



Automatic Object Integration (Scan Plugin)

Bacula Systems Documentation

Contents

1	Installation	3
2	Usage	3
3	Options	4
4	Examples	6
4.1	MySQL Example	6
4.2	NDMP Example	7
4.3	PostgreSQL Example	8
4.4	M365 Example	10
4.5	Quobyte Example	11
4.6	Proxmox Example	12
4.7	vSphere Example	14
4.8	OpenStack Example	15
4.9	Amazon RDS Example	24

Contents

Note

You can download this article as a [PDF](#)

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

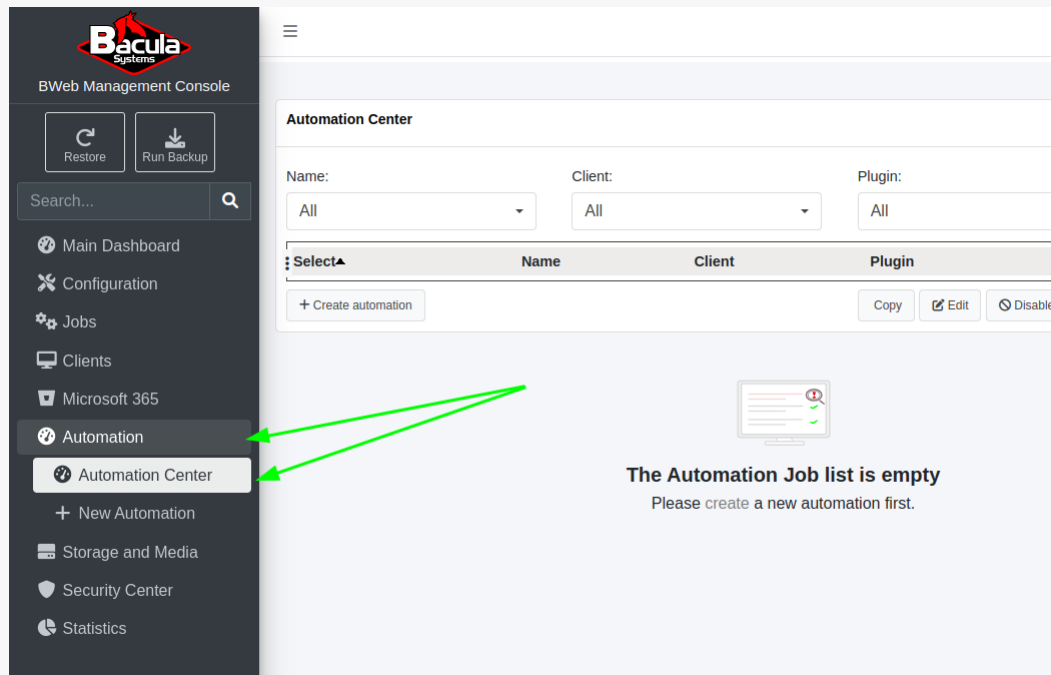
This chapter will explain how to automatically configure Bacula with systems such as VMWare, HyperV or NetApp among others where each object can be backed up separately with different Jobs to maximize the throughput and the resiliency.

It is a best practice to setup a Job per virtual machine, per database or per NAS volume, however, it becomes difficult to adjust the Bacula configuration each time an object is added or deleted from the system. The Scan Plugin can query the plugin and create or delete the corresponding Bacula configuration automatically. A Job and a corresponding Fileset will be created for each object detected by the Plugin.

With some simple rules, Bacula can then detect and adjust it's configuration after each change done on the system, like a virtual machine, a database or a new volume added or deleted.

Important

BWeb Automation Center is recommended for use in place of manual configuration of the Scan plugin.



1 Installation

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

The **Scan Plugin** is part of the BWeb Management Center package `bacula-enterprise-bweb` that can be installed as a Director plugin, via BIM. The Bacula configuration must be managed by BWeb.

2 Usage

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

The Scan Plugin can be executed on demand or scheduled in an Admin Job.

An example of a Admin job:

```
Job {  
    Name = A_db-sd_mysql  
    Type = Admin  
    JobDefs = BackupsToDisk  
    RunBeforeJob = "/opt/bacula/bin/scan_plugin --jobdefs BackupsToDisk --  
    ↪client db-fd --plugin mysql --plugin_option abort_on_error --commit_and_  
    ↪reload"  
}
```

3 Options

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

Table 1: Scan Plugin Options

Options	Re- quired	Default	Info	Example
client <val>	Yes		Bacula Director Client resource name	--client 127.0.0.1-fd
parameter <val>	No		Plugin object parameter name.	--parameter vm
plugin <val>	Yes		Bacula Plugin name	--plugin vsphere
plugin_option <val>...	Yes		Plugin options	--plugin_option use_sudo
uuid <val>	No	client:plugi	UUID of the execution	--uuid 03Mars23
exclude <val>...	No		Pattern for object exclusion	--exclude "test.*"
include <val>...	No		Pattern for object inclusion	--include "test.*"
object-exclude <val>...	No		String for object exclusion	--object-exclude "test"
object-include <val>...	No		String for object inclusion	--object-include "test"
commit_and_reload directive <val>...	No	No	Apply the new configuration to the Director	--commit_and_reload
fileset <val>	No	F_%c_%p_	Bacula Director Fileset name template	--fileset database-%v
fs_option <val>...	No		Bacula Director Fileset Option directive	--fs_option signature=md5
hook <val>	No		Execute a script for each new/old object	--hook /scripts/editfstab
job <val>	No	J_%c_%p_	Bacula Director Job name template	--job database-%v
jobdefs <val>	Yes		Bacula Director JobDefs resource name	--jobdefs BackupsToDisk
remove_jobs	No	No	Remove resources that are no longer necessary	--remove_jobs
scan_option <val>...	No		Use a specific set of plugin option for the scan	--scan_option user=root
use_uuid	No	No	Use object UUID in the Fileset Plugin command	--use_uuid

Options in the table with a ... can be used multiple times on the command line. Other options for the format output and the command line parsing are available with the --help option.

The **parameter** option shouldn't be required. If it is not the case, contact Bacula Systems Support.

The plugin_option parameter can be used as many times as you wish, with all the options you should have configured for the plugin specified in the plugin parameter. Check the specific documentation for the plugin to correctly setup the plugin_option values. They should be similar to the ones you use in the plugin line in the Fileset resource for the plugin.

The JobDefs is used to ease the configuration of the new Jobs created by the **Scan Plugin**.

```

JobDefs {
    Name = BackupsToDisk
    Type = Backup
    Pool = DiskBackup365
    Level = Incremental
    Messages = Default
    Storage = DiskAutochanger
    MaximumConcurrentJobs = 5
}

```

Specific options can be added with the `--directive** parameter`, e.g.:

```
--directive Priority=10 --directive MaximumRunTime=5h
```

By default, when an object is no longer available (like if a virtual machine is deleted), the Scan Plugin will disable the corresponding Job. With the `--remove_job` option, the Job and the Fileset can be deleted from the configuration.

The `--job` and `--fileset` parameters can use the following shortcuts:

- `%c` : Client name
- `%p` : Plugin name
- `%v` : Object name

Example:

```
--job %c-%p-%v --fileset fileset-%p-%v
```

The Scan Plugin will automatically adjust the name if the result string is too long or already exists.

4 Examples

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

The following example are executed as the **bacula** user. If the tool is executed as root, the permission on new files might not be correct. To switch to the **bacula** user, you can use `sudo -u bacula bash`

Many Plugins have the **abort_on_error** option that is advised with the Scan Plugin.

See the examples for specific plugins below:

4.1 MySQL Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example presented below, the Scan Plugin will be used in an Admin Job and handle connect a mysql databases via the MySQL Plugin installed on the Bacula Client db-fd. Each database detected will be handled by a separated Job and Fileset. The Job directives will be defined via the JobDefs **BackupsToDisk**.

```
Job {
  Name = A_db-sd_mysql
  Type = Admin
  JobDefs = BackupsToDisk
  RunsBeforeJob = "/opt/bacula/bin/scan_plugin --jobdefs BackupsToDisk --
↪client db-fd --plugin mysql --plugin_option abort_on_error --commit_and_
↪reload"
}
```

4.2 NDMP Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example presented below, the Scan Plugin will connect a NDMP server via the NDMP Plugin installed on the Bacula Client nas-fd. Each volume detected will be handled by a separate Job and Fileset. The Job directives will be defined via the JobDefs **BackupsToDisk**.

```
bacula$ /opt/bacula/bin/scan_plugin --client nas-fd --plugin ndmp --jobdefs_
↪BackupToDisks --commit_and_reload --plugin_option user=root --plugin_option_
↪password=pwd --plugin_option host=netapp.lan --plugin_option abort_on_error

Report for scan_plugin 0.5 nas-fd:ndmp
-----
Client:      nas-fd
Plugin:      ndmp
Total Objects: 2
-----
~ updated, + added, X removed, D disabled
-----
+ J_nas-fd_ndmp_vol0
+ J_nas-fd_ndmp__dev_vol1
-----
```

(continues on next page)

(continued from previous page)

Status: Configuration applied and reloaded

In the case of scanning multiple NAS devices from the same Client, it is recommended to set individual UUID's for each individual NAS:

```
bacula$ /opt/bacula/bin/scan_plugin --client nas-fd --plugin ndmp --uuid_
↪netapp1:ndmp --jobdefs BackupToDisks --commit_and_reload --plugin_option_
↪user=root --plugin_option password=pwd --plugin_option host=netapp1.lan --
↪plugin_option abort_on_error
```

Report for scan_plugin 0.5 nas-fd:ndmp

```
-----
Client:      nas-fd
Plugin:      ndmp
Total Objects: 2
```

```
-----
~ updated, + added, X removed, D disabled
-----
```

```
+ J_nas-fd_ndmp_vol0
+ J_nas-fd_ndmp__dev_vol1
-----
```

Status: Configuration applied and reloaded

```
bacula$ /opt/bacula/bin/scan_plugin --client nas-fd --plugin ndmp --uuid_
↪netapp2:ndmp --jobdefs BackupToDisks --commit_and_reload --plugin_option_
↪user=root --plugin_option password=pwd --plugin_option host=netapp2.lan --
↪plugin_option abort_on_error
```

Report for scan_plugin 0.5 nas-fd:ndmp

```
-----
Client:      nas-fd
Plugin:      ndmp
Total Objects: 2
```

```
-----
~ updated, + added, X removed, D disabled
-----
```

```
+ J_nas-fd_ndmp_vol0_0
+ J_nas-fd_ndmp__dev_vol1_0
-----
```

Status: Configuration applied and reloaded

The options `--job` and `--fileset` may be used to improve readability further.

4.3 PostgreSQL Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example presented below, the Scan Plugin will connect the local PostgreSQL database via the PostgreSQL Plugin installed on the Bacula Client `www-fd`. Each database detected will be handled by a separate Job and Fileset. The Job directives will be defined via the JobDefs **BackupsToDisk**.

```
bacula$ /opt/bacula/bin/scan_plugin --client www-fd --plugin postgresql --  
↪ jobdefs BackupsToDisk --plugin_option abort_on_error
```

Report for scan_plugin 0.5 www-fd:postgresql

```
-----  
Client:      www-fd  
Plugin:      postgresql  
Total Objects: 11  
-----
```

~ updated, + added, X removed, D disabled

```
-----  
+ J_www-fd_postgresql_other  
+ J_www-fd_postgresql_weird database81225  
+ J_www-fd_postgresql_regress  
+ J_www-fd_postgresql_dev  
+ J_www-fd_postgresql_template1  
+ J_www-fd_postgresql_ssss1  
+ J_www-fd_postgresql_git  
+ J_www-fd_postgresql_postgres  
+ J_www-fd_postgresql_bacula  
+ J_www-fd_postgresql_db1437565  
+ J_www-fd_postgresql_master  
-----
```

Status: Configuration not applied

The following configuration will be created:

```
Job {  
  Name = "J_www-fd_postgresql_master"  
  Description = "{ \"parameter\": \"database\", \"id\": \"www-fd:postgresql\", \  
↪ \"version\": \"0.5\", \"uuid\": \"uuid=www-fd:postgresql:master\", \"database\": \  
↪ \"master\", \"plugin\": \"postgresql\", \"description\": \"Generated by scan_  
↪ plugin. Do not edit.\" }"  
  Type = "Backup"  
  Client = "www-fd"  
  Fileset = "J_www-fd_postgresql_master"  
  JobDefs = "BackupsToDisk"  
}  
  
Fileset {  
  Name = "F_www-fd_postgresql_master"  
  Description = "{ \"parameter\": \"database\", \"version\": \"0.5\", \"id\": \"www-  
↪ fd:postgresql\", \"uuid\": \"uuid=www-fd:postgresql:master\", \"description\": \  
↪ \"Generated by scan_plugin. Do not edit.\", \"plugin\": \"postgresql\", \  
↪
```

(continues on next page)

(continued from previous page)

```
↪ "database\":"\":master\}"
  Include {
    Options {
    }
    Plugin = "postgresql: database=\"master\" abort_on_error"
  }
}
```

4.4 M365 Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example presented below, the Scan Plugin will be used in an Admin Job and connect via the Microsoft 365 Plugin installed on the Bacula Client saas-fd. Each user drive detected will be handled by a separated Job and Fileset. The Job directives will be defined via the JobDefs **BackupsToDisk**. Each M365 resource uses an UUID, so the `--use_uuid` parameter must be used to ensure uniqueness. Additionally, as many different services may be configured in the same client, it is recommended to setup a custom scan_plugin UUID (`--uuid`) per job to identify the service being copied.

```
Job {
  Name = A_m365_drive
  Type = Admin
  client = saas-fd
  JobDefs = BackupsToDisk
  RunsBeforeJob = "/opt/bacula/bin/scan_plugin --client %c --plugin m365 --
↪ uuid "saas-fd:drive"--use_uuid --plugin_option \"config_file=/opt/bacula/
↪ etc/m365/TENANT/bacula_m365_config.conf\" --plugin_option \"service=drive\"
↪ --scan_option 'config_file=/opt/bacula/etc/m365/TENANT/bacula_m365_config.
↪ conf' --jobdefs BackupsToDisk --parameter user"
```

In the following example, the Scan Plugin will be used in an Admin Job and connect via the Microsoft 365 Plugin installed on the Bacula Client saas-fd. Each user e-mail detected will be handled by a separated Job and Fileset. The Job directives will be defined via the JobDefs **BackupsToDisk**.

```
Job {
  Name = A_m365_email
  Type = Admin
  client = saas-fd
  JobDefs = BackupsToDisk
  RunsBeforeJob = "/opt/bacula/bin/scan_plugin --client \"%c\" --plugin m365 -
↪ --uuid "saas-fd:email" --use_uuid --plugin_option \"config_file=/opt/bacula/
↪ etc/m365/TENANT/bacula_m365_config.conf\" --plugin_option \"service=email\"
↪ --scan_option \"config_file=/opt/bacula/etc/m365/TENANT/bacula_m365_config.
↪ conf\" --jobdefs BackupsToDisk --parameter user"
```

In the following example, the Scan Plugin will be used in an Admin Job and connect via the Microsoft 365 Plugin installed on the Bacula Client `saas-fd`. Each user sharepoint site detected will be handled by a separated Job and Fileset. The Job directives will be defined via the JobDefs **BackupsToDisk**.

```
Job {
  Name = A_m365_sharepoint
  Type = Admin
  client = saas-fd
  JobDefs = BackupsToDisk
  RunsBeforeJob = "/opt/bacula/bin/scan_plugin --client \"%c\" --plugin m365 -
↪-uuid "saas-fd:sharepoint" --use_uuid --plugin_option \"config_file=/opt/
↪bacula/etc/m365/TENANT/bacula_m365_config.conf\" --plugin_option \
↪\"service=sharepoint\" --scan_option \"config_file=/opt/bacula/etc/m365/
↪TENANT/bacula_m365_config.conf\" --jobdefs BackupsToDisk --parameter site"
```

4.5 Quobyte Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example presented below, the Scan Plugin will be used in an Admin Job and connect via the Quobyte Plugin.

```
JobId 1193: shell command: run BeforeJob "/opt/bacula/bin/scan_
↪plugin --json_conf_file "/opt/bacula/etc/conf.d/scan_plugin/wa-
↪quobyte-dir-fd_quobyte_connector.json""
JobId 1193: BeforeJob:
JobId 1193: BeforeJob: Report for scan_plugin 0.6 wa-quobyte-dir-fd-
↪quobyte-1710407060
JobId 1193: BeforeJob: -----
JobId 1193: BeforeJob: Client:          wa-quobyte-dir-fd
JobId 1193: BeforeJob: Plugin:         quobyte
JobId 1193: BeforeJob: Total Objects:  3
JobId 1193: BeforeJob: -----
JobId 1193: BeforeJob: ~ updated, + added, X removed, D disabled
JobId 1193: BeforeJob: -----
JobId 1193: BeforeJob: + J_wa-quobyte-dir-fd_quobyte__quobyte_waa_
↪vol3
JobId 1193: BeforeJob: + J_wa-quobyte-dir-fd_quobyte__quobyte_waa_
↪vol2
JobId 1193: BeforeJob: + J_wa-quobyte-dir-fd_quobyte__quobyte_waa_
↪vol1
JobId 1193: BeforeJob:
JobId 1193: BeforeJob: -----
JobId 1193: BeforeJob: Status: Configuration applied and reloaded
JobId 1193: Start Admin JobId 1193, Job=A_wa-quobyte-dir-fd_quobyte.
```

(continues on next page)

(continued from previous page)

```
→2024-03-14_05.04.20_21
2024-03-14 05:04:24 q-dir JobId 1193: Bacula 18.0.2 (05Mar24): 14-
→Mar-2024 05:04:24
JobId:                1193
Job:                  A_wa-quobyte-dir-fd-quobyte.2024-03-14_05.
→04.20_21
Scheduled time:       14-Mar-2024 05:04:20
Start time:           14-Mar-2024 05:04:24
End time:             14-Mar-2024 05:04:24
Termination:          Admin OK
```

See the **Scan Plugin** command line example below:

```
root# sudo -u bacula /opt/bacula/bin/scan_plugin --plugin quobyte --
→jobdefs BackupsToDisk --uuid wa-quobyte-dir-fd-quobyte-1710407060 -
→-client wa-quobyte-dir-fd --commit_and_reload 1 --fs_option_
→Signature=md5

Report for scan_plugin 0.6 wa-quobyte-dir-fd-quobyte-1710407060
-----
Client:                wa-quobyte-dir-fd
Plugin:                quobyte
Total Objects:         3
-----
~ updated, + added, X removed, D disabled
-----
~ J_wa-quobyte-dir-fd-quobyte__quobyte_waa_vol1
~ J_wa-quobyte-dir-fd-quobyte__quobyte_waa_vol2
~ J_wa-quobyte-dir-fd-quobyte__quobyte_waa_vol3
-----
Status: Configuration applied and reloaded
```

The resulting Jobs and Filesets will be created with the Quobyte Plugin. The Snapshot directive will be automatically forced to yes when the Quobyte Plugin is used and is not required to be set in the Fileset.

4.6 Proxmox Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example presented below, the Scan Plugin will contact the Proxmox server via the Proxmox Plugin installed on the Bacula Client proxmox03-fd. Each virtual machine detected who's name ends with '-tmpl' will have a Job and corresponding Fileset created. The Job directives will be defined via the JobDefs **BackupsToDisk**.

The Proxmox Plugin must be correctly configured on the Bacula Client to be used by the **scan_plugin** script. Refer to the Proxmox configuration chapter to install and configure the Proxmox Plugin.

Using the **bconsole .ls** command, list the VMs hosted by the 'proxmox03-fd' Client ending in '-tmpl'.

```

bacula$ echo ".ls client=proxmox03-fd plugin=proxmox: path=vm" | bconsole |
↪grep ".*-tmpl"
-rw-r----- 1 root    root          21474836480 2023-07-26 20:49:31 ↪
↪centos7-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:49:33 ↪
↪centos8-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:49:37 ↪
↪debian12-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:49:40 ↪
↪debian11-tmpl
-rw-r----- 1 root    root          53687091200 2023-07-26 20:49:42 ↪
↪debian10-tmpl
-rw-r----- 1 root    root          32212254720 2023-07-26 20:49:47 ↪
↪debian9-tmpl
-rw-r----- 1 root    root          10737418240 2023-07-26 20:49:49 ↪
↪oraclelinux7-tmpl
-rw-r----- 1 root    root          10737418240 2023-07-26 20:49:52 ↪
↪oraclelinux8-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:49:54 ↪
↪oraclelinux9-tmpl
-rw-r----- 1 root    root          34359738368 2023-07-26 20:49:56 ↪
↪rhel8-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:49:58 ↪
↪rhel9-tmpl
-rw-r----- 1 root    root          10737418240 2023-07-26 20:50:06 ↪
↪sles125-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:50:09 ↪
↪sles154-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:50:26 ↪
↪ubuntu18-tmpl
-rw-r----- 1 root    root          26843545600 2023-07-26 20:50:37 ↪
↪ubuntu20-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:50:43 ↪
↪ubuntu22-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:50:46 ↪
↪rocky8-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:50:58 ↪
↪rocky9-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:51:45 ↪
↪almalinux8-tmpl
-rw-r----- 1 root    root          21474836480 2023-07-26 20:52:15 ↪
↪almalinux9-tmpl

```

Using the **--include** command line option for the **scan_plugin** script, create Jobs and Filesets only for VMs with names ending in *-tmpl*:

```

bacula$ /opt/bacula/bin/scan_plugin --client proxmox03-fd --plugin proxmox --
↪parameter vm --jobdefs BackupsToDisk --job %c_%v --fileset %c_%v --commit_
↪and_reload --include ".*-tmpl"

```

(continues on next page)

(continued from previous page)

```
Report for scan_plugin 0.5 proxmox03-fd:proxmox
```

```
-----  
Client:      proxmox03-fd
```

```
Plugin:      proxmox
```

```
Total Objects: 20  
-----
```

```
~ updated, + added, X removed, D disabled  
-----
```

```
+ proxmox03-fd_sles125-tmpl  
+ proxmox03-fd_rocky8-tmpl  
+ proxmox03-fd_rhel8-tmpl  
+ proxmox03-fd_centos7-tmpl  
+ proxmox03-fd_debian12-tmpl  
+ proxmox03-fd_oraclelinux9-tmpl  
+ proxmox03-fd_oraclelinux7-tmpl  
+ proxmox03-fd_ubuntu20-tmpl  
+ proxmox03-fd_debian10-tmpl  
+ proxmox03-fd_almalinux9-tmpl  
+ proxmox03-fd_ubuntu18-tmpl  
+ proxmox03-fd_sles154-tmpl  
+ proxmox03-fd_almalinux8-tmpl  
+ proxmox03-fd_centos8-tmpl  
+ proxmox03-fd_rocky9-tmpl  
+ proxmox03-fd_oraclelinux8-tmpl  
+ proxmox03-fd_debian11-tmpl  
+ proxmox03-fd_ubuntu22-tmpl  
+ proxmox03-fd_debian9-tmpl  
+ proxmox03-fd_rhel9-tmpl  
-----
```

```
Status: Configuration applied and reloaded
```

4.7 vSphere Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example presented below, the Scan Plugin will contact the vCenter server via the vSphere Plugin installed on the Bacula Client vm-fd. Each virtual machine detected will be handled by a separate Job and Fileset. The Job directives will be defined via the JobDefs **BackupsToDisk**.

The vSphere Plugin must be correctly configured on the Bacula Client to be used by the Scan Plugin. Refer to the vSphere configuration chapter to configure `/opt/bacula/etc/vsphere_global.conf`.

Use the **vsphere-ctl** script to verify that the VMs can be listed managed by the vCenter server:

```
root@vm# /opt/bacula/bin/vsphere-ctl update
1: bacula
2: www
3: mail
```

Example of a scan_plugin command:

```
bacula$ /opt/bacula/bin/scan_plugin --client vm-fd --plugin vsphere --jobdefs_
↪BackupsToDisk --job J_%p_%v --commit_and_reload --plugin_option abort_on_
↪error
```

Report for scan_plugin 0.5 vm

```
-----
Client:      vm-fd
Plugin:      vsphere
Total Objects: 5
```

```
-----
~ updated, + added, X removed, D disabled
```

```
-----
+ J_vsphere_bacula
+ J_vsphere_www
+ J_vsphere_mail
```

```
-----
Status: Configuration applied and reloaded
```

4.8 OpenStack Example

Enterprise

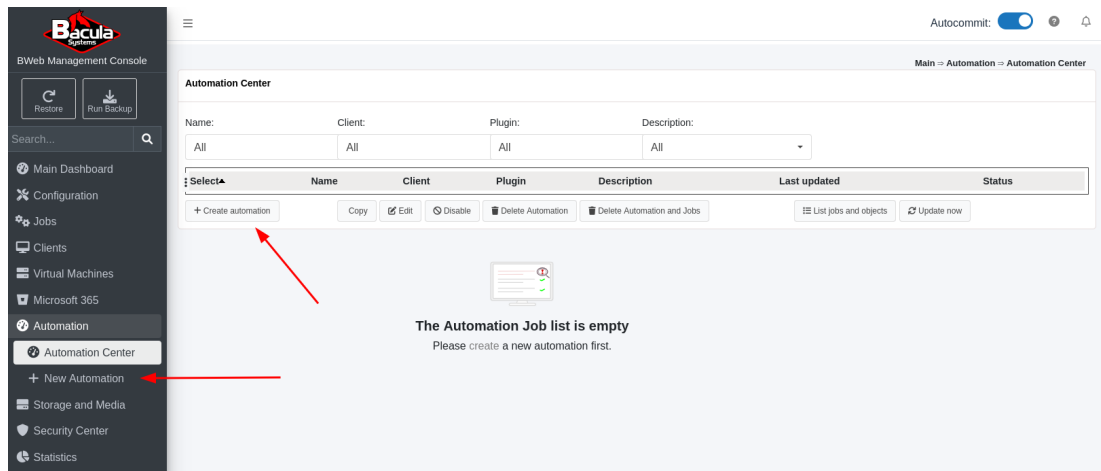
Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

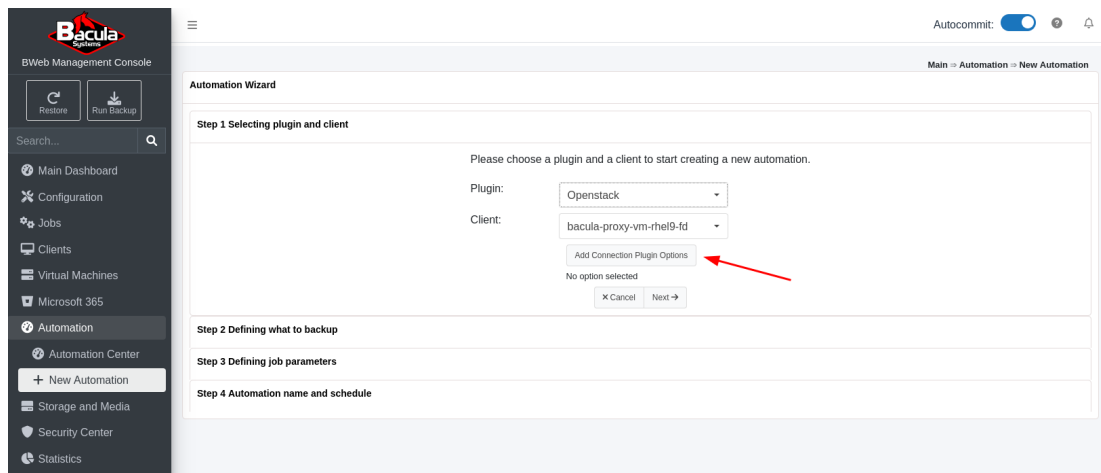
Using BWeb Automation to Setup OpenStack Backups

Using BWeb, it is possible to setup an Automation Job to run regularly, and add or remove Jobs from the instances found in the OpenStack server.

- 1) Click in either the Create automation button or the New Automation left menu.



- 2) Select the OpenStack plugin and the Bacula proxy VM Client used to run the OpenStack backups, and choose “Add Connection Plugin Options” to setup connection parameters.



- 3) Enter the name or UUID of the Bacula proxy VM in the OpenStack server, and the check button to confirm the connection is successful. After the check button has reported a successful connection, submit the settings.

Openstack plugin options

The Plugin options specified at this step are used mainly to connect to the remote system.
Do not specify include/exclude parameters.

?

1. Connection

Name or UUID of the server used as a proxy server*

Openstack account username

Openstack account password

Openstack general API endpoint

Openstack account user domain name

Openstack account project name

Location of an equivalent of openstack admin_openrc file

Check the Authentication/Proxy parameters

bacula-proxy-vm-rhel9

+

check

2. Advanced

3. Nova computing

4. Glance image (WIP)

5. Cinder block-device

6. Neutron network

Submit

Cancel

Switch labels

Show all options

Openstack plugin options

The Plugin options specified at this step are used mainly to connect to the remote system.
Do not specify include/exclude parameters.

?

1. Connection

Name or UUID of the server used as a proxy server*

Openstack account username

Openstack account password

Openstack general API endpoint

Openstack account user domain name

Openstack account project name

Location of an equivalent of openstack admin_openrc file

Check the Authentication/Proxy parameters

bacula-proxy-vm-rhel9

+

check

2. Advanced

3. Nova computing

4. Glance image (WIP)

5. Cinder block-device

6. Neutron network

Submit

Cancel

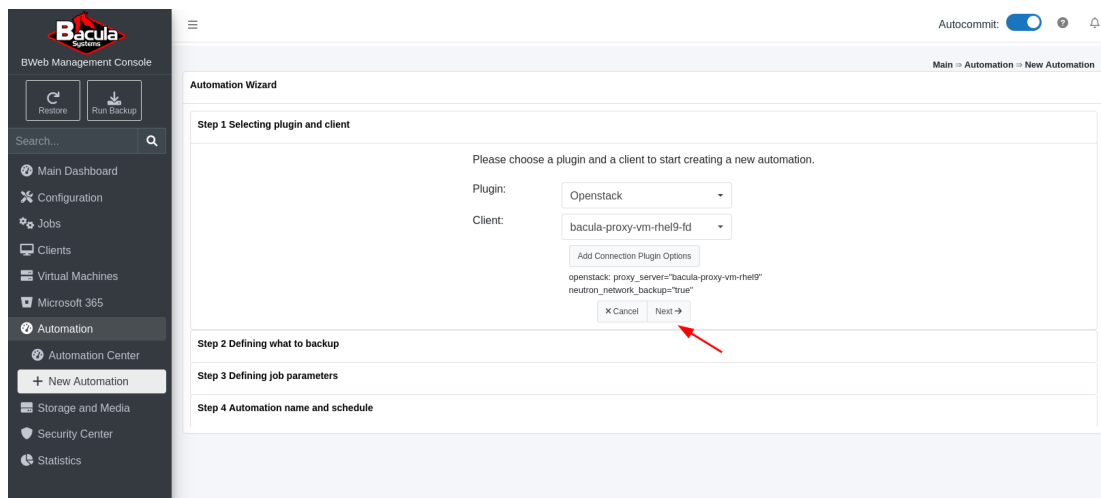
Switch labels

Show all options

4) An example of how the OpenStack Plugin line should look like in the Fileset, and click in Next.

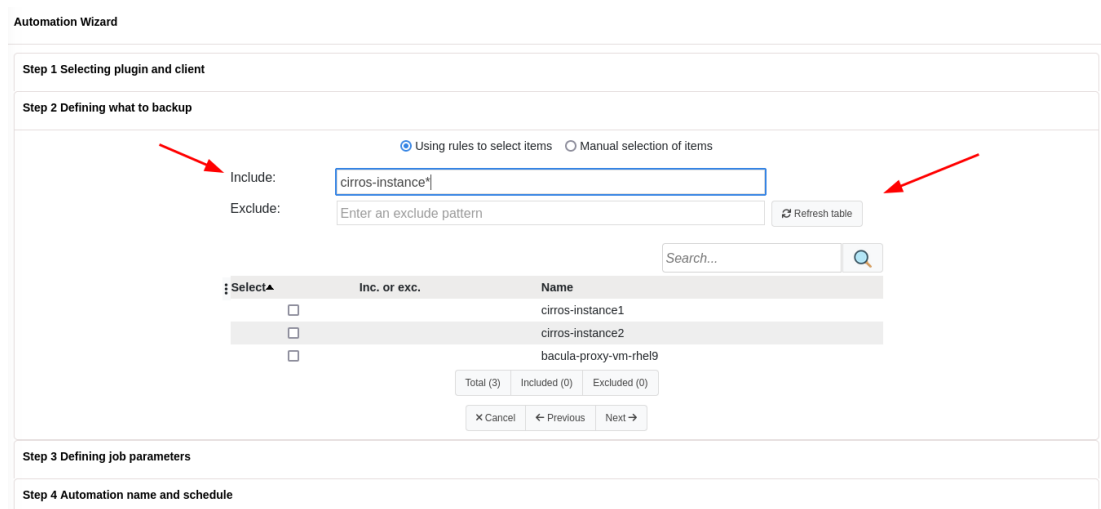
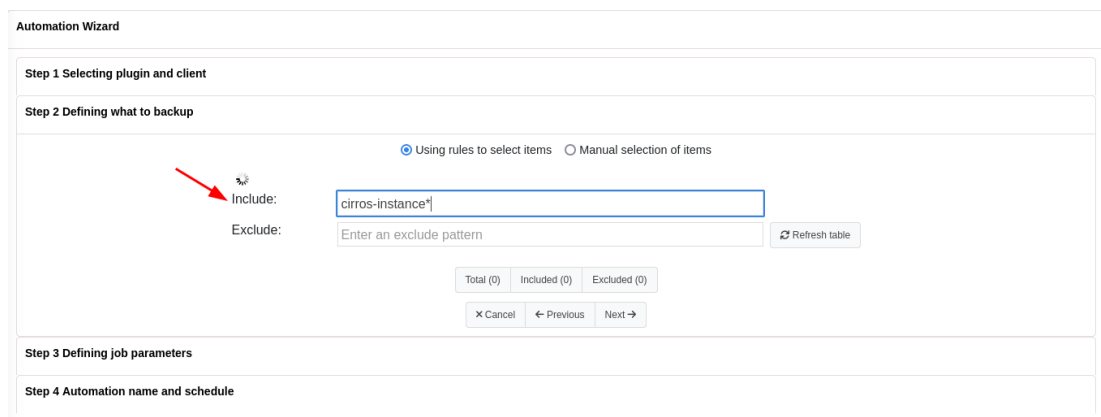
Copyright © 2025 Bacula Systems. All trademarks are the property of their respective owners.

17



5) In Step 2, Defining what to backup, there are a few options:

a) using a regular expression to Include a set of instances



Automation Wizard

Step 1 Selecting plugin and client

Step 2 Defining what to backup

☒ Using rules to select items ☐ Manual selection of items

Include:

Exclude: [Refresh table](#)

[Search](#)

Select	Inc. or exc.	Name
☒	Include	cirros-instance1
☒	Include	cirros-instance2
☐		bacula-proxy-vm-rhel9

Total (3) Included (2) Excluded (0)

[Cancel](#) [Previous](#) [Next](#)

Step 3 Defining job parameters

Step 4 Automation name and schedule

Automation Wizard

Step 1 Selecting plugin and client

Step 2 Defining what to backup

☒ Using rules to select items ☐ Manual selection of items

Include:

Exclude: [Refresh table](#)

[Search](#)

☐ Select

The rule will automatically select all found items on the client.

[Cancel](#) [OK](#)

[Cancel](#) [Previous](#) [Next](#)

Step 3 Defining job parameters

Step 4 Automation name and schedule

b) using a regular expression to Exclude a set of instances

Automation Wizard

Step 1 Selecting plugin and client

Step 2 Defining what to backup

☒ Using rules to select items ☐ Manual selection of items

Include:

Exclude: [Refresh table](#)

[Search](#)

Select	Inc. or exc.	Name
☐		cirros-instance1
☐		cirros-instance2
☐		bacula-proxy-vm-rhel9

Total (3) Included (0) Excluded (0)

[Cancel](#) [Previous](#) [Next](#)

Step 3 Defining job parameters

Step 4 Automation name and schedule

Automation Wizard

Step 1 Selecting plugin and client

Step 2 Defining what to backup

☒ Using rules to select items
 ☐ Manual selection of items

Include:

Exclude: [Refresh table](#)

Select	Inc. or exc.	Name
☐		cirros-instance1
☐		cirros-instance2
☐	Exclude	bacula-proxy-vm-rhel9

Total (3) Included (0) Excluded (1)

[X Cancel](#) [← Previous](#) [Next →](#)

Step 3 Defining job parameters

Step 4 Automation name and schedule

Automation Wizard

Step 1 Selecting plugin and client

Step 2 Defining what to backup

☒ Using rules to select items
 ☐ Manual selection of items

Include:

Exclude: [Refresh table](#)

☒ The rule will automatically select all found items on the client.

[Cancel](#) [OK](#)

[X Cancel](#) [← Previous](#) [Next →](#)

Step 3 Defining job parameters

Step 4 Automation name and schedule

Note

It is possible to use both the Include and Exclude options in the same automation Job.

c) manually selecting the items to be included in the OpenStack backup

Automation Wizard

Step 1 Selecting plugin and client

Step 2 Defining what to backup

☐ Using rules to select items
 ☒ Manual selection of items

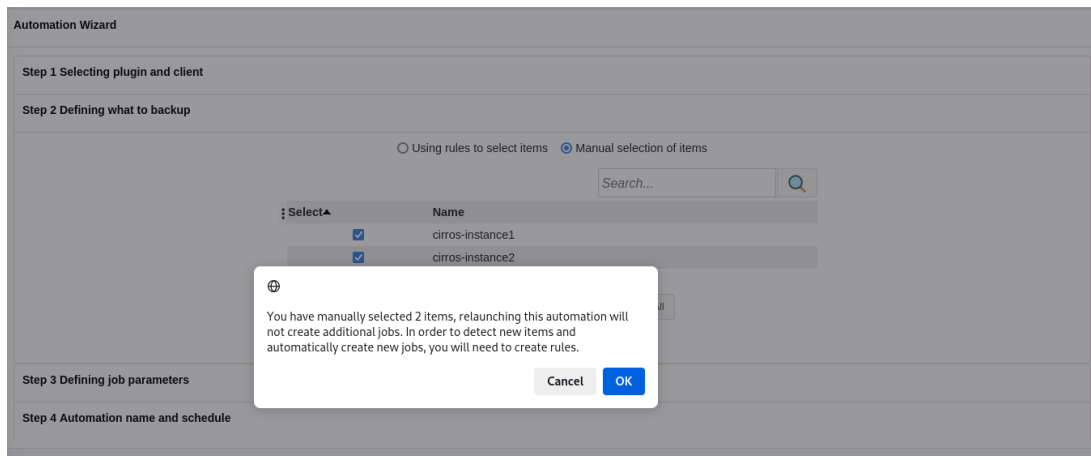
Select	Name
☒	cirros-instance1
☒	cirros-instance2
☐	bacula-proxy-vm-rhel9

Total (3) Selected (2) [Select/Unselect All](#)

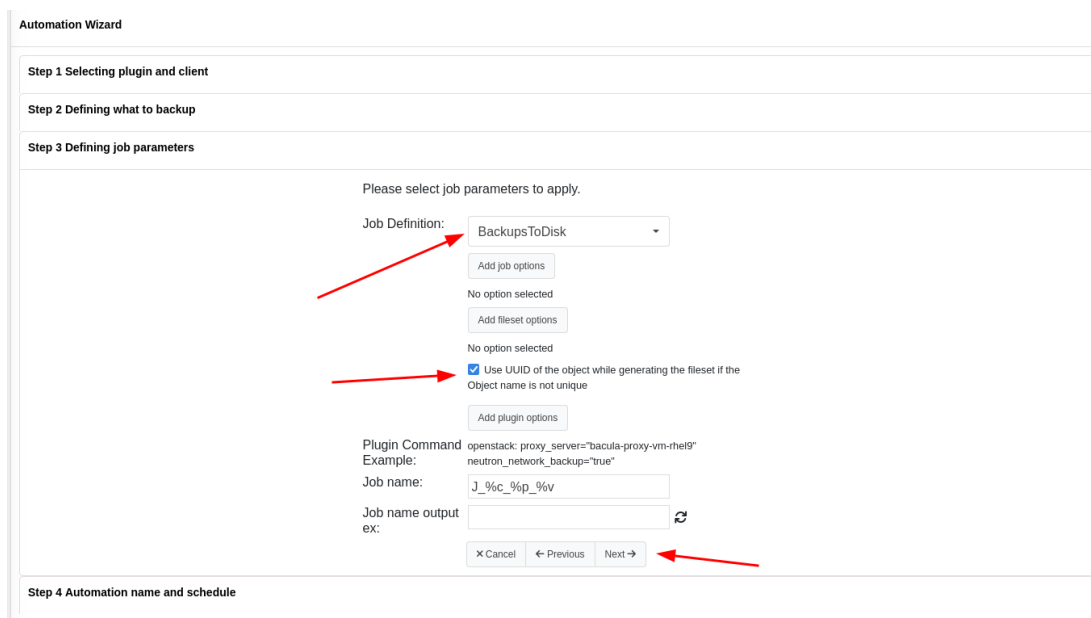
[X Cancel](#) [← Previous](#) [Next →](#)

Step 3 Defining job parameters

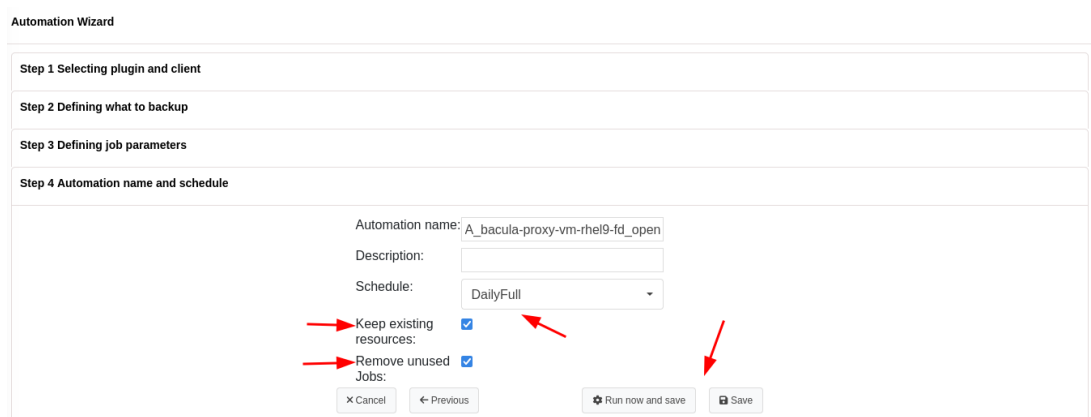
Step 4 Automation name and schedule



6) In Step 3, the Job parameters can be configured:



7) In Step 4, the Automation name, a Schedule to run the Automation, and other options can be configured:



8) By clicking in Run now and save in Step 4, the Automation Job is saved, it runs, and it adds two

Jobs for both the cirros_instance1 and the cirros_instance2 objects:

Information about job *A_bacula-proxy-vm-rhel9-fd_openstack*

JobId	Client	Job Name	Comment	FileSet	Level	Start Time	Duration	Job Files	Job Bytes	Avg Speed	Errors	Status
216	am-r9-bee-bweb-openstack-tst-fd	A_bacula-proxy-vm-rhel9-fd_openstack				2025-05-13 16:36:36	00:00:00	0	0 B	0.00 MiB/s	0	✔

Delete
View Jobs
View Stats
Run Again
Edit

Job Report: *A_bacula-proxy-vm-rhel9-fd_openstack* on *am-r9-bee-bweb-openstack-tst-fd* (216)

Set Order
Download Log
Copy Current Log
Search...

```

2025-05-13 16:33:24 am-r9-bee-bweb-openstack-tst-dir JobId 216: shell command: run BeforeJob "/opt/bacula/bin/scan_plugin --json_conf_file "/opt/bacula/etc
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: Report for scan_plugin 0.8 bacula-proxy-vm-rhel9-fd-openstack-1747146801
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: -----
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: Client:          bacula-proxy-vm-rhel9-fd
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: Plugin:          openstack
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: Objects Added:  2
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: ~ updated, = kept, + added, X removed, D disabled
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: + J_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance2
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: + J_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance1
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: -----
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: BeforeJob: Status: Configuration applied and reloaded
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: Start Admin JobId 216, Job=A_bacula-proxy-vm-rhel9-fd_openstack.2025-05-13_16.33.22.57
2025-05-13 16:36:36 am-r9-bee-bweb-openstack-tst-dir JobId 216: Bacula 18.1.4 (02May25): 13-May-2025 16:36:36
JobId:      216
Job:        A_bacula-proxy-vm-rhel9-fd_openstack.2025-05-13_16.33.22.57
Scheduled time: 13-May-2025 16:33:22
Start time:    13-May-2025 16:36:36
End time:      13-May-2025 16:36:36
Termination:   Admin OK

```

Using the scan_plugin via Command Line to Setup OpenStack Backups

In the example presented below, the Scan Plugin will contact the OpenStack server via the OpenStack Plugin installed on the bacula-proxy-vm-rhel9-fd. For each instance detected in the OpenStack server, a separate Job and Fileset will be created. Also, it will use the JobDefs **BackupsToDisk** in the new Jobs created. By using the `--exclude bacula-proxy-vm-rhel9` option, a backup job for the bacula-proxy-vm-rhel9 will not be created.

```
# sudo -u bacula /opt/bacula/bin/scan_plugin --jobdefs BackupsToDisk --client_
↪ bacula-proxy-vm-rhel9-fd --plugin openstack --plugin_option proxy_
↪ server=bacula-proxy-vm-rhel9 --scan_option proxy_server=bacula-proxy-vm-
↪ rhel9 --exclude bacula-proxy-vm-rhel9 --commit_and_reload
```

Report for scan_plugin 0.8 bacula-proxy-vm-rhel9-fd:openstack

```

-----
Client:          bacula-proxy-vm-rhel9-fd
Plugin:          openstack
Objects Added:  2
-----
~ updated, = kept, + added, X removed, D disabled
-----
+ J_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance2
+ J_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance1
-----

```

Status: Configuration applied and reloaded

The following configuration will be created:

```
# cat /opt/bacula/etc/conf.d/Director/am-r9-bee-bweb-openstack-tst-dir/Job/J_
↪ bacula-proxy-vm-rhel9-fd_openstack_cirros-instance1.cfg
Job {
    Name = "J_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance1"
    Description = "{\"description\":\"Generated by scan_plugin. Do not edit.\",\
↪ \"id\":\"bacula-proxy-vm-rhel9-fd:openstack\", \"parameter\":\"server\", \
↪ \"plugin\":\"openstack\", \"server\":\"cirros-instance1\", \"uuid\":\
↪ \"uuid=c37c9c5d-4296-41fc-9fc0-b8047ba2737b\", \"version\":\"0.8\"}"
    Type = "Backup"
    Client = "bacula-proxy-vm-rhel9-fd"
    Fileset = "F_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance1"
    JobDefs = "BackupsToDisk"
}

# cat /opt/bacula/etc/conf.d/Director/am-r9-bee-bweb-openstack-tst-dir/
↪ Fileset/F_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance1.cfg
Fileset {
    Name = "F_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance1"
    Description = "{\"description\":\"Generated by scan_plugin. Do not edit.\",\
↪ \"id\":\"bacula-proxy-vm-rhel9-fd-openstack-1746790567\", \"parameter\":\
↪ \"server\", \"plugin\":\"openstack\", \"server\":\"cirros-instance1\", \"uuid\
↪ \":\"uuid=c37c9c5d-4296-41fc-9fc0-b8047ba2737b\", \"version\":\"0.8\"}"
    Include {
        Options {
        }
        Plugin = "openstack: server=\"cirros-instance1\" neutron_network_backup=\
↪ \"true\" proxy_server=\"bacula-proxy-vm-rhel9\""
    }
}

# cat /opt/bacula/etc/conf.d/Director/am-r9-bee-bweb-openstack-tst-dir/Job/J_
↪ bacula-proxy-vm-rhel9-fd_openstack_cirros-instance2.cfg
Job {
    Name = "J_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance2"
    Description = "{\"description\":\"Generated by scan_plugin. Do not edit.\",\
↪ \"id\":\"bacula-proxy-vm-rhel9-fd:openstack\", \"parameter\":\"server\", \
↪ \"plugin\":\"openstack\", \"server\":\"cirros-instance2\", \"uuid\":\
↪ \"uuid=10440235-d07a-442b-acad-9e68bcd3752\", \"version\":\"0.8\"}"
    Type = "Backup"
    Client = "bacula-proxy-vm-rhel9-fd"
    Fileset = "F_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance2"
    JobDefs = "BackupsToDisk"
}

# cat /opt/bacula/etc/conf.d/Director/am-r9-bee-bweb-openstack-tst-dir/
↪ Fileset/F_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance2.cfg
Fileset {
    Name = "F_bacula-proxy-vm-rhel9-fd_openstack_cirros-instance2"
    Description = "{\"description\":\"Generated by scan_plugin. Do not edit.\",\
↪ \"id\":\"bacula-proxy-vm-rhel9-fd-openstack-1746790567\", \"parameter\":\
↪ \"server\", \"plugin\":\"openstack\", \"server\":\"cirros-instance2\", \"uuid\
↪ \":\"uuid=10440235-d07a-442b-acad-9e68bcd3752\", \"version\":\"0.8\"}"

```

(continues on next page)

(continued from previous page)

```
Include {
  Options {
  }
  Plugin = "openstack: server=\"cirros-instance2\" neutron_network_backup=\
→ "true\" proxy_server=\"bacula-proxy-vm-rhel9\"""
}
}
```

4.9 Amazon RDS Example

Enterprise

Bacula Enterprise Only

This solution is **only** available for Bacula Enterprise. For subscription inquiries, please reach out to sales@baculasystems.com.

In the example below, the Scan Plugin is used to detect and configure backup jobs for Amazon RDS instances via the RDS Plugin installed on the Bacula Client client-fd. Each RDS instance detected will be handled by a separate Job and Fileset. The Job directives will be defined via the JobDefs named BackupsToDisk.

```
/opt/bacula/working# sudo -u bacula /opt/bacula/bin/scan_plugin \
--client client-fd \
--plugin amazon-rds \
--jobdefs BackupsToDisk \
--job J_%p_%v \
--commit_and_reload \
--plugin_option abort_on_error \
--plugin_option config_file=/opt/bacula/etc/amazon-rds.settings
```

Report for scan_plugin 0.8 client-fd:amazon-rds

```
-----
Client:      client-fd
Plugin:      amazon-rds
```

Objects Added: 1

```
-----
~ updated, = kept, + added, X removed, D disabled
```

```
-----
+ J_amazon-rds_ins-db-pgl
```

```
-----
Status: Configuration applied and reloaded
```

The following configuration will be created:

```
Job {
  Name = "J_amazon-rds_ins-db-pgl"
```

(continues on next page)

(continued from previous page)

```
Description = "{\description\":"Generated by scan_plugin. Do not edit.\",\
↪ "id\":"client-fd:amazon-rds\","instance\":"ins-db-pgl\","parameter\":"\
↪ "instance\","plugin\":"amazon-rds\","uuid\":"uuid=client-fd:amazon-
↪ rds:ins-db-pgl\","version\":"0.8\"}"
Type = "Backup"
Client = "client-fd"
Fileset = "F_client-fd_amazon-rds_ins-db-pgl"
JobDefs = "BackupsToDisk"
}

Fileset {
  Name = "F_clinet-fd_amazon-rds_ins-db-pgl"
  Description = "{\description\":"Generated by scan_plugin. Do not edit.\",\
↪ "id\":"client-fd:amazon-rds\","instance\":"ins-db-pgl\","parameter\":"\
↪ "instance\","plugin\":"amazon-rds\","uuid\":"uuid=client-fd:amazon-
↪ rds:ins-db-pgl\","version\":"0.8\"}"
  Include {
    Options {
    }
    Plugin = "amazon-rds: instance=\"ins-db-pgl\" config_file=/opt/bacula/etc/
↪ amazon-rds.settings abort_on_error"
  }
}
```