the job title '00 Upload OpenStack credentials' and the subtitle 'Upload OpenStack credential configuration file'. A text input field contains the identifier 'd2ac450d-3041-4def-bedd-6dfcbb11ef4b'. Below this, there are tabs for 'Follow execution' and 'Log Output'. A 'Run Job Now' button is visible. A file upload section shows 'OpenStack credentials file to upload' with a 'Browse...' button and the text 'No file selected.' and 'Upload OpenStack credentials file in yaml format'. At the bottom, a 'Stats' section shows '1 EXECUTIONS', '100% SUCCESS RATE', and '12s AVG DURATION'.

#### 00 Upload OpenStack credentials

Create Radiator VNF Manager credentials file. See chapter *Radiator VNF Manager credentials file* in [Deployment and configuration guide for Radiator VNF Manager](#) for more information about the file.

1. Browse to the credentials file and select it.
2. Press *Run Job Now*.

The job uploads the file to the Radiator VNF Manager disk to `/var/lib/radiatorvnf/incoming/` directory, reads it and creates an OpenStack clouds.yaml file `/etc/openstack/clouds.yaml` which is then used by rest of the operations. The processed credentials file is stored to the Radiator VNF Manager `/var/lib/radiatorvnf/incoming/processed_credentials/` directory.

### 01 Upload OpenStack image

The screenshot shows the '01 Upload OpenStack image' job configuration page. The top navigation bar includes a 'Radiator VNF Jobs' dropdown and a user profile icon. The left sidebar contains icons for Dashboard, Jobs, Nodes, Activity, and Project Settings. The main content area has a title '01 Upload OpenStack image' and a subtitle 'Upload virtual host image file and import it to OpenStack'. Below this is a text input field containing the ID '735f1a5a-210f-4056-91fa-d6c52aaa77a9'. To the right of the input field are 'Action' and 'Definition' buttons. The 'Follow execution' section has a 'Log Output' dropdown and a green 'Run Job Now' button. The configuration fields include: 'Radiator VNF cloud' set to 'fixedline' with a note 'Select the Radiator VNF cloud to target operation'; 'Image file to upload' with a 'Browse...' button and the text 'No file selected.'; and 'Image name' with an empty text field and the note 'Image name in the OpenStack'. At the bottom, there is a 'Stats' tab and an 'Activity' tab. The 'Stats' tab shows '0 EXECUTIONS' and '- AVG DURATION'.

### 01 Upload OpenStack image

1. Select the cloud (OpenStack project) where to upload the OpenStack image.
2. Browse to the qcow2 image file and select it.
3. Enter the name that the image will get in OpenStack.
4. Press *Run Job Now*.

The job uploads the file to the Radiator VNF Manager disk to `/var/lib/radiatorvnf/flex-ansible/files/tmpimages/` directory and uploads the image from there to selected OpenStack project. Image file is left to the Radiator VNF Manager disk.

### 02 Import image from Radiator VNF Manager to OpenStack

The screenshot shows the '02 Import existing OpenStack image' job configuration page. The top navigation bar includes a 'Radiator VNF Jobs' dropdown and a user profile icon. The left sidebar contains icons for Dashboard, Jobs, Nodes, Activity, and Project Settings. The main content area has a title '02 Import existing OpenStack image' and a subtitle 'Import existing OpenStack image file from Radiator VNF Manager'. Below this is a text input field containing the ID '49d6ea7d-5198-47c2-9b07-20ebe73beedb'. To the right of the input field are 'Action' and 'Definition' buttons. The 'Follow execution' section has a 'Log Output' dropdown and a green 'Run Job Now' button. The configuration fields include: 'Radiator VNF cloud' set to 'M2M' with a note 'Select the Radiator VNF cloud to target operation'; 'OpenStack image to import' set to 'AlmaLinux-9-GenericCloud-9.0-20221102.x86\_64.qcow2'; and 'Image name' set to 'test image' with the note 'Image name in the OpenStack'. At the bottom, there is a 'Stats' tab and an 'Activity' tab. The 'Stats' tab shows '0 EXECUTIONS' and '- AVG DURATION'.

### 02 Import image from Radiator VNF Manager to OpenStack

Radiator VNF Manager may contain a cloud image created by the operating system vendor for initial testing purposes.

1. Select the cloud (OpenStack project) where to upload the OpenStack image.
2. Select the available image.
3. Enter the name that the image will get in OpenStack.
4. Press *Run Job Now*.

The job uploads the image from Radiator VNF Manager `/var/lib/radiatorvnf/flex-ansible/files/cloudimages/` directory to selected OpenStack project.

## 10 Upload configuration file

The screenshot shows the '10 Upload configuration file' job configuration page in the Radiator VNF Manager interface. The page has a dark sidebar on the left with icons for Dashboard, Jobs, Nodes, Activity, and Project Settings. The main content area has a header with 'Radiator VNF Jobs' and a dropdown menu. Below the header, the job title '10 Upload configuration file' is displayed, followed by 'Upload Radiator VNF Flex configuration'. A text input field contains the ID 'f5d4cd05-d6ab-4975-b6ca-d774d722fa6b'. To the right of the input field is a 'Definition' button. Below the input field, there are two tabs: 'Follow execution' and 'Log Output'. A green 'Run Job Now' button is located to the right of the tabs. Below the tabs, there is a section for 'Configuration file to upload' with a 'Browse...' button and the text 'No file selected.'. At the bottom, there is a table with two tabs: 'Stats' and 'Activity'. The 'Stats' tab is active, showing '0 EXECUTIONS' and '- AVG DURATION'.

### 10 Upload configuration file

Create Radiator VNF Manager configuration file. See chapter *Radiator VNF Manager configuration file* in [Deployment and configuration guide for Radiator VNF Manager](#).

1. Browse to the Radiator VNF Manager configuration file and select it.
2. Press *Run Job Now*.

The job uploads the file to the Radiator VNF Manager disk to `/var/lib/radiatorvnf/incoming/` directory, reads it and populates the Radiator VNF Manager internal information so it can be used by rest of the operations. The processed Radiator VNF Manager configuration file is stored to the Radiator VNF Manager `/var/lib/radiatorvnf/incoming/processed_cloudinfos/` directory.

## 10 Upload configuration package

### 10 Upload configuration package

Create Radiator VNF Manager configuration file and a package that contains all the files that are referred to in the Radiator VNF Manager configuration file like Radiator configuration, possible hook files etc. See chapter *Radiator VNF Manager configuration file* in [Deployment and configuration guide for Radiator VNF Manager](#). Suitable package types are .zip, .tar, .tar.gz, .tar.bz2, .tar.xz, .tar.zst and .gz, .bz2, .xz, or .zst files that contains a .tar archive.

1. Browse to the Radiator VNF Manager configuration file and select it.
2. Browse to the package and select it.
3. Press *Run Job Now*.

The job uploads both files to the Radiator VNF Manager disk to `/var/lib/radiatorvnf/incoming/` directory, reads the configuration file it and populates the Radiator VNF Manager internal information. The processed Radiator VNF Manager configuration file is stored to the Radiator VNF Manager `/var/lib/radiatorvnf/incoming/processed_cloudinfos/` directory.

The imported package is unpacked and removed, and it's contents are left to `/var/lib/radiatorvnf/incoming/` directory for further processing by jobs like [12 Setup OpenStack hosts](#) and [20 Update Radiator configuration](#).

## 11 Create OpenStack hosts

The screenshot shows the '11 Create hosts' job configuration in the Radiator VNF Manager. The interface includes a sidebar with navigation options: Dashboard, Jobs, Nodes, Activity, and Project Settings. The main panel displays the job configuration for 'Create Radiator VNF virtual hosts' with a unique ID. It allows selecting a Radiator VNF cloud (currently 'fixedline') and provides a 'Run Job Now' button. Below the configuration, an 'Activity' tab shows a list of 5 executions with details such as timestamp, duration, user, job name, cloud ID, and job ID.

Execution ID	Timestamp	Duration	User	Job Name	Cloud ID	Job ID
7	03/20/2023 5:15 PM Today at 5:15 PM	a minute	by vnfmdadmin	11 Create hosts	cloudid: VoWiFi	#7
6	03/20/2023 5:13 PM Today at 5:13 PM	3 minutes	by vnfmdadmin	11 Create hosts	cloudid: IoT	#6
5	03/20/2023 5:02 PM Today at 5:02 PM	2 minutes	by vnfmdadmin	11 Create hosts	cloudid: M2M	#5
4	03/20/2023 4:59 PM Today at 4:59 PM	2 minutes	by vnfmdadmin	11 Create hosts	cloudid: fixedline	#4
3	03/20/2023 4:56 PM Today at 4:56 PM	3 minutes	by vnfmdadmin	11 Create hosts	cloudid: fixedline	#3

## 11 Create OpenStack hosts

1. Select the cloud (OpenStack project) to which the Radiator VNF hosts are created.
2. Press *Run Job Now*.

The job creates the Radiator VNF hosts to the OpenStack project as defined in the selected cloud's configuration. All hosts per cloud are created automatically in one run. New hosts can be added later by uploading a new Radiator VNF Manager configuration file and package defining the new Radiator VNF hosts.

**NOTE:** Do not remove hosts from the Radiator VNF Manager configuration file unless they have been destroyed via Radiator VNF Manager [30 Destroy hosts](#) job. Each Radiator VNF Manager configuration file run adds new information or updates existing information, but does not remove information.

## 12 Setup OpenStack hosts

**12 Setup hosts**

Setup Radiator VNF hosts configuration

405edddf-2bc8-4019-88a0-eaeab68822bd

Follow execution Log Output

Run Job Now

Radiator VNF cloud: VoWiFi

Select the Radiator VNF cloud to target operation

Radiator VNF hosts: ☒ VoWiFi-VoWiFi-vnf-host-VoWiFi

Select the Radiator VNF hosts to target operation

Nodes: \${option.radiatorvnfhosts}

The Node filters will be applied when the job is run.

Stats Activity

4 Executions any time Save Filter...

Auto refresh Bulk Delete

Status	Timestamp	Duration	User	Job Name	Details	ID
✓	03/20/2023 5:25 PM Today at 5:25 PM	2 minutes	by vnfadmin	12 Setup hosts	cloudid: VoWiFi radiatorvnfhosts: VoWiFi-VoWiFi-vnf-host	#11
✓	03/20/2023 5:23 PM Today at 5:23 PM	2 minutes	by vnfadmin	12 Setup hosts	cloudid: H2M radiatorvnfhosts: Sales-VNFM-H2M-vnf-host	#10
✓	03/20/2023 5:21 PM Today at 5:21 PM	2 minutes	by vnfadmin	12 Setup hosts	cloudid: IoT radiatorvnfhosts: Sales-IoT-vnf-host-dbhos	#9
✓	03/20/2023 5:18 PM Today at 5:18 PM	2 minutes	by vnfadmin	12 Setup hosts	cloudid: fixedline radiatorvnfhosts: fixedline-vnf-host	#8

## 12 Setup OpenStack hosts

1. Select the cloud (OpenStack project) to see available (created) hosts.
2. Select or deselect the hosts.
3. Press *Run Job Now*.

The job installs Radiator and Radiator Radius::UtilXS library and deploys the Radiator configuration to the Radiator VNF host if the Radiator VNF Manager configuration file option *radiator\_installed* was true. In addition, any *enhancements* defined in the Radiator VNF Manager configuration file are processed. See chapter *Radiator VNF Manager configuration file* in

[Deployment and configuration guide for Radiator VNF Manager](#) for more information about the options.

If the *radiator\_installed* is true but there are no Radiator configuration files available, this operation will fail. To upload the needed Radiator configuration files run [10 Upload configuration package](#) job.

## 13 Start Radiator instances

The screenshot shows the '13 Start Radiator instances' configuration page. At the top, there's a dropdown menu for 'Radiator VNF Jobs'. Below it, the title '13 Start Radiator instances' is followed by the instruction 'Start selected Radiator instances on Radiator VNF hosts'. A text input field contains the ID 'bcaf2f55-78fc-4c9e-9b12-4dae9e6dce72'. To the right are 'Action' and 'Definition' buttons. The main configuration area has a 'Follow execution' dropdown set to 'Log Output' and a green 'Run Job Now' button. Under 'Radiator VNF cloud', a dropdown is set to 'IoT' with the instruction 'Select the Radiator VNF cloud to target operation'. Under 'Radiator instances', three checkboxes are checked: 'radiator@acct', 'radiator@auth', and 'radiator@lb', with the instruction 'Select the Radiator instances on Radiator VNF hosts to target operation'. The 'Nodes' field shows a template string '\${option.radiatorinstances}' with a note 'The Node filters will be applied when the job is run.' At the bottom, a 'Stats' tab is active, showing '0 EXECUTIONS' and '- AVG DURATION'.

### 13 Start Radiator instances

1. Select the cloud (OpenStack project) to see available Radiator instances (setup has been performed).
2. Select or deselect the instances.
3. Press *Run Job Now*.

This job will start the selected Radiator instances.

### 14 Stop Radiator instances

The screenshot shows the '14 Stop Radiator instances' configuration page. It follows a similar layout to the previous one. The title is '14 Stop Radiator instances' with the instruction 'Stop selected Radiator instances on Radiator VNF hosts'. The ID input field contains '2c4de2c6-610d-4069-bdfe-881235109958'. The 'Radiator VNF cloud' dropdown is set to 'fixedline' with the instruction 'Select the Radiator VNF cloud to target operation'. Under 'Radiator instances', two checkboxes are checked: 'radiator@rr1' and 'radiator@rr2', with the instruction 'Select the Radiator instances on Radiator VNF hosts to target operation'. The 'Nodes' field shows the same template string '\${option.radiatorinstances}' with the same note. The 'Stats' tab at the bottom shows '0 EXECUTIONS' and '- AVG DURATION'.

### 14 Stop Radiator instances

1. Select the cloud (OpenStack project) to see available Radiator instances (setup has been performed).
2. Select or deselect the instances.
3. Press *Run Job Now*.

This job will stop the selected Radiator instances.

15 Restart Radiator instances

DASHBOARD

JOB

NODES

ACTIVITY

PROJECT SETTINGS

Radiator VNF Jobs

15 Restart Radiator instances

Restart selected Radiator instances on Radiator VNF hosts

68d5dcb0-5e6c-41f1-aaa1-9e38d878d7cc

Follow execution

Log Output

Run Job Now

Radiator VNF cloud

VoWiFi

Select the Radiator VNF cloud to target operation

Radiator instances

☐ radiator@vww1

☒ radiator@vww2

☐ radiator@vww3

☐ radiator@vww4

Select the Radiator instances on Radiator VNF hosts to target operation

Nodes

`$(option.radiatorinstances)`

The Node filters will be applied when the job is run.

Stats

Activity

0 EXECUTIONS

- AVG DURATION

15 Restart Radiator instances

1. Select the cloud (OpenStack project) to see available Radiator instances (setup has been performed).

2. Select or deselect the instances.

3. Press *Run Job Now*.

This job will restart the selected Radiator instances.

20 Update Radiator configuration



DASHBOARD

JOBS

NODES

ACTIVITY

PROJECT SETTINGS

Radiator VNF Jobs

## 20 Update Radiator configuration

Action

### Update Radiator configuration on selected Radiator instances

419bf714-14fb-4bbc-8c5d-4be724c3cf4e

Definition

Follow execution

Log Output

Run Job Now

Radiator VNF cloud

fixedline

Select the Radiator VNF cloud to target operation

Radiator instances

☒ radiator@rr1

☐ radiator@rr2

Select the Radiator instances on Radiator VNF hosts to target operation

Nodes

`${option.radiatorinstances}`

The Node filters will be applied when the job is run.

Stats

Activity

0 EXECUTIONS

- AVG DURATION

## 20 Update Radiator configuration

1. Select the cloud (OpenStack project) to see available Radiator instances (setup has been performed).
2. Select or deselect the instances.
3. Press *Run Job Now*.

This job will update the Radiator configuration on the selected Radiator instances. Before the Radiator configuration can be updated, the Radiator configuration file must be uploaded to the Radiator VNF Manager with [10 Upload configuration package](#) job.

**NOTE:** The job will restart all selected Radiator instances.

## 21 Label Radiator configuration

The screenshot shows the '21 Label Radiator configuration' page in the Radiator VNF Manager. The page has a sidebar on the left with icons for Dashboard, Jobs, Nodes, Activity, and Project Settings. The main content area is titled '21 Label Radiator configuration' and includes a subtitle 'Tag and name Radiator configuration on Radiator VNF Manager across selected Radiator instances'. A search bar contains the ID 'd75e231a-001b-435f-ae46-66835d5cde3a'. There are buttons for 'Action' and 'Definition'. The configuration section includes a 'Follow execution' dropdown set to 'Log Output', a 'Run Job Now' button, and fields for 'Radiator VNF cloud' (set to 'IoT'), 'Tag to use' (set to 'before-v2-dep|'), and 'Radiator instances' (three checkboxes: 'radiator@acct', 'radiator@auth', and 'radiator@lb', all checked). A 'Nodes' field shows a template string '\${option.radiatorInstances}' with a note that node filters will be applied when the job runs. At the bottom, there is a 'Stats' tab and an 'Activity' tab, with a table showing '0 EXECUTIONS' and 'AVG DURATION'.

## 21 Label Radiator configuration

1. Select the cloud (OpenStack project) to see available Radiator instances (setup has been performed).
2. Enter the tag name.
3. Select or deselect the instances.
4. Press *Run Job Now*.

This job will label the currently active Radiator configuration as known to the Radiator VNF Manager with the given custom tag. The tag must be unique across all clouds' Radiator configuration repositories managed by the Radiator VNF Manager and well formed (details available in <https://git-scm.com/docs/git-check-ref-format>).

## 22 Switch Radiator configuration

**22 Switch Radiator configuration**

Switch or rollback to previously labeled Radiator configuration across selected Radiator instances

1f4c2e63-914d-4df7-84b1-4aa79769ebc3

Follow execution: Log Output

Run Job Now

Radiator VNF cloud: IoT

Select the Radiator VNF cloud to target operation

Show automatically generated tags: False

Select true to show automatically generated tags

Select tag: before-v2-depl

Select a label/tag from the list where to switch the Radiator configuration

Radiator instances: ☒ radiator@acct, ☐ radiator@auth, ☐ radiator@lb

Select Radiator instances where configuration will be switched

Nodes: `$ {option.radiatorinstances}`

The Node filters will be applied when the job is run.

Stats | Activity

0 EXECUTIONS - AVG DURATION

## 22 Switch Radiator configuration with custom tag

**22 Switch Radiator configuration**

Switch or rollback to previously labeled Radiator configuration across selected Radiator instances

1f4c2e63-914d-4df7-84b1-4aa79769ebc3

Follow execution: Log Output

Run Job Now

Radiator VNF cloud: fixedline

Select the Radiator VNF cloud to target operation

Show automatically generated tags: True

Select true to show automatically generated tags

Select tag: 2023-03-20T160405

Select a label/tag from the list where to switch the Radiator configuration

Radiator instances: ☒ radiator@rr1, ☒ radiator@rr2

Select Radiator instances where configuration will be switched

Nodes: `$ {option.radiatorinstances}`

The Node filters will be applied when the job is run.

Stats | Activity

0 EXECUTIONS - AVG DURATION

## 22 Switch Radiator configuration with automatically generated tag

1. Select the cloud (OpenStack project) to see available Radiator instances (setup has been performed).
2. Select if you want to see custom tags or automatically generated ones.

3. Select the tag.
4. Select the instances.
5. Press *Run Job Now*.

**NOTE:** The job will only show available tags and Radiator instances that have the selected tags. If no tags exist, the job will show **Failed loading remote option values** and **No values to choose from.** for Radiator instances.

This job will switch (rollback) to previously labeled Radiator configuration available across the selected Radiator instances.

## 23 Update hosts

### 23 Update hosts

1. Select the cloud (OpenStack project) to see available (created) hosts.
2. Select the hosts.
3. Press *Run Job Now*.

This job will update the selected Radiator VNF hosts. If the selected host has Radiator installed, this operation does not update it nor Radiator Radius::UtilXS add-on library. Radiator instances are not restarted by this job.

## 30 Destroy hosts

The screenshot shows the '30 Destroy hosts' job configuration page. At the top, there's a dropdown menu for 'Radiator VNF Jobs'. Below it, the job title '30 Destroy hosts' is displayed. A text input field contains the identifier 'f28a9a32-b5a0-4804-b1b9-bb03aaddde61'. To the right, there are buttons for 'Action' and 'Definition'. The main configuration area has a 'Follow execution' tab and a 'Log Output' dropdown. Below this, there's a section for 'Radiator VNF cloud' with a dropdown set to 'fixedline'. A note says 'Select the Radiator VNF cloud to target operation'. Under 'Radiator VNF hosts', there are four checkboxes: 'fixedline-vnf-host-develDB', 'fixedline-vnf-host-radiator\_1', 'fixedline-vnf-host-radiator\_2', and 'fixedline-vnf-host-testing\_DB' (which is checked). A note says 'Select the Radiator VNF hosts to target operation'. The 'Nodes' section shows a template string '\${option.radiatorvnfhosts}' with a note 'The Node filters will be applied when the job is run.' At the bottom, there's a 'Stats' tab and an 'Activity' tab. The 'Stats' tab shows '0 EXECUTIONS' and 'AVG DURATION'.

### 30 Destroy hosts

1. Select the cloud (OpenStack project) to see available (created) hosts.
2. Select the hosts.
3. Press *Run Job Now*.

This job will destroy the selected Radiator VNF hosts and the Radiator instances deployed on the host.

Running [11 Create OpenStack hosts](#) will not recreated the host unless configuration file containing the host is uploaded via [10 Upload configuration file](#) or [10 Upload configuration package](#) job.

### 40 Show configuration

The screenshot shows the '40 Show configuration' job configuration page. At the top, there's a dropdown menu for 'Radiator VNF Jobs'. Below it, the job title '40 Show configuration' is displayed. A text input field contains the identifier 'bfa25cc8-1f37-455f-9c42-e816d6e75a63'. To the right, there are buttons for 'Action' and 'Definition'. The main configuration area has a 'Follow execution' tab and a 'Log Output' dropdown. Below this, there's a section for 'Radiator VNF cloud' with a dropdown set to 'VoWiFi'. A note says 'Select the Radiator VNF cloud to target operation'. The 'Nodes' section has a checkbox 'Change the Target Nodes (1)' which is currently unchecked. At the bottom, there's a 'Stats' tab and an 'Activity' tab. The 'Stats' tab shows '0 EXECUTIONS' and 'AVG DURATION'.

### 40 Show configuration

1. Select the cloud (OpenStack project) to see uploaded configuration info.

## 2. Press *Run Job Now*.

This job will show the uploaded combined Radiator VNF Manager configuration for the selected cloud. The configuration is shown according to what Radiator VNF Manager knows, that is the shown configuration is not necessarily yet deployed to the hosts, but it has been uploaded to the Radiator VNF Manager.

## Jobs to manage Radiator VNF Manager

### 00 Import certificates to Radiator VNF Manager

The screenshot shows the '00 Import certificates' job configuration page in the Radiator VNF Manager. The page has a sidebar on the left with icons for Dashboard, Jobs, Nodes, Activity, and Project Settings. The main area has a header '00 Import certificates' with an 'Action' dropdown. Below the header is a text input field containing a UUID 'eddc855e-424d-4584-ba1b-15ab2f7bc059' and a 'Definition' button. The main configuration area is titled 'Follow execution' and 'Log Output'. It contains three sections: 'Import server certificate' with a 'Browse...' button and a file path 'server-crt.pem', 'Import private key' with a 'Browse...' button and a file path 'server-key.pem', and 'Private key passphrase' with a masked input field. Each section has a description and a warning icon. At the bottom, there is a 'Stats' and 'Activity' tab, with 'Stats' selected, showing '0 EXECUTIONS' and 'AVG DURATION'.

#### 00 Import certificates to Radiator VNF Manager

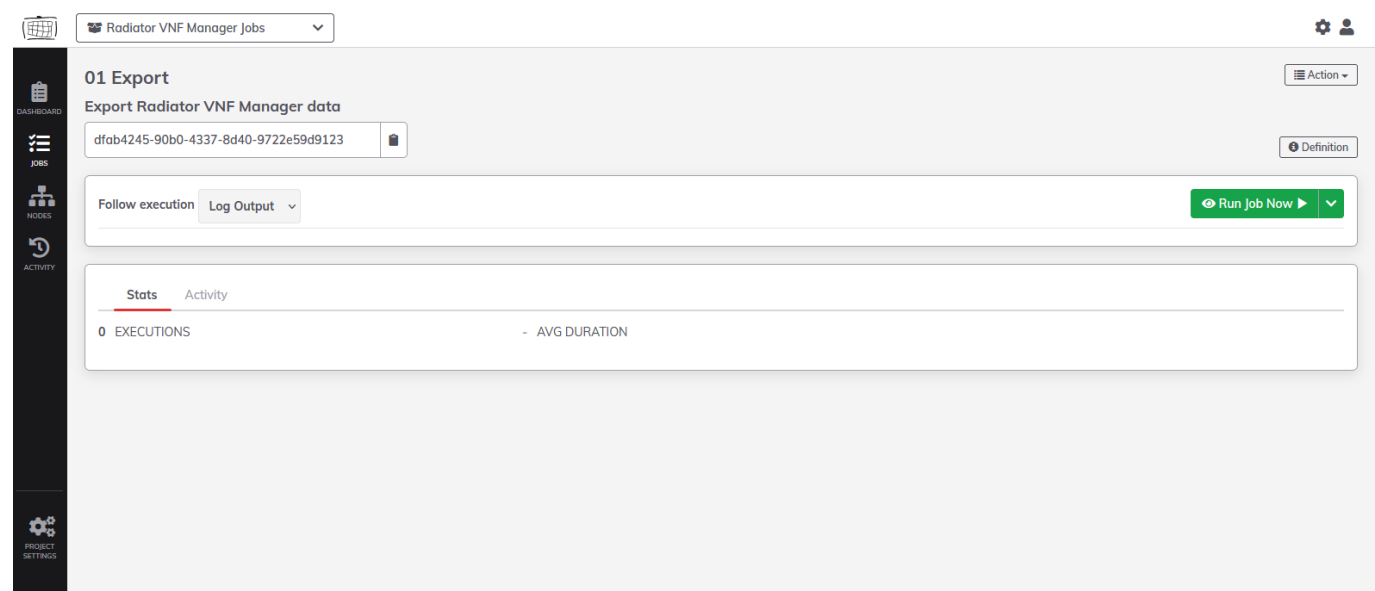
Create server certificate file and certificate key file in PEM format. The server certificate file may include intermediate certificates in addition to a server certificate, in such case the order must be server certificate first and then intermediate certificates.

1. Browse to the server certificate file and select it.
2. Browse to the server key file and select it.
3. Enter the server key file passphrase if it has one, input "" if key does not have passphrase.
4. Press *Run Job Now*.

The job uploads the files to the Radiator VNF Manager `/var/lib/radiatorvnf/certificates` directory and processes the certificate files to proper locations under `/etc` directory.

**NOTE:** As a last step this job will restart the web server to apply the new certificates. Refresh the web page once the job is finished.

### 01 Export Radiator VNF Manager data



01 Export Radiator VNF Manager data

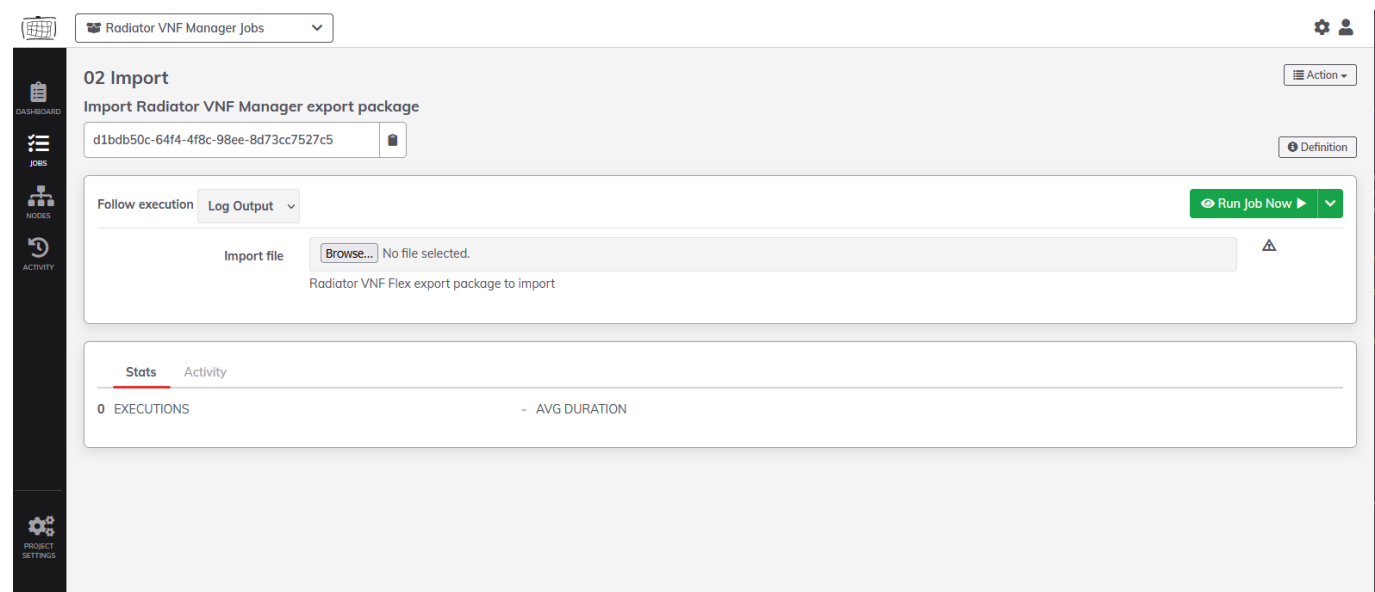
1. Press *Run Job Now*.

**NOTE:** When exporting the data due to replacing the Radiator VNF Manager, run [Commission Radiator VNF Manager](#) before the current Radiator VNF Manager is removed. This will ensure the Radiator VNF hosts internal firewall accepts the new Radiator VNF Manager after importing the package.

The job exports the Radiator VNF Manager configuration regarding the Radiator VNF hosts and Radiator instances and some Radiator VNF Manager specific configuration.

**NOTE:** The job does not export LDAP authentication specific details. If the export package is imported to a new Radiator VNF Manager which is then taken into use, the LDAP authentication must be configured again with [20 Configure LDAP authentication to Radiator VNF Manager](#) job.

02 Import Radiator VNF Manager exported data



02 Import Radiator VNF Manager exported data



**NOTE:** Exported data can only be imported to an empty Radiator VNF Manager. Empty Radiator VNF Manager means deployed and ready-to-use Radiator VNF Manager where none of the jobs have been run. See chapters *Radiator VNF Manager deployment* and *Radiator VNF Manager set up* in [Deployment and configuration guide for Radiator VNF Manager](#) on how to deploy and set up Radiator VNF Manager.

1. Browse to the Radiator VNF Manager export package and select it.
2. Press *Run Job Now*.

The job uploads the export package to the Radiator VNF Manager disk, unpacks it and processes all the data available. The exported package and any temporary files created while unpacking are removed automatically by the job. Once the import succeeds, the Radiator VNF hosts can be managed from the newly imported Radiator VNF Manager, provided that the [Commission Radiator VNF Manager](#) job was run to allow it.

**NOTE:** The import operation will most likely fail if the [Commission Radiator VNF Manager](#) job has not been run to allow the imported Radiator VNF Manager to manage the existing Radiator VNF hosts. If this happens, simply remove the newly imported Radiator VNF Manager and follow the instructions on the [Deployment and configuration guide for Radiator VNF Manager](#) chapter *Radiator VNF Manager upgrade process* to perform successful import and subsequent tasks.

After verifying successful operation with Radiator VNF hosts from the imported Radiator VNF Manager, run [Decommission Radiator VNF Manager](#) to ensure the Radiator VNF hosts firewall does not have anymore the obsolete Radiator VNF Manager IP details.

### 03 Export Radiator VNF Manager rootCA

The screenshot shows the 'Radiator VNF Manager Jobs' interface. At the top, there's a dropdown menu for 'Radiator VNF Manager Jobs'. Below it, the job title '03 Export root CA' is displayed, followed by the description 'Export Radiator VNF Manager locally created root CA'. A text box contains the ID '84d35469-87a4-4412-978e-f35506f24cd9'. To the right of the text box is a 'Definition' button. Below the text box, there are two tabs: 'Follow execution' and 'Log Output'. To the right of these tabs is a green button labeled 'Run Job Now' with a play icon and a dropdown arrow. At the bottom, there's a table with two columns: 'Stats' and 'Activity'. The 'Stats' column shows '0 EXECUTIONS' and the 'Activity' column shows '- AVG DURATION'.

#### 03 Export Radiator VNF Manager rootCA

1. Press *Run Job Now*.

The job exports the Radiator VNF Manager self signed certificate's root CA so it can be imported to for example browser to remove the warnings shown about untrusted self signed certificates.

### 04 Commission Radiator VNF Manager

**04 Commission Radiator VNF Manager**

Commission Radiator VNF Manager to Radiator VNF host

397e5fa0-a06d-4ce8-8969-d473bc7e0602

Follow execution Log Output

Radiator VNF cloud: fixedline

Select the Radiator VNF cloud to target operation

Radiator VNF hosts: ☒ fixedline-vnf-host-develDB, ☐ fixedline-vnf-host-radiator\_1, ☐ fixedline-vnf-host-radiator\_2, ☒ fixedline-vnf-host-testing\_DB

Select the Radiator VNF hosts to target operation

Managed IP addresses: 10.17.10.17/32, 10.10.20.21

IP address from where SSH is allowed to the Radiator VNF host. Add 0.0.0.0/0 to effectively disable the limit. Define multiple IP addresses as <IP1, IP2, IP3>

Nodes: \$(option.radiatorvnfhosts)

The Node filters will be applied when the job is run.

Run Job Now

Stats Activity

0 EXECUTIONS - AVG DURATION

#### 04 Commission Radiator VNF Manager

1. Select the cloud (OpenStack project) to see available (created) hosts.
2. Select the hosts.
3. Enter the IP addresses that will be added to the selected Radiator VNF hosts internal firewall.
4. Press *Run Job Now*.

The job enables SSH access in the Radiator VNF host internal firewall from the specified Managed IP addresses. The job will print the current active internal firewall configuration as last step of the execution to allow visibility for the current rules. Managed IP addresses can be with or without CIDR. Multiple IP addresses can be specified with comma.

**NOTE:** Defining 0.0.0.0/0 as Managed IP addresses will lift the SSH restriction and allow Radiator VNF host to accept SSH from anywhere, thus allowing any Radiator VNF Manager regardless of the IP address to manage the host.

#### 05 Decommission Radiator VNF Manager

The screenshot shows the '05 Decommission Radiator VNF Manager' job configuration in the Radiator VNF Manager interface. The interface includes a sidebar with navigation options: DASHBOARD, JOBS, MODES, ACTIVITY, and PROJECT SETTINGS. The main content area has a header with the job title and a sub-header 'Decommission Radiator VNF Manager from Radiator VNF host'. Below this is a text input field for a UUID (893a468a-6472-4124-a990-901813af74d1) and a 'Definition' button. The configuration section includes a 'Follow execution' button, a 'Log Output' dropdown, and a 'Run Job Now' button. The configuration fields are: 'Radiator VNF cloud' (fixedline), 'Radiator VNF hosts' (checkboxes for fixedline-vnf-host-develDB, fixedline-vnf-host-radiator\_1, fixedline-vnf-host-radiator\_2, and fixedline-vnf-host-testing\_DB), 'Managed IP addresses' (10.17.10.17/32), and 'Nodes' (a template string \${option.radiatorvnfhosts}). A note states 'The Node filters will be applied when the job is run.' Below the configuration is a 'Stats' tab showing '0 EXECUTIONS' and 'AVG DURATION'.

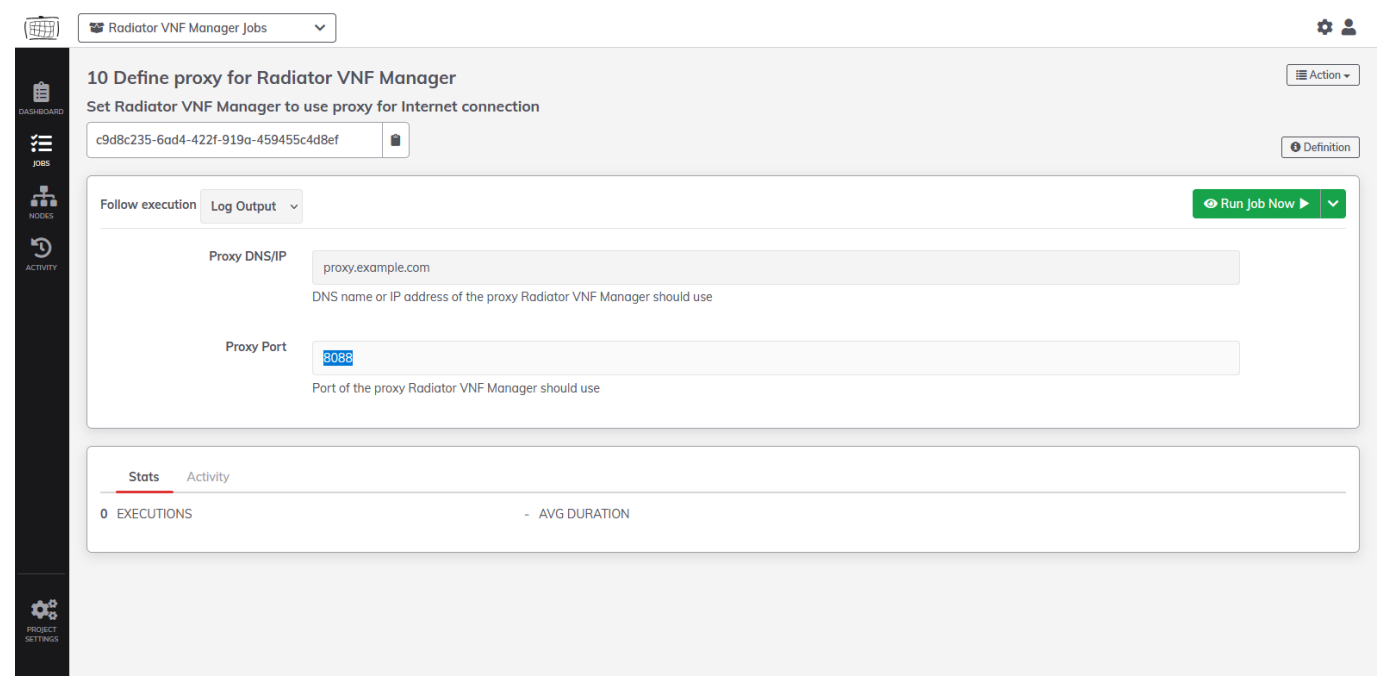
### 05 Decommission Radiator VNF Manager

1. Select the cloud (OpenStack project) to see available (created) hosts.
2. Select the hosts.
3. Enter the IP addresses that will be removed from the selected Radiator VNF hosts internal firewall.
4. Press *Run Job Now*.

The job disables SSH access in the Radiator VNF host internal firewall from the specified Managed IP addresses. The job will print the current active internal firewall configuration as last step of the execution to allow visibility for the current rules. Managed IP addresses can be with or without CIDR. Multiple IP addresses can be specified with comma.

**NOTE:** Before removing any IP addresses, run [Commission Radiator VNF Manager](#) to guarantee that some Radiator VNF Manager is able to manage the hosts.

## 10 Define proxy for Radiator VNF Manager



10 Define proxy for Radiator VNF Manager

- 1. Enter the proxy DNS or IP address.
- 2. Enter the proxy port.
- 3. Press *Run Job Now*.

The job will configure Radiator VNF Manager itself to use specific proxy with specific port.

20 Configure LDAP authentication to Radiator VNF Manager

1. Enter the LDAP URI. Only LDAPS is supported.
2. Enter the DN used to search the LDAP.
3. Enter LDAP bind password.
4. Select if the LDAP CA certificate is available for upload. When selecting *true*, the file must be selected in next option.
5. Browse to the LDAP CA certificate file and select it. Optional if *false* in previous step.
6. Enter the LDAP search base.
7. Select the LDAP server Schema type. Default is **rfc2307**. Optional.
8. Enter the LDAP filter.
9. Enter the LDAP attribute where the SSH public key is available. Optional.
10. Enter the LDAP groups for administrator access. Multiple groups can be specified with pipe as separator. Optional.
11. Enter the LDAP groups for user access. Multiple groups can be specified with pipe as separator. Optional.
12. Press *Run Job Now*.

**NOTE:** If no LDAP groups is specified, the authenticated user is not able to execute any jobs due to lack of permissions.

The job will configure LDAP authentication to Radiator VNF Manager GUI and optionally also for SSH access. For the Radiator VNF Manager GUI, the LDAP authentication overwrites the plain username/password authentication which means it is no longer available. For the SSH, the LDAP authentication is additional authentication, the previously available SSH authentication is not affected.

**NOTE:** It is not possible to revert from the LDAP authentication back to username/password authentication. Instead the LDAP authentication is not part of the export package, so if there is a need to return to the basic authentication it can be done by exporting the current configuration with [01 Export Radiator VNF Manager data](#) and importing the export package to new Radiator VNF Manager with [02 Import Radiator VNF Manager exported data](#).