

# **Bacula Enterprise Installation Guide**

**Bacula Systems Documentation** 

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# Contents

The following chapter aims at explaining how to install Bacula Enterprise. It is organized by operating systems.

**Note:** Command line examples are for Bacula Enterprise 8.x and newer, but the installation method is similar for older versions.

**Important:** The installation is conducted and set up with a PostgreSQL database backend. In general, Bacula Systems recommends using the latest stable version of PostgreSQL server available in your distribution's official repositories.

Choose the operating system where you wish to have Bacula installed:

- Bacula Enterprise Installation on Linux (Director, Storage Daemon and Client)
- Bacula Enterprise Installation on Windows (Client only)

# **1** Bacula Enterprise Installation on Linux

The following chapter presents the ways of possible Bacula Enterprise installation on Linux, and lists the pros of choosing the recommended method. Bacula Enterprise can be installed in many ways, however, **using BIM is strongly recommended**. It automatically installs and sets up BE components in your system.

The program will:

- Detect the current distribution (RHEL, Debian, etc).
- Detect your personalized URL (*Download Area*) from the Customer Portal (*Your subscription* in the menu on the left). The URL has this format: https://www.baculasystems.com/dl/@@customer-id@@
- List the versions that are available for the current system.

- List the plugins that are available for the current version, system, and daemon being installed.
- Configure the package manager repository.
- Install the selected components.
- Configure Bacula daemons with a custom URL provided by the BWeb Registration module.
- Configure daemon services to start automatically.
- Configure firewalls automatically, according to the components installed.

## 1.1 Linux: Installation with BIM

The following article aims at explaining how to install Bacula Enterprise components (Director, File Daemon, Storage Daemon, beconsole), and Bweb with the use of Bacula Installation Manager and Linux OS. Bweb installation here is optional, however, it is recommended.

Bacula Installation Manager (BIM) supports the following platforms:

- RHEL 7, 8 and 9
- Oracle Linux 8 and 9
- Rocky Linux 8 and 9
- Alma Linux 8 and 9
- Debian 9, 10 and 11
- Debian 12, Client/FD only (if you need DIR and SD, install the packages via apt)
- Ubuntu 18.04, 20.04, 22.04 and 24.04

**Note:** BIM will take care of all aspects for your Bacula Enterprise installation with default advised parameters. If you need to customize it or link Bacula to PostgreSQL running on a different port or different server, use the installation procedure via the packages.

## **Prerequisites**

- One of the above operating systems (OS) successfully installed.
- Access to your network and to the Internet, or more specifically, to https://www.baculasystems. com/ .
- Root or sudo access to install new software on the chosen OS.

#### See also:

See how to verify your root or sudo access.

- OS updated with the latest patches from your OS vendor.
- Python 2.7 or above installed.

## See also:

See how to check which Python version is installed or install the latest version of Python 3.

#### Steps

- LinuxDownloadBIM
- LinuxInstallComponents

## Linux: Download BIM

1. Go to /tmp location.

cd / tmp

- 2. Download Bacula Installation Manager.
  - when curl is installed, run:

**Note:** To install curl, you can use sudo apt install curl (for Ubuntu/Debian), or sudo dnf install curl (for RHEL).

or

• when curl is not installed, run:

**Note:** To install wget, you can use sudo apt install wget (for Ubuntu/Debian), or sudo dnf install wget (for RHEL).

3. Make BIM executable - run:

chmod +x bee\_installation\_manager

## Linux: Install Components

The following article aims at presenting the reader with information on how to install specific Bacula Enterprise components.

Important: Now, we are installing Bacula Enterprise, so it is vital to remember that:

- A general command to install Bacula components is ./bee\_installation\_manager, which installs File Daemon by default. If you wish to install other components, plugins or modify the command, use ./bee\_installation\_manager --help to list all the possible options.
- In order to install other components (File Daemon, Storage Daemon) Bacula environment has to have at least one Director installed.

- With the installation of the Director, by default you install File Daemon, Storage Daemon and beconsole on the same host.
- Bacula plugins can be installed along with the Director, File Daemon and/or Storage Daemon.
- BWeb is considered as a Director plugin, you will be prompted to install it.

#### **Linux: Install Director**

The following article aims at presenting the reader with instructions on how to install a Director in a certain host.

**Important:** It is vital to remember that:

- With the installation of the Director, by default you install File Daemon, Storage Daemon and beconsole on the same host.
- It is recommended to install Bweb plugin along with the installation of the Director. Other plugins can be added later.
- When adding plugins later, Bacula will launch the installation/upgrade process.
- While going through the installation/upgrade steps again, your configuration file will not be overwritten, and when it comes to File Daemon - you will not need to register the Client in Bweb again.

## **Prerequisites**

General Prerequisites apply here.

#### Steps

1. Run BIM and install the first component - Director:

./bee\_installation\_manager -t DIR

2. Confirm the Director and plugins installation with Y.

```
------Installation of Director and associated plugins
```

```
Proceed with Installation of Director and associated plugins? [Y/n] Y
```

3. Provide your download area address.

**Note:** To get your Download Area URL, go to your Customer Portal, click Your Subscription from the left menu, scroll down to the very bottom. You may copy your Download Area from Your Download Area section.

Please enter your Download Area URL. This information can be found in your. →Customer Portal in the "Your Subscription" menu : https://www.baculasystems.com/dl/@**Gcustomer**-id@@

4. Choose the version to be installed.

```
Available versions found on your Download Area for your current operating_

→ system [rhel7-64]:

1 : 11.0.6 2 : 12.0.5 3 : 12.2.5 4 : 12.4.4 5 : 12.6.5

6 : 12.8.4 7 : 14.0.7 8 : 16.0.3

Please, select the version of your Bacula Director ('16.0.3' by default) :
```

5. Choose the plugins to be installed (optional).

Note: It is recommended to install BWeb alongside the Director.

```
The following plugins available for the Director can be installed at version.

\rightarrow 14.0.3:

1 : bweb 2 : callhome-dir 3 : totp-dir

Select the number(s) of the plugins you want to install, separated by commas.

Leave empty and just press <Enter> to skip plugin selection : 1
```

6. Proceed with Managing Firewall rules.

**Note:** Choose the default options proposed for the firewall setting, unless the policies of your company require different rules.

```
_____
```

```
Proceed with Managing Firewall rules? [Y/n]
```

```
Available Firewalls
```

```
1 : iptables 2 : firewall-cmd
```

\_\_\_\_\_

Please, make your selection : ('firewall-cmd' by default) :

7. Confirm the process with Y.

```
Ready to process the following operations
```

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```
[X] Installation of : Bacula, bweb
[X] Managing Firewall rules
```

\_\_\_\_\_

Continue or (r)etry? [Y/n/r]

#### Result

Bacula Director (+ optionally Bweb) is installed.

#### **Post-installation Suggestions**

If you installed Bweb, open a browser and copy/type the address you have received in the final message from the BIM installation wizard.

- 1. When prompted, enter the login and password as was entered in BIM for BWeb, the username being *admin*.
- 2. On the welcome screen, click "Next".

## Welcome to Bacula Enterprise 16.0.5

**BWeb Management Console** 



You will be presented with the Checking Connection screen.



Checking connections



After the connection is checked, you will be presented with the following screen:

## **BWeb Management Console**

How would you like to configure your Bacula Enterprise?

Use BWeb to configure with guidance and wizards or Use any IDE or text editor to edit Bacula Enterprise configuration files

See Manually configuring Bacula Enterprise

[→ Exit Configure manually

Next

- 3. Click "Next".
- 4. Choose the preferred option.

## **BWeb Management Console**

## Job reporting

BWeb makes it easy to monitor jobs, but you can also set the job reporting to send emails or output to the console. The reporting settings via the Messages resource can be adapted later.

Job logs in console							
Activated							
Job logs by email							
Deactivated							
Change Email address (default)							

× Cancel 
Save new configuration

5. Click "Save new configuration".

Now, you will be able to verify the connection to the Catalog from Bweb, and the connection to be from Bweb.

- 6. On the main page of Bweb, navigate to "Configuration" -> "Bweb Configuration" on the left navigational panel.
- 7. On the right side of the page, click "Edit" on the "Actions" panel.
- 8. In edit mode, click on the icon "SQL Link Status" to verify the link with the Catalog, and on the second icon "Bconsole Link Status" to verify the link to bconsole.

Bacula	=			
BWeb Management Console				
C L Run Backup	Main BWeb Configuration			Actions
Search Q	SQL Connection			Save
	SQL Driver:	PostgreSQL v		
23 Main Dashboard	Database Access:	Unix/Local ~		Cancel
🔀 Configuration	Database Server:			
😂 Jobs	Database Port:			
Clients	Database Name:	bacula		
	Resulting DBI string:	DBI:Pg:database=bacula		
Microsoft 365	User:	bacula		
📾 Storage and Media	Password:	•••••	•	
Security Center	Stat Job Table:	JobHisto		
Ctatictice	SQL Link Status	¢		
U Statistics	General Options			
	Email (Used for media operation):	root@localhost		
	Download Area ID:	•••••	•	
	BWeb Configuration			
	Fv Write Path:	/opt/bweb/spool		
	Template Dir:	/opt/bweb/tpl		
	Bconsole:	/opt/bacula/bin/bconsole -n -c /op		
	Bconsole Link Status	ф		
	Wiki Url:			
	Language:	English v		
	Default Age:	7d		
	Default Limit:	100		
	Rows Per Page:	20		
	Display Log Time:			
	Default Size Unit:	Bi (binary bytes) ○ B (decimal byte     Bi (binary bytes) ○ B (decimal byte     Bi (binary bytes) ○ B (decimal byte)     Bi (binary bytes) ○ B (decimal byte)	es)	
	Use Number Grouping Separator:			
	Security:			
	Security ACL:			
	System Authentication:			
	Web Boonsole			
	Debug:			
	Description:			
	Bacula Configuration			
	Configuration Dir:	/opt/bacula/etc/conf.d		
	HTML Dir:	/opt/bweb/html		
	Workset Dir:	/opt/bacula/working/conf.d		
	Certs and Keys Dir:	/ont/bacula/etc/conf.d/ssl		
	Disable Bacula Configuration Menu:			
	Session Configuration	—		
	Session options are stored in a cookie (per web browser)			
	Always Display Main Menu			
	Display Graph Grid Lines			
	Set Table Pagination Pager Position	🔿 top 🧿 bottom		
	Allow page layout modification			

Once clicked, both should have a green check mark indicator.

Both of these are essential for BWeb. If you have installed BWeb on the same operating system than the DIR, the Catalog and the SD, you have nothing else to do on this page. Finalize your configuration by clicking "Save".

## Linux: Install File Daemon (Client)

The following article aims at presenting the reader with instructions on how to install a File Daemon (Client), how to install chosen FD plugins, and manage firewall rules.

The File Daemon allows backing up any data stored in the system on which it is installed via the Client resource defined in the Director.

**Important:** If you wish to modify arguments, run: bee\_installation\_manager --help.

## **Prerequisites**

General Prerequisites apply here.

Also:

• Director already installed.

#### Steps

1. Run BIM:

./bee\_installation\_manager

2. Confirm the File Daemon and plugins installation with Y.

```
Installation of File Daemon (Client) and associated plugins
Proceed with Installation of Director and associated plugins? [Y/n] Y
```

3. Provide your download area address.

**Note:** To get your Download Area URL, go to your Customer Portal, click Your Subscription from the left menu, scroll down to the very bottom. You may copy your Download Area from Your Download Area section.

```
Please enter your Download Area URL. This information can be found in your 

→Customer Portal in the "Your Subscription" menu : https://www.baculasystems.

→com/dl/@@customer-id@@
```

4. Choose the version to be installed.

**Important:** The version of the File Daemon must not be higher than the version of the Bacula Director.

```
Available versions found on your Download Area for your current operating_

→ system [rhel7-64]:

1 : 11.0.6 2 : 12.0.5 3 : 12.2.5 4 : 12.4.4 5 : 12.6.5

6 : 12.8.4 7 : 14.0.7 8 : 16.0.3

Please, select the version of your Bacula Director ('16.0.3' by default) :
```

5. Choose the plugins to be installed (optional).

```
The following plugins available for the File Daemon can be installed at \rightarrow version 16.0.3 :
```

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```
(continued from previous page)

1 : antivirus 2 : azure-vm 3 : cdp

4 : db2 5 : delta 6 : docker

7 : google-workspace 8 : hdfs 9 : inventory

10 : kubernetes 11 : ldap 12 : m365

13 : mysql 14 : ndmp 15 : netapp-hfc

16 : nutanix 17 : openshift 18 : oracle

19 : postgresql 20 : rhv 21 : s3

22 : sap-hana 23 : security 24 : snapshot

25 : sybase 26 : vsphere

Select the number(s) of the plugins you want to install, separated by commas.
```

Leave empty and just press <Enter> to skip plugin selection :

6. Confirm the process with Y.

Along with the File Daemon (Client) installation, you must proceed to register the File Daemon via Bweb. You must have the Director and BWeb installed for this. See File Daemon (Client) Creation and Registration.

7. Confirm your Director address.

```
A potential Director address is detected and will be used by default: 10.0.XX.

→XXX

Press Enter to use 10.0.XX.XXX, or type a new Director address or type * to.

→accept any incoming

address [10.0.XX.XXX|dir-addr|*] :
```

8. Confirm the operations with  $\Upsilon$ .

Ready to process the following operations

\_\_\_\_\_

```
[X] Installation of : Bacula
```

```
[X] Registration of File Daemon (Client) via BWeb
```

[X] Managing Firewall rules

```
Continue or (r)etry? [Y/n/r]
```

9. Proceed with Managing Firewall rules.

**Note:** Choose the default options proposed for the firewall setting, unless the policies of your company require different rules.

```
managing Firewall rules
managing Firewall rules
Proceed with Managing Firewall rules? [Y/n]
Available Firewalls
1 : iptables 2 : nft 3 : firewall-cmd
Please, make your selection : ('firewall-cmd' by default) :
```

10. Confirm the process with Y.

Continue or (r)etry? [Y/n/r]

## **Result:**

Bacula remote File Daemon is installed and registered in the Director.

## **Post-installation Suggestions**

## Verify the Access to a Newly Installed Client

- 1. Go to BWeb.
- 2. Click "Clients" -> "Client Overview".
- 3. Select the newly installed Client and click "Status".

Bacula	=					<b>②</b>	dmin 🔻
BWeb Management Console					Main ⇒ Cli	ents → Client Ov	erview
C ×	Overview						
Restore Run Backup			Client Version Client Os				
Search Q			unknown 16.0.3	x86_64- rterprise unknown			
🕐 Main Dashboard							
💥 Configuration			Aer Aer				
🏘 Jobs							
🖵 Clients							
😵 Client Overview							
+ Add New Client	Clients						
😂 Groups	i Name ▲	Select	Desc	Auto Prune	File Retention	Job Retention	Tags
Microsoft 365	aga-Dir-BWeb-BIM-tst-fd		16.0.3 (09Mar23) x86_64-redhat-linux-gnu-bacula-enterprise, redhat, (Sky	1	60 days	180 days	<₽.
🔜 Storage and Media	aga-FD-BIM-tst-fd			1	60 days	180 days	<2.
Security Center	bp-lin2023-mssql-client			1	60 days	180 days	₊</th
😫 Statistics	🕀 Last Jobs 🕀 Current J	obs 🕀	View Groups 📑 Edit Groups 🍸 Set Bandwidth 🧮 Set Debug 📈 Status	Delete	Edit 🕞 Netw	ork Test	
							+

You should reach the following page:



If you can read the Client name and its Version, then it means you can start backing up and restoring this Client.

**Note:** The same operation is possible also from beconsole with the use of the command: status client=ClientName

#### Linux: Install Storage Daemon

The following article aims at presenting the reader with instructions on how to install Storage Daemon.

**Important:** It is vital to remember that:

- It is possible to install plugins along with the installation of the component.
- When adding plugins later, Bacula will launch the installation/upgrade process.
- While going through the installation steps again, your configuration file will not be overwritten.

#### **Prerequisites**

General Prerequisites apply here.

## Steps

1. Run BIM and install SD:

./bee\_installation\_manager -t SD

2. Confirm the Director and plugins installation with Y.

Installation of Director and associated plugins

```
_____
```

Proceed with Installation of Director and associated plugins? [Y/n] Y

3. Provide your download area address.

**Note:** To get your Download Area URL, go to your Customer Portal, click Your Subscription from the left menu, scroll down to the very bottom. You may copy your Download Area from Your Download Area section.

Please enter your Download Area URL. This information can be found in your. →Customer Portal in the "Your Subscription" menu : https://www.baculasystems.com/dl/@**@customer**-id@@

4. Choose the version to be installed.

Available versions found on your Download Area for your current operating\_ → system [rhel7-64]: 1 : 11.0.6 2 : 12.0.5 3 : 12.2.5 4 : 12.4.4 5 : 12.6.5 6 : 12.8.4 7 : 14.0.7 8 : 16.0.3 Please, select the version of your Bacula Director ('16.0.3' by default) : 5. Choose the plugins to be installed (optional). - Do people need to give some password here? I'm using QA download area, and I'm asked for the password to admin account.

Note: It is recommended to install BWeb alongside the Director.

6. Proceed with Managing Firewall rules.

**Note:** Choose the default options proposed for the firewall setting, unless the policies of your company require different rules.

7. Confirm the process with Y.

```
[X] Installation of : Bacula
[X] Managing Firewall rules
```

```
Continue or (r)etry? [Y/n/r]
```

16

## Result

Bacula Storage Daemon is installed.

```
Installation of Storage Daemon Successfully completed
Bacula Enterprise Installation Manager. Done.
```

## **Check Python Version Installed**

To check the Python version installed:

1. Run:

```
python --version
```

or

python3 --version

#### **Result:**

If the Python version installed is 2.7 or above, proceed with the Linux BE installation with BIM.

If there is no Python installed or the version is older than 2.7, install the latest version of Python 3.

## **Install Python 3**

The following article presents how to install Python 3 on Ubuntu/Debian, or RHEL.

## Ubuntu/Debian

To install the latest version of Python 3:

1. Run:

apt install python3

## RHEL

1. Run:

dnf install python3

## Verify Root/Sudo Access

To verify your root access:

- 1. Open a terminal
- 2. Run:

sudo /bin/bash

or su -

#### **Result:**

If you have root/sudo, you will be prompted with a root console denoted by a # sign.

## 1.2 Linux: Bacula Enterprise Installation with Package Manager

The following article aims at explaining how to install Bacula Enterprise components with the use of Package Manager. Remember that the best way to install Bacula Enterprise and its components is using Bacula Installation Manager (BIM) This solution will perform the following procedures in a simple and automated way.

Following this guide, the software below will be installed:

- PostgreSQL (Catalog)
- Bacula Enterprise

**Note:** PostgreSQL is highly recommended, however, if you intend to use MySQL instead, adapt the commands in this guide and replace 'postgresql' with 'mysql'. We encourage the usage of PostgreSQL for performance reasons as Bacula Enterprise was specially fine-tuned for it.

Look into your download area for any other platform support like Mac OS X, Solaris, FreeBSD and more available.

#### Linux: Install Components

The following article aims at presenting the reader with information on how to install fundamental Bacula Enterprise components using the package manager.

#### Install Bacula Enterprise

Installation of Bacula Enterprise is most easily done by creating the repository file suitable for the existing subscription to the Linux package manager for your distribution of choice.

#### Linux: Installation on Debian and Ubuntu based distributions

Welcome to the guide for installing Bacula Enterprise on Debian and Ubuntu based systems. This documentation ensures you have the necessary steps to get Bacula up and running on your system with ease.

## Steps

1. Get the required packages:

```
sudo apt-get update
sudo apt-get install ca-certificates curl gnupg lsb-release
```

2. Import the official Bacula Enterprise GPG key:

```
curl -fsSL https://www.baculasystems.com/dl/@@customer-id@@/

→BaculaSystems-Public-Signature-08-2017.asc -o /etc/apt/trusted.gpg.

→d/BaculaSystems-Public-Signature-08-2017.asc
```

Replace @@customer-id@@ with your customer-specific ID which can be found in your Bacula Systems Customer Portal.

3. Configure the Bacula Enterprise **apt** repository:

```
echo -e "# Bacula Enterprise\nTypes: deb\nURIs: https://www.

→baculasystems.com/dl/@dcustomer-id@@/debs/bin/@dbee-version@@/

→$(lsb_release -cs)-64\nSuites: $(lsb_release -cs)\nComponents:_

→main\nSigned-By: /etc/apt/trusted.gpg.d/BaculaSystems-Public-

→Signature-08-2017.asc\n" | sudo tee -a /etc/apt/sources.list.d/

→bacula-enterprise.sources > /dev/null
```

Replace @@bee-version@@ and @@customer-id@@ with your customer id and the version of Bacula Enterprise you wish to use.

4. Refresh your package list to include the Bacula Enterprise repository:

sudo apt-get update

5. Install the Bacula Enterprise Director:

sudo apt-get install bacula-enterprise-postgresql

During installation, you'll be prompted to configure the database for Bacula with *dbconfig-common*. Select "Yes," then set and confirm the database password when asked.

#### **Verify Installation**

To ensure that your Bacula installation is functioning correctly, use systemd to check their status:

```
sudo systemctl status bacula-dir.service
sudo systemctl status bacula-sd.service
sudo systemctl status bacula-fd.service
```

#### Conclusion

Congratulations! You've successfully installed Bacula Enterprise on your system. For further configuration details or troubleshooting, refer to the Bacula Systems Customer Portal or you may contact support.

## Linux: Installation on RHEL based distributions

Welcome to the guide for installing Bacula Enterprise on RHEL based systems. This documentation ensures you have the necessary steps to get Bacula up and running on your system with ease.

#### Steps

1. Import the official Bacula Enterprise key:

Replace @@customer-id@@ with your customer-specific ID which can be found in your Bacula Systems Customer Portal.

2. Install PostgreSQL using dnf:

sudo dnf install postgresql-server

3. Initialize the PostgreSQL database engine:

postgresql-setup initdb

4. Start PostgreSQL and enable start at runtime:

```
systemctl start postgresql.service
systemctl enable postgresql.service
```

5. Configure the Bacula Enterprise **yum** repository:

```
RHEL_VER=rhel$(cat /etc/redhat-release | grep -oP '(?<=release )\d+')
echo -e "[bacula-enterprise]\nname=Bacula Enterprise\nbaseurl=https:/
→/www.baculasystems.com/dl/@@customer-id@@/rpms/bin/@@bee-version@@/
→$RHEL_VER-64\nenabled=1\nautorefresh=1\ntype=rpm-md\ngpgcheck=1\
→ngpgkey=https://www.baculasystems.com/dl/@@customer-id@@/
→BaculaSystems-Public-Signature-08-2017.asc\n" | sudo tee -a /etc/
→yum.repos.d/bacula-enterprise.repo > /dev/null
```

Replace @@bee-version@@ and @@customer-id@@ with your customer id and the version of Bacula Enterprise you wish to use.

**Warning:** RHEL7 uses rpm version 4.11 which does not support GPG with subkeys. Bacula Systems uses subkeys to sign newer distribution packages. In RHEL7, consider disabling gpg check gpgcheck=0 in order to avoid NOKEY warnings.

6. Refresh your package cache and install the Bacula Enterprise Director using dnf:

```
sudo dnf check-update
sudo dnf install bacula-enterprise-postgresql
```

During installation, you'll be prompted to configure the database for Bacula with *dbconfigcommon*. Select "Yes," then set and confirm the database password when asked.

7. Create the database and grant ownership:

```
su - postgres
/opt/bacula/scripts/create_postgresql_database
/opt/bacula/scripts/make_postgresql_tables
/opt/bacula/scripts/grant_postgresql_privileges
exit
```

## **Verify Installation**

To ensure that your Bacula installation is functioning correctly, use systemd to check their status:

```
sudo systemctl status bacula-dir.service
sudo systemctl status bacula-sd.service
sudo systemctl status bacula-fd.service
```

## Conclusion

Congratulations! You've successfully installed Bacula Enterprise on your system. For further configuration details or troubleshooting, refer to the Bacula Systems Customer Portal or you may contact support.

#### Linux: Installation on SLES based distributions

Welcome to the guide for installing Bacula Enterprise on SLES. This documentation ensures you have the necessary steps to get Bacula up and running on your system with ease.

#### Steps

1. Register your host:

SUSEConnect -- regcode @@registration-code@@

Replace @@registration-code@@ with your registration code.

2. Import the official Bacula Enterprise key:

sudo rpm --import https://www.baculasystems.com/dl/@@customer-id@@/
→BaculaSystems-Public-Signature-08-2017.asc

Replace @@customer-id@@ with your customer-specific ID which can be found in your Bacula Systems Customer Portal.

3. Install PostgreSQL using zypper:

sudo zypper install postgresql-server

4. Start PostgreSQL and enable start at runtime:

```
systemctl start postgresql.service
systemctl enable postgresql.service
```

5. Configure the Bacula Enterprise **zypper** repository:

```
SLES_VER=sles$(rpm -q sles-release | sed -E 's/.*release-([0-9]+\.[0-

→9]+)-.*/\1/' | tr -d '.')
echo -e "[bacula-enterprise]\nname=Bacula Enterprise\nbaseurl=https:/

→/www.baculasystems.com/dl/@@customer-id@@/rpms/bin/@@bee-version@@/

→$SLES_VER-64\nenabled=1\nautorefresh=1\ngpgcheck=1\ngpgkey=https://

→www.baculasystems.com/dl/@@customer-id@@/BaculaSystems-Public-

→Signature-08-2017.asc\n" | sudo tee -a /etc/zypp/repos.d/bacula-

→enterprise.repo > /dev/null
```

Replace @@bee-version@@ and @@customer-id@@ with your customer id and the version of Bacula Enterprise you wish to use.

6. Install the Bacula Enterprise Director:

sudo zypper install bacula-enterprise-postgresql

During installation, you'll be prompted to configure the database for Bacula with *dbconfig-common*. Select "Yes," then set and confirm the database password when asked.

7. Create the database and grant ownership:

```
su - postgres
/opt/bacula/scripts/create_postgresql_database
/opt/bacula/scripts/make_postgresql_tables
/opt/bacula/scripts/grant_postgresql_privileges
exit
```

#### Verify Installation

To ensure that your Bacula installation is functioning correctly, use systemd to check their status:

```
sudo systemctl status bacula-dir.service
sudo systemctl status bacula-sd.service
sudo systemctl status bacula-fd.service
```

## Conclusion

Congratulations! You've successfully installed Bacula Enterprise on your system. For further configuration details or troubleshooting, refer to the Bacula Systems Customer Portal or you may contact support.

## Install Bacula Enterprise File Daemon only

#### Linux: Installation on Debian and Ubuntu based distributions

Welcome to the guide for installing Bacula Enterprise File Daemon on Debian and Ubuntu based systems. This documentation ensures you have the necessary steps to setup a client and establish connectivity between **Director** and **File Daemon**.

#### **Prerequisites**

Be sure to follow steps 1-3 of the general installation page.

#### Steps

1. Install File Daemon packages:

sudo apt-get update
sudo apt-get install bacula-enterprise-client

2. Start and enable the daemon:

```
sudo systemctl start bacula-fd
sudo systemctl enable bacula-fd
```

3. Add a **Client** resource in the **Director** host:

```
Client {
    Name = @@fd-name@@
    Address = @@fd-address@@
    ...
}
```

Be sure to replace @@fd-name@@ and @@fd-address@@ with the values found in /opt/bacula/etc/bacula-fd.conf under FileDaemon resource.

4. Add a **Director** resource in /opt/bacula/etc/bacula-fd.conf:

```
Director {
    Name = @@dir-name@@
    Password = @@client-password@@
}
```

Be sure to replace @@dir-name@@ with the Director name found in the Director resource, and @@client-password@@ with the one in the Client resource.

5. Check your FileDaemon configuration:

/opt/bacula/bin/bacula-fd -t

#### **Check connectivity**

Once the basic configuration is done, in order to make the **Director** aware of the changes, you have two options. You can either restart the daemon in the **Director** host by running:

systemctl restart bacula-dir

Or you can *reload* the **Director** on **bconsole** (suggested):

reload

and check the status of the FileDaemon

status client=@@client-name@@

where **@@client-name@@** is the name found in the directive **Name** under the **Client** resource in the **Director** configuration. This command will give useful information about the **Client**, such as the operating system, address, start time, plugins installed, etc.

If you are using BWeb as UI, remember to register the **File Daemon** following the procedure described in this section.

#### Conclusion

Congratulations! You've successfully deployed File Daemon on your system.

## Linux: Installation on RHEL based distributions

Welcome to the guide for installing Bacula Enterprise File Daemon on RHEL based systems. This documentation ensures you have the necessary steps to setup a client and establish connectivity between **Director** and **File Daemon**.

## Prerequisites

Be sure to follow steps 1-3 of the general installation page.

## Steps

1. Install File Daemon packages with dnf:

```
sudo dnf check-update
sudo dnf install bacula-enterprise-client
```

2. Start and enable the daemon:

```
sudo systemctl start bacula-fd
sudo systemctl enable bacula-fd
```

3. Add a **Client** resource in the **Director** host:

```
Client {
    Name = @@fd-name@@
    Address = @@fd-address@@
    ...
}
```

Be sure to replace @@fd-name@@ and @@fd-address@@ with the values found in /opt/bacula/etc/bacula-fd.conf under FileDaemon resource.

4. Add a **Director** resource in /opt/bacula/etc/bacula-fd.conf:

```
Director {
    Name = @@dir-name@@
    Password = @@client-password@@
}
```

Be sure to replace @@dir-name@@ with the Director name found in the Director resource, and @@client-password@@ with the one in the Client resource.

5. Check your FileDaemon configuration:

/opt/bacula/bin/bacula-fd -t

## **Check connectivity**

Once the basic configuration is done, in order to make the **Director** aware of the changes, you have two options. You can either restart the daemon in the **Director** host by running:

systemctl restart bacula-dir

Or you can *reload* the **Director** on **bconsole** (suggested):

reload

and check the status of the FileDaemon

status client=@@client-name@@

where @@client-name@@ is the name found in the directive Name under the Client resource in the Director configuration. This command will give useful information about the Client, such as the operating system, address, start time, plugins installed, etc.

If you are using BWeb as UI, remember to register the **File Daemon** following the procedure described in this section.

## Conclusion

Congratulations! You've successfully deployed File Daemon on your system.

#### Linux: Installation on SLES based distributions

Welcome to the guide for installing Bacula Enterprise File Daemon on SLES based systems. This documentation ensures you have the necessary steps to setup a client and establish connectivity between **Director** and **File Daemon**.

#### **Prerequisites**

Be sure to follow steps 1-3 of the general installation page.

## Steps

1. Install File Daemon packages:

```
sudo zypper refresh
sudo zypper install bacula-enterprise-client
```

2. Start and enable the daemon:

```
sudo systemctl start bacula-fd
sudo systemctl enable bacula-fd
```

3. Add a **Client** resource in the **Director** host:

```
Client {
    Name = @@fd-name@@
    Address = @@fd-address@@
    ...
}
```

Be sure to replace @@fd-name@@ and @@fd-address@@ with the values found in /opt/bacula/etc/bacula-fd.conf under FileDaemon resource.

4. Add a **Director** resource in /opt/bacula/etc/bacula-fd.conf:

```
Director {
    Name = @@dir-name@@
    Password = @@client-password@@
}
```

Be sure to replace @@dir-name@@ with the Director name found in the Director resource, and @@client-password@@ with the one in the Client resource.

5. Check your FileDaemon configuration:

```
/opt/bacula/bin/bacula-fd -t
```

#### **Check connectivity**

Once the basic configuration is done, in order to make the **Director** aware of the changes, you have two options. You can either restart the daemon in the **Director** host by running:

systemctl restart bacula-dir

Or you can *reload* the **Director** on **bconsole** (suggested):

reload

and check the status of the FileDaemon

status client=@@client-name@@

where **@@client-name@@** is the name found in the directive **Name** under the **Client** resource in the **Director** configuration. This command will give useful information about the **Client**, such as the operating system, address, start time, plugins installed, etc.

If you are using BWeb as UI, remember to register the **File Daemon** following the procedure described in this section.

## Conclusion

Congratulations! You've successfully deployed File Daemon on your system.

## Install Bacula Enterprise Storage Daemon only

#### Linux: Installation on Debian and Ubuntu based distributions

Welcome to the guide for installing Bacula Enterprise Storage Daemon on Debian and Ubuntu based systems. This documentation ensures you have the necessary steps to setup a client and establish connectivity between **Director** and **Storage Daemon**.

## **Prerequisites**

Be sure to follow steps 1-3 of the general installation page.

#### Steps

1. Install Storage Daemon packages:

sudo apt-get update
sudo apt-get install bacula-enterprise-postgresql

2. Start and enable the daemon:

sudo systemctl start bacula-sd
sudo systemctl enable bacula-sd

3. Disable Director and File Daemon services:

```
sudo systemctl disable bacula-dir
sudo systemctl disable bacula-fd
```

4. Add a Storage resource in the Director host:

```
Storage {
    Name = @@sd-name@@
    Address = @@sd-address@@
    SDPort = 9103
    Password = @@sd-password@@
    ...
}
```

Be sure to replace @@sd-name@@ and @@sd-address@@ with the values found in /opt/bacula/etc/bacula-sd.conf under Storage resource. The password @@sd-password@@ has to match the one in the next step.

5. Add a **Director** resource in /opt/bacula/etc/bacula-sd.conf:

```
Director {
    Name = @@dir-name@@
    Password = @@sd-password@@
}
```

Be sure to replace @@dir-name@@ with the Director name found in the Director resource, and @@sd-password@@ with the one in the Storage resource.

6. Check your Storage configuration:

```
sudo -u bacula /opt/bacula/bin/bacula-sd -t
```

## Conclusion

Congratulations! You've successfully configured Storage Daemon on your system.

## Linux: Installation on RHEL based distributions

Welcome to the guide for installing Bacula Enterprise File Daemon on RHEL based systems. This documentation ensures you have the necessary steps to setup a client and establish connectivity between **Director** and **Storage Daemon**.

## **Prerequisites**

Be sure to follow steps 1-3 of the general installation page.

#### Steps

1. Install Storage Daemon packages with dnf:

```
sudo dnf check-update
sudo dnf install bacula-enterprise-postgresql
```

2. Start and enable the daemon:

```
sudo systemctl start bacula-sd
sudo systemctl enable bacula-sd
```

3. Disable Director and File Daemon services:

```
sudo systemctl disable bacula-dir
sudo systemctl disable bacula-fd
```

4. Add a **Storage** resource in the **Director** host:

```
Storage {
    Name = @@sd-name@@
    Address = @@sd-address@@
    SDPort = 9103
    Password = @@sd-password@@
    ...
}
```

Be sure to replace @@sd-name@@ and @@sd-address@@ with the values found in /opt/bacula/etc/bacula-sd.conf under Storage resource. The password @@sd-password@@ has to match the one in the next step.

5. Add a **Director** resource in /opt/bacula/etc/bacula-sd.conf:

```
Director {
    Name = @@dir-name@@
    Password = @@sd-password@@
}
```

Be sure to replace @@dir-name@@ with the Director name found in the Director resource, and @@sd-password@@ with the one in the Storage resource.

6. Check your Storage configuration:

## Conclusion

Congratulations! You've successfully configured Storage Daemon on your system.

## Linux: Installation on SLES based distributions

Welcome to the guide for installing Bacula Enterprise File Daemon on SLES based systems. This documentation ensures you have the necessary steps to setup a client and establish connectivity between **Director** and **Storage Daemon**.

#### **Prerequisites**

Be sure to follow steps 1-3 of the general installation page.

#### Steps

1. Install Storage Daemon packages:

```
sudo zypper refresh
sudo zypper install bacula-enterprise-postgresql
```

2. Start and enable the daemon:

```
sudo systemctl start bacula-sd
sudo systemctl enable bacula-sd
```

3. Disable Director and File Daemon services:

```
sudo systemctl disable bacula-dir
sudo systemctl disable bacula-fd
```

4. Add a Storage resource in the Director host:

```
Storage {
    Name = @@sd-name@@
    Address = @@sd-address@@
    SDPort = 9103
    Password = @@sd-password@@
    ...
}
```

Be sure to replace @@sd-name@@ and @@sd-address@@ with the values found in /opt/bacula/etc/bacula-sd.conf under Storage resource. The password @@sd-password@@ has to match the one in the next step.

5. Add a **Director** resource in /opt/bacula/etc/bacula-sd.conf:

```
Director {
    Name = @@dir-name@@
    Password = @@sd-password@@
}
```

Be sure to replace @@dir-name@@ with the Director name found in the Director resource, and @@sd-password@@ with the one in the Storage resource.

6. Check your Storage configuration:

```
sudo -u bacula /opt/bacula/bin/bacula-sd -t
```

## Conclusion

Congratulations! You've successfully configured Storage Daemon on your system.

## Install bconsole only

## Linux: Installation on Debian and Ubuntu based distributions

Welcome to the guide for installing Bacula Enterprise beconsole on Debian and Ubuntu based systems. This documentation ensures you have the necessary steps to get beconsole up and ready for use.

#### **Prerequisites**

Be sure to follow steps 1-3 of the general installation page.

## Steps

1. Install **bconsole** packages:

```
sudo apt-get update
sudo apt-get install bacula-enterprise-console
```

2. Edit /opt/bacula/etc/bconsole.conf configuration file:

```
Director {
    Name = @@dir-name@@
    DIRport = 9101
    Address = @@dir-address@@
    Password = @@dir-password@@
}
```

Replace @@dir-name@@, @@dir-address@@, and @@dir-password@@ with the correct parameters that you can find in the **Director** configuration under **Director** resource in the server you wish to monitor.

## Conclusion

Congratulations! You've successfully installed **bconsole** on your system. Test it by running /opt/bacula/bin/bconsole.

## Linux: Installation on RHEL based distributions

Welcome to the guide for installing Bacula Enterprise beconsole on RHEL based systems. This documentation ensures you have the necessary steps to get beconsole up and ready for use.

#### Prerequisites

Be sure to follow steps 1-3 of the general installation page.

## Steps

1. Install **bconsole** packages with **dnf**:

```
sudo dnf check-update
sudo dnf install bacula-enterprise-console
```

2. Edit /opt/bacula/etc/bconsole.conf configuration file:

```
Director {
    Name = @@dir-name@@
    DIRport = 9101
    Address = @@dir-address@@
    Password = @@dir-password@@
}
```

Replace @@dir-name@@, @@dir-address@@, and @@dir-password@@ with the correct parameters that you can find in the **Director** configuration under **Director** resource in the server you wish to monitor.

#### Conclusion

Congratulations! You've successfully installed **bconsole** on your system. Test it by running /opt/bacula/bin/bconsole.

## Linux: Installation on SLES based distributions

Welcome to the guide for installing Bacula Enterprise beconsole on SLES based systems. This documentation ensures you have the necessary steps to get beconsole up and ready for use.

## **Prerequisites**

Be sure to follow steps 1-3 of the general installation page.

## Steps

1. Install bconsole packages:

```
sudo zypper refresh
sudo zypper install bacula-enterprise-console
```

2. Edit /opt/bacula/etc/bconsole.conf configuration file:

```
Director {
    Name = @@dir-name@@
    DIRport = 9101
    Address = @@dir-address@@
    Password = @@dir-password@@
}
```

Replace @@dir-name@@, @@dir-address@@, and @@dir-password@@ with the correct parameters that you can find in the **Director** configuration under **Director** resource in the server you wish to monitor.

## Conclusion

Congratulations! You've successfully installed **bconsole** on your system. Test it by running /opt/bacula/bin/bconsole.

## Linux: Install Extra Components

The following article aims at presenting the reader with information on how to install specific Bacula Enterprise components using the package manager.

#### Install Bacula Enterprise BWeb

Installation of Bacula Enterprise BWeb is most easily done by updating the repository file suitable for the existing subscription to the Linux package manager for your distribution of choice.

If you have not already setup one, see how to create a Bacula Enterprise repository file

#### Linux: Installation on Debian and Ubuntu based distributions

The following article aims at explaining how to install Bweb on Debian and Ubuntu based distributions.

#### **Prerequisites**

Before you begin, ensure that your system is prepared with the necessary tools and permissions. You'll need *sudo* privileges to execute installation commands. If you have not already, see how to import a repository key in the first steps.

#### Steps

1. Configure the Bacula Enterprise apt repository:

```
echo -e "# Bacula Enterprise BWeb\nTypes: deb\nURIs: https://www.

→baculasystems.com/dl/@@customer-id@@/debs/bweb/@@bee-version@@/

→$(lsb_release -cs)-64\nSuites: $(lsb_release -cs)\nComponents:_

→bweb\nSigned-By: /etc/apt/trusted.gpg.d/BaculaSystems-Public-

→Signature-08-2017.asc\n" | sudo tee -a /etc/apt/sources.list.d/

→bacula-enterprise.sources > /dev/null
```

Replace @@bee-version@@ and @@customer-id@@ with your customer id and the version of Bacula Enterprise you are using.

2. Update your package cache:

sudo apt-get update

3. Install the Bacula Enterprise BWeb:

```
sudo apt-get install bacula-enterprise-bweb
```

4. As mentioned in the install output, please run the following script to finalize the installation of BWeb:

/opt/bweb/bin/install\_bweb.sh

#### **Post-installation Configuration**

• Start and enable the BWeb system service:

```
systemctl start bweb.service
```

systemctl enable bweb.service

• Log in to **BWeb** at https://@@hostname@@:9180/, be sure to replace @@hostname@@ with your host IP or a FQDN.

## Conclusion

Congratulations! You've successfully installed Bacula Enterprise BWeb on your Debian or Ubuntu system. For further configuration details or troubleshooting, refer to the Bacula Systems Customer Portal or you may contact support.

## Linux: Installation on RHEL based distributions

The following article aims at explaining how to install Bweb on RHEL based distributions.

#### **Prerequisites**

Before you begin, ensure that your system is prepared with the necessary tools and permissions. You'll need *sudo* privileges to execute installation commands. If you have not already, see how to import a repository key in the first steps.

## Steps

1. Configure the Bacula Enterprise yum repository:

Replace @@bee-version@@ and @@customer-id@@ with your customer id and the version of Bacula Enterprise you are using.

2. Refresh your package cache and install the Bacula Enterprise BWeb using dnf:

```
sudo dnf check-update
sudo dnf install bacula-enterprise-bweb
```

3. As mentioned in the install output, please run the following script to finalize the installation of BWeb:

/opt/bweb/bin/install\_bweb.sh

#### **Post-installation Configuration**

• Start and enable the BWeb system service:

systemctl start bweb.service

systemctl enable bweb.service

• Log in to **BWeb** at https://@@hostname@@:9180/, be sure to replace @@hostname@@ with your host IP or a FQDN.

**Warning:** Remember, your firewall service might prevent you from reaching BWeb. Be sure to have port 9180/tcp open.

#### Conclusion

Congratulations! You've successfully installed Bacula Enterprise BWeb on your RHEL system. For further configuration details or troubleshooting, refer to the Bacula Systems Customer Portal or you may contact support.

## Linux: Installation on SLES based distributions

The following article aims at explaining how to install Bweb on SUSE Linux distributions.

#### Prerequisites

Before you begin, ensure that your system is prepared with the necessary tools and permissions. You'll need *sudo* privileges to execute installation commands. If you have not already, see how to import a repository key in the first steps.

## Steps

1. Configure the Bacula Enterprise **zypper** repository:
Replace @@bee-version@@ and @@customer-id@@ with your customer id and the version of Bacula Enterprise you are using.

2. Refresh your package cache and install the Bacula Enterprise BWeb using zypper:

```
sudo zypper refresh
sudo zypper install bacula-enterprise-bweb
```

3. As mentioned in the install output, please run the following script to finalize the installation of BWeb:

/opt/bweb/bin/install\_bweb.sh

## **Post-installation Configuration**

• Start and enable the BWeb system service:

systemctl start bweb.service

systemctl enable bweb.service

• Log in to **BWeb** at https://@@hostname@@:9180/, be sure to replace @@hostname@@ with your host IP or a FQDN.

**Warning:** Remember, your firewall service might prevent you from reaching BWeb. Be sure to have port 9180/tcp open.

# Conclusion

Congratulations! You've successfully installed Bacula Enterprise BWeb on your SLES system. For further configuration details or troubleshooting, refer to the Bacula Systems Customer Portal or you may contact support.

#### Install Bacula Enterprise Plugins

Installation of Bacula Enterprise Plugins is most easily done by updating the repository file suitable for the existing subscription to the Linux package manager for your distribution of choice.

If you have not already setup one, see how to create a Bacula Enterprise repository file

#### Linux: Plugin Installation on Debian and Ubuntu based distributions

#### **Prerequisites**

Before you begin, ensure that your system is prepared with the necessary tools and permissions. You'll need *sudo* privileges to execute installation commands. If you have not already, see how to import a repository key in the first steps.

#### Steps

You'll need sudo privileges to execute installation commands.

1. Run the following script to update your repository file:

```
echo -e "# Bacula Enterprise @@plugin-name@@\nTypes: deb\nURIs: https://www.

→baculasystems.com/dl/@@customer-id@@/debs/@@plugin-name@@/@@bee-version@@/

→$(lsb_release -cs)-64\nSuites: $(lsb_release -cs)\nComponents: @@plugin-

→name@@\nSigned-By: /etc/apt/trusted.gpg.d/BaculaSystems-Public-Signature-08-

→2017.asc\n" | sudo tee -a /etc/apt/sources.list.d/bacula-enterprise.sources_

→> /dev/null
```

Replace @@customer-id@@, @@bee-version@@, and @@plugin-name@@ with the name of the plugin you wish to install.

2. Then update the package cache and install the plugin:

```
sudo apt-get update
sudo apt-get install @@bacula-enterprise-package-id@@
```

Be sure to replace @@bacula-enterprise-package-id@@ with the package name. See the full list here.

Manual installation of the packages, can be done after downloading the package files from the Bacula Systems provided download area, and then using the package manager to install.

#### Example

Install LDAP plugin on Debian 12 (bookworm) with Bacula Enterprise Edition version 18.0.7.

```
sudo apt-get update
sudo apt-get install bacula-enterprise-ldap-plugin
```

#### Linux: Plugin Installation on RHEL based distributions

#### **Prerequisites**

Before you begin, ensure that your system is prepared with the necessary tools and permissions. You'll need *sudo* privileges to execute installation commands. If you have not already, see how to import a repository key in the first steps.

#### Steps

You'll need sudo privileges to execute installation commands.

1. Run the following script to update your repository file:

Replace @@customer-id@@, @@bee-version@@, and @@plugin-name@@ with the name of the plugin you wish to install.

2. Then update the package cache and install the plugin using dnf:

```
sudo dnf check-update
sudo dnf install @@bacula-enterprise-package-id@@
```

Be sure to replace @@bacula-enterprise-package-id@@ with the package name. See the full list here.

Manual installation of the packages, can be done after downloading the package files from the Bacula Systems provided download area, and then using the package manager to install.

#### Example

Install LDAP plugin on RHEL 9 with Bacula Enterprise Edition version 18.0.7.

sudo dnf check-update sudo dnf install bacula-enterprise-ldap-plugin

#### Linux: Plugin Installation on SLES based distributions

#### **Prerequisites**

Before you begin, ensure that your system is prepared with the necessary tools and permissions. You'll need *sudo* privileges to execute installation commands. If you have not already, see how to import a repository key in the first steps.

#### Steps

You'll need sudo privileges to execute installation commands.

1. Run the following script to update your repository file:

```
SLES_VER=sles$(rpm -q sles-release | sed -E 's/.*release-([0-9]+\.[0-9]+)-.*/\
→1/' | tr -d '.')
echo -e "[bacula-enterprise-@@plugin-name@@]\nname=Bacula Enterprise @@plugin-
→name@@\nbaseurl=https://www.baculasystems.com/dl/@@customer-id@@/rpms/
→@@plugin-name@@/@@bee-version@@/$SLES_VER-64\nenabled=1\nautorefresh=1\
→ngpgcheck=1\ngpgkey=https://www.baculasystems.com/dl/@@customer-id@@/
→BaculaSystems-Public-Signature-08-2017.asc\n" | sudo tee -a /etc/zypp/repos.
→d/bacula-enterprise.repo > /dev/null
```

Replace @@customer-id@@, @@bee-version@@, and @@plugin-name@@ with the name of the plugin you wish to install.

2. Then update the package cache and install the plugin using zypper:

```
sudo zypper refresh
sudo zypper install @@bacula-enterprise-package-id@@
```

Be sure to replace @@bacula-enterprise-package-id@@ with the package name. See the full list here.

Manual installation of the packages, can be done after downloading the package files from the Bacula Systems provided download area, and then using the package manager to install.

#### Example

Install Cloud Google plugin on SLES 15.5 with Bacula Enterprise Edition version 18.0.7.

```
echo -e "[bacula-enterprise-cloud-google]\nname=Bacula Enterprise Cloud_

Google\nbaseurl=https://www.baculasystems.com/dl/customer-12345/rpms/cloud-

google/18.0.7/sles155-64\nenabled=1\nautorefresh=1\ngpgcheck=1\

ngpgkey=https://www.baculasystems.com/dl/customer-12345/BaculaSystems-

Public-Signature-08-2017.asc\n" | sudo tee -a /etc/zypp/repos.d/bacula-

enterprise.repo > /dev/null
```

```
sudo zypper refresh
sudo zypper install bacula-enterprise-cloud-storage-google
```

# List of Bacula Enterprise Plugins

You can find below the full list of plugins with the relative package names used for installation. Remember you can request one or more plugins at any time using the Customer Portal, using the menu on the left **Your subscription > Products subscribed**, and clicking on the **Add plugin** link.

Table 1: Bacula Enteprise Plugins

Plugin	Bacula Enterprise Package ID
BGuardian	bacula-enterprise-bguardian-dir-plugin
Amazon EC2	bacula-enterprise-amazon-ec2-plugin
Amazon Relational Database Service (RDS)	bacula-enterprise-amazon-rds-plugin
Azure VM	bacula-enterprise-azure-vm-plugin
IBM Db2	bacula-enterprise-db2-plugin
Delta	bacula-enterprise-delta
Docker	bacula-enterprise-docker-plugin
Exchange Web Services (EWS)	bacula-enterprise-exchange-ews-plugin
Google Workspace	bacula-enterprise-google-workspace-plugin
Hadoop Distributed File System (HDFS)	bacula-enterprise-hdfs-plugin
Kubernetes (K8s)	bacula-enterprise-kubernetes-plugin
Red Hat OpenShift	bacula-enterprise-openshift-plugin
KVM	bacula-enterprise-kvm-plugin
Lightweight Directory Access Protocol (LDAP)	bacula-enterprise-ldap-plugin
Microsoft 365	bacula-enterprise-m365-plugin
MySQL	bacula-enterprise-mysql-plugin
Network Data Management Protocol (NDMP)	bacula-enterprise-ndmp
NetappHFC	bacula-enterprise-netapp-hfc
Nutanix AHV	bacula-enterprise-nutanix-ahv-plugin
Nutanix HFC	bacula-enterprise-nutanix-hfc-plugin
Openstack VM	bacula-enterprise-openstack-vm-plugin
Oracle	bacula-enterprise-oracle
PostgreSQL	bacula-enterprise-postgresql-plugin
Proxmox	bacula-enterprise-proxmox-plugin
QEMU	bacula-enterprise-qemu-plugin
Red Hat Virtualization (RHV)	bacula-enterprise-rhv-plugin
S3	bacula-enterprise-s3-plugin
SAP HANA	bacula-enterprise-sap-hana-plugin
Snapshot	bacula-enterprise-snapshot
Swift	bacula-enterprise-swift-plugin
Sybase	bacula-enterprise-sybase-plugin
VMware vSphere	bacula-enterprise-vsphere
XenServer	bacula-enterprise-xenserver-plugin
Automated Cartridge System Library Software (ACSLS)	bacula-enterprise-acsls
Aligned	bacula-enterprise-aligned
Cloud Amazon	bacula-enterprise-cloud-storage-common
Cloud Amazon Glacier	bacula-enterprise-cloud-storage-glacier
Cloud Azure	bacula-enterprise-cloud-storage-azure
Cloud Google	bacula-enterprise-cloud-storage-google
Cloud Oracle	bacula-enterprise-cloud-storage-oracle
Cloud Swift	bacula-enterprise-cloud-storage-swift
Global Endpoint Deduplication	bacula-enterprise-dedup-plugin
SAN Shared Storage	bacula-enterprise-shstore

continues on next page

	continued norm previous page
Plugin	Bacula Enterprise Package ID
Single Item Restore	bacula-enterprise-single-item-restore

Table 1 – continued from previous page

#### Linux: Installation with Package Manager - Firewall Settings

#### **Dealing with Firewalls**

If you have a firewall or a DMZ installed on your computer, you may experience difficulties contacting one or more of the Clients to back them up. This is especially true if you are trying to backup a Client across the Internet.

## **Technical Details**

If you are attempting to do this, the sequence of network events in **Bacula** to do a backup are the following:

 Console
 ->
 DIR:9101

 DIR
 ->
 SD:9103

 DIR
 ->
 FD:9102

 FD
 ->
 SD:9103

Where hopefully it is obvious that DIR represents the Director, FD the File daemon or client, and SD the Storage daemon. The numbers that follow those names are the standard ports used by **Bacula**, and the -> represents the left side making a connection to the right side (i.e. the right side is the "server" or is listening on the specified port), and the left side is the "client" that initiates the conversation.

Note, port 9103 serves both the Director and the File daemon, each having its own independent connection.

#### **Firewall Problems**

Either a firewall or a router may decide to timeout and terminate open connections if they are not active for a short time. By Internet standards the period should be two hours, and should be indefinitely extended if KEEPALIVE is set as is the case by **Bacula**. If your firewall or router does not respect these rules, you may find **Bacula** connections terminated. In that case, the first thing to try is turning on the **Heart Beat Interval** both in the File daemon and the Storage daemon and set an interval of say five minutes.

Also, if you have denial of service rate limiting in your firewall, this too can cause **Bacula** disconnects since **Bacula** can at times use very high access rates. To avoid this, you should implement default accept rules for the **Bacula** ports involved before the rate limiting rules.

## **Bacula Ports**

In order to allow the different elements of your Bacula Enterprise installation to communicate, you need to open the following ports:

- Director: 9101 (TCP)
- Storage Daemon: 9103 (TCP)
- File Daemon: 9102 (TCP)

If your database is located on another server please also open the appropriate ports:

• postgresql: 5432 (TCP and UDP)

Please set up your IPtables or Packet Filters rules to enable this communication.

Also check your SELinux or App Armor security rules to enable the following processes to run and be accessible:

- /opt/bacula/bin/bacula-dir running as user bacula
- /opt/bacula/bin/bacula-sd running as user bacula
- · /opt/bacula/bin/bacula-fd running as user root

#### Linux: Test Infrastructure after Installation

Now that Bacula components are installed, you can use **bconsole** to check that everything is working correctly:

• Run bconsole:

/opt/bacula/bin/bconsole

• Check the status of the following components:

# Director

status director

#### **File Daemon**

status client=@@client-name@@

#### **Storage Daemon**

status storage=@@storage-name@@

Be sure to replace @@client-name@@ and @@storage-name@@ with the Client and Storage respectively, that you find in the Director configuration.

#### Run a Backup Job

You can also run a quick backup and restore using bconsole:

• Run bconsole:

/opt/bacula/bin/bconsole

• Start a backup job:

run

Follow the instructions in the menu with the numbered options, and confirm.

• Use the status command to see if the job is running or has terminated successfully:

status director

• Use the *messages* command to see the **joblog**:

messages

• Quit **bconsole**:

quit

**Note:** If you are experiencing technical difficulties with your Bacula Enterprise infrastructure, feel free to open a ticket in your Customer Portal.

# 2 Bacula Enterprise Installation on Windows

**Important:** Since it is possible to install only Client on Windows, it is recommended to start with *Bacula Enterprise Installation on Linux* to install Director and Storage Daemon.

**Note:** A Windows version of the Bacula Storage daemon is also included in the Windows Installer. Its usage is dedicated to specific use case, please check with the Support Team before using it in production.

The following chapter presents the ways of possible Bacula Enterprise installation on Windows. Bacula Enterprise can be installed in many ways, however, **using Windows Installer is strongly recommended**.

# 2.1 Windows: Bacula Enterprise Installation with Windows Installer

The following article aims at explaining how to install Bacula Enterprise components (File Daemon, Storage Daemon, consoles) with the use of Windows Installer and Windows OS.

# **Prerequisites**

- Windows operating systems (OS) successfully installed.
- Access to your network and to the Internet, or more specifically, to https://www.baculasystems. com/ .
- OS updated with the latest patches from your OS vendor.
- Director installed.

**Important:** Bacula Director binary can't be installed on a Windows host, it needs to be done on a separate Unix or Linux host

#### **Install Components**

# Install FD with Windows Installer

The File Daemon will permit you to backup any data stored on the system on which it is installed via the Client resource defined in the Director.

## **Prerequisites**

The Bacula Installer on Windows supports Windows server and desktop operating systems.

General Prerequisites apply here.

## Steps

- 1. Download the .exe Windows Installer from your download area under Windows/<Bacula version>/win64/.
- 2. Run the program.

You will get to the first screen of the Bacula Windows Installer.



- 3. Click "Next".
- 4. Accept the license agreement.
- 5. Select the Automatic installation type.

🌍 Bacu	la Systems(R) Enter	orise 64 bit 14.0.3		_		$\times$
S	acula stems	Installation Typ Choose installation	e on type.			
This i	s a new installation. P	lease choose the ir	stallation type.			
Ins	allation Type					
۲	Automatic					
	The software will be ir configuration files will	istalled in the defau be generated using	ult directory "C:\F ) defaults applica	Program Files\Bac ble to most instal	ula", The lations,	
0	Custom (not recomme	nded)				
	You have more option before Bacula will wor	s, but you will have k.	to manually edit	your bacula-fd.o	onf file	
Nullsoft	install System v3-04-1					
14015010	ansean system (1970), 1		< Back	Next >	Canc	el

- 6. Click Next.
- 7. On the *Choose Components* screen, keep the default selections.

💮 Bacula Systems(R) Enterprise	64 bit 16.0.5	-		$\times$
	Dose Components noose which features of Bacula System ou want to install.	ms(R) Ente	erprise 64	bit
Check the components you wan install. Click Next to continue.	t to install and uncheck the componer	nts you do	n't want t	D
Select the type of install:	Client			$\sim$
Or, select the optional components you wish to install:	⊡-     Client       ⊡-     Server       ⊡-     ✓ Consoles       ⊕-     ✓ Plugins			
	Description			
Space required: 89.0 MB	Position your mouse over a compor description.	ient to see	e its	
Nullsoft Install System v3.04-1 —	< Back Ir	nstall	Can	icel

- 8. Click Install.
- 9. On the next screen, keep Launch Registration Wizard selected.
- 10. Click "Finish".

🌍 Bacula Systems(R) Enterpri:	se 64 bit 14.0.3	—		$\times$
	Completing Bacula Sy Enterprise 64 bit Setu Bacula Systems(R) Enterprise 64 bit your computer. Click Finish to close Setup. Launch Registration Wizard Show Readme	ystems( up : has been ir	(R)	
	< Back	Finish	Cano	el

A new window will appear, possibly behind any other open window.

11. Click on the *Register to BWeb with link/QR Code* tab.

n Bacula Backup Service Registration Wizard v6 🕹	-		$\times$
Register the computer to the Backup service			
Register to BCloud with User Name & Password Register to Bweb with link / QR code			
Use this form to register your local client with a link or a QR code generated in Bweb The link should be provided by your backup administrator. Upon successful completion the local o will be replaced with automatically generated configuration file(s).	:onfigurati	on file(s)	
Link :			
Paste Link from Clipboard Register			

- 12. Continue the registration process in FD Registration Client to Be Created in BWeb
- 13. Paste the URL to the *Link* field.
- 14. Click "Register".

If your SSL certificate is self-signed as it is by default with the BWeb installation with BIM, you will see a SSL certificate error that you can *Ignore*.

🗢 Bacula Backup Service Registration Wizard v6		—		$\times$			
Register the computer	to the Backup service						
Register to BCloud with User Name & Password Register to	Bweb with link / QR code			1			
Use this form 🐟 SSL Error(s)		×					
The host name did not match a The certificate is self-signed, an Certificate SHA-1 finger The link st 7812322f5cd4f3b9ccba49ddb22 Press Ignore to accept this error	The host name did not match any of the valid hosts for this certificate The certificate is self-signed, and untrusted Certificate SHA-1 fingerprint : 7812322f5cd4f3b9ccba49ddb22893bb8af5a1df Press Ignore to accept this error or Abort to cancel transfer						
Ignore	Abort	regi	ster_client				
Paste Link from Clipboard	Abort						
	sending registration information to	o server,	, please wa	iit			

The registration is successful.

Bacula Backup Service Registration Wizard v6		— 🗆
Register the compute	r to the Backup service	
Register to BCloud with User Name & Password Register t	o Bweb with link / QR code 🏻	
$\Box$ Use this form to register your local client with a link or a QR (	code generated in Bweb	
The link should be provid The link should be provid C:/Program Files C:/Program Files O	× completed successfully. es have been copied : /Bacula/bacula-fd.conf /Bacula/tray_monitor.conf K	ne local configuration file(s) s).
Link : Stoken=GVnxKgbFXuuEtGAGkCIgHYGlO0vRUtPujxm	6dxrKGUYebX2G9yi6buNN4W	spf1KEl&action=register_client
Paste Link from Clipboard	A	Abort
	CC	pying configuration files local

You may restart the Bacula File Daemon right from the wizard or close it.

# Result

File Daemon installed.

## **Set Firewall Rules**

Set Firewall Rules on Windows

#### **Post-installation Suggestions**

After installing **Bacula** and before running it, you should check the contents of the configuration files to ensure that they correspond to your installation. You can get to them by using: the **Start All Programs Bacula** menu item.

Finally, but pulling up the Task Manager (CTRL-ALT-DEL), verify that **Bacula** is running as a process (not an Application) with User Name SYSTEM. If this is not the case, you probably have not installed **Bacula** while running as Administrator, and hence it will be unlikely that **Bacula** can access all the system files.

#### Set Firewall Rules on Windows

1. Run the Firewall as Administrator in order to create the inbound rules to the Bacula File Daemon.

≡	Best m	natch						
ŵ		Windo Desktor	ws Firev	wall with Advance			ecurity	/
		besitop	dbb	Run	as adn	ninistra	tor	
				Run	as a di	fferent	user	
				Ope	en file lo	ocation		
				Pin	to Start	t		
				Pin	to taski	bar		
۵¢	DF	ŝ	ß			□1	11	
	firewa	all						
-	Σ		e	O <sub>o</sub>	1			

An inbound rule must be created to accept all incoming connection to port TCP 9102. You may add at a later stage once Bacula File Daemon will be installed that this rule should permit inbound connection to port 9102 only to bacula.exe under C:\Program FilesBaculabacula.exe

2. Click on Inbound Rules then New Rule on the right pane.

Ē	•											 
P	Windows Firewall with Advance	d Security									-	×
	ile Action View Help											
•	• 🔶 🙇 📷 🗟 📓											
	Windows Firewall with Advance	Inbound Rules									Actions	
L	Cutbound Rules	Name	Group	Profile	Enabled	Action	Override	Program	Local Address	Re ^	Inbound Rules	-
	S Connection Security Rules	🔮 AlUoyn Router (TCP-In)	AllJoyn Router	Domai	Yes	Allow	No	%System	Any	Aı	🗱 New Rule	
	Nonitoring	🔮 AlUoyn Router (UDP-In)	AllJoyn Router	Domai	Yes	Allow	No	%System	Any	Ar	V Filter by Profile	•
L		BranchCache Content Retrieval (HTTP-In)	BranchCache - Content Retr	All	No	Allow	No	SYSTEM	Any	Ar		
L		BranchCache Hosted Cache Server (HTT	BranchCache - Hosted Cach	Ali	No	Allow	No	SYSTEM	Any	At	Y Filter by state	'
L		BranchCache Peer Discovery (WSD-In)	BranchCache - Peer Discove	Ali	No	Allow	No	%system	Any	Lc	Filter by Group	•
		🔮 Cast to Device functionality (qWave-TCP	Cast to Device functionality	Private	Yes	Allow	No	%System	Any	PI	View	•
1		🔮 Cast to Device functionality (qWave-UDP	Cast to Device functionality	Private	Yes	Allow	No	%System	Any	PI	C Patrick	
L		🔮 Cast to Device SSDP Discovery (UDP-In)	Cast to Device functionality	Public	Yes	Allow	No	%System	Any	Ar	Merresit	
÷		🔮 Cast to Device streaming server (HTTP-St	Cast to Device functionality	Public	Yes	Allow	No	System	Any	PI	📑 Export List	
1		🔮 Cast to Device streaming server (HTTP-St	Cast to Device functionality	Domain	Yes	Allow	No	System	Any	Ar	👔 Help	
		🔮 Cast to Device streaming server (HTTP-St	Cast to Device functionality	Private	Yes	Allow	No	System	Any	Lc		
		🔮 Cast to Device streaming server (RTCP-St	Cast to Device functionality	Public	Yes	Allow	No	%System	Any	PI		
L		🔮 Cast to Device streaming server (RTCP-St	Cast to Device functionality	Domain	Yes	Allow	No	%System	Any	Ar		
L.		🔮 Cast to Device streaming server (RTCP-St	Cast to Device functionality	Private	Yes	Allow	No	%System	Any	Lc		
		🥝 Cast to Device streaming server (RTSP-Str	Cast to Device functionality	Private	Yes	Allow	No	%System	Any	Lc		
Ł		🔮 Cast to Device streaming server (RTSP-Str	Cast to Device functionality	Domain	Yes	Allow	No	%System	Any	Ar		
I.		🥝 Cast to Device streaming server (RTSP-Str	Cast to Device functionality	Public	Yes	Allow	No	%System	Any	PI		
U.	1	n Cartha Davies HDaD Grante (TCD Ja)	Carleta Davies functionality	D. delia	Ver	Allow	8Lo	Contracts	A	ni	I	

- 3. Choose *Port* as a *Rule Type*.
- 4. Under Protocol and Ports, choose TCP and set Specific local ports to 9102.
- 5. Choose Allow the connection under Action.
- 6. Choose to apply the rule to the adequate profile, usually *Domain* and *Private*.
- 7. Set the name to Bacula-fd for example. Click on Finish.

# 2.2 Windows: Bacula Enterprise Installation with BIM

The following article aims at explaining how to install Bacula Enterprise components (Director, File Daemon, Storage Daemon, bconsole) on one host with the use of Bacula Installation Manager and Windows OS. Bweb installation here is optional, however, it is recommended.

#### **Prerequisites**

 Access to your network and to the Internet, or more specifically, to https://www.baculasystems. com/

## Steps

#### Windows: Download BIM

1. Download BIM:

a. In a browser, type:

https://www.baculasystems.com/ml/bee\_installation\_manager.exe

or

b. In a PowerShell, type:

#### Windows: Install Components

The following article aims at presenting the reader with information on how to install specific Bacula Enterprise components.

Important: Now, we are installing Bacula Enterprise, so it is vital to remember that:

• A general command to install Bacula components is ./bee\_installation\_manager, which installs File Daemon by default. If you wish to install other components, plugins or modify the command, use ./bee\_installation\_manager --help to list all the possible options.

Read more:

#### Windows: Install File Daemon (Client)

The following article aims at presenting the reader with instructions on how to install a File Daemon (Client), how to install chosen FD plugins, and manage firewall rules.

The File Daemon allows backing up any data stored in the system on which it is installed via the Client resource defined in the Director.

**Important:** If you wish to modify arguments, run: bee\_installation\_manager --help.

## **Prerequisites**

The Bacula Installation Manager (BIM) can be used on any Windows version starting with 2012 R2. General Prerequisites apply here.

Also:

- Director already installed.
- Bweb installed on the same host as the Director.

#### Steps

- 1. Download BIM.
- 2. Open bee\_installation\_manager.exe with elevated privileges.

Note: Check your antivirus settings to prevent it from blocking the software download.

3. Confirm the Client and plugins installation with Y.

```
Installation of File Daemon (Client) and associated plugins
Proceed with Installation of Director and associated plugins? [Y/n] Y
```

4. Provide your download area address.

**Note:** To get your Download Area URL, go to your Customer Portal, click Your Subscription from the left menu, scroll down to the very bottom. You may copy your Download Area from Your Download Area section.

Please enter your Download Area URL. This information can be found in your. →Customer Portal in the "Your Subscription" menu : https://www.baculasystems.com/dl/@Gcustomer-id@@

5. Choose the version to be installed.

**Important:** The version of the File Daemon must not be higher than the version of the Bacula Director.

```
Available versions found on your Download Area for your current operating.

→ system [nt]:

1 : 11.0.6 2 : 12.0.5 3 : 12.2.5 4 : 12.4.4 5 : 12.6.5

6 : 12.8.4 7 : 14.0.7 8 : 16.0.3

Please, select the version of your Bacula Director ('16.0.3' by default) :
```

6. Choose the plugins to be installed (optional).

7. Confirm the process with Y.

Along with the File Daemon (Client) installation, you must proceed to register the File Daemon via Bweb. You must have the Director and BWeb installed for this. See File Daemon (Client) Creation and Registration.

8. Proceed with Managing Firewall rules.

**Note:** Choose the default options proposed for the firewall setting, unless the policies of your company require different rules.

9. Confirm your Director address.

```
A potential Director address is detected and will be used by default: 10.0.XX.

→XXX

Press Enter to use 10.0.XX.XXX, or type a new Director address or type * to.

→accept any incoming

address [10.0.XX.XXX|dir-addr|*] :
```

10. Confirm the operations with  $\Upsilon$ .

```
Ready to process the following operations
```

(continues on next page)

(continued from previous page)

```
[X] Installation of : Bacula
[X] Registration of File Daemon (Client) via BWeb
[X] Managing Firewall rules
Continue or (r)etry? [Y/n/r]
```

\_\_\_\_\_

11. Confirm the process with Y.

#### **Result:**

Bacula remote File Daemon is installed and registered in the Director.

## **Post-installation Suggestions**

After installing **Bacula** and before running it, you should check the contents of the configuration files to ensure that they correspond to your installation. You can get to them by using: the **Start All Programs Bacula** menu item.

Finally, but pulling up the Task Manager (CTRL-ALT-DEL), verify that **Bacula** is running as a process (not an Application) with User Name SYSTEM. If this is not the case, you probably have not installed **Bacula** while running as Administrator, and hence it will be unlikely that **Bacula** can access all the system files.

# Verify the Access to a Newly Installed Client

- 1. Go to BWeb.
- 2. Click "Clients" -> "Client Overview".
- 3. Select the newly installed Client and click "Status".

Bacula	=								dmin 🔻
BWeb Management Console							Main → Cl	ients ⇒ Client Ov	erview
C Restore Run Backup	Overview								
Search Q			Client Ve	unknown 16.0.3	Client Os	x86_64- rterprise unknown			
😵 Main Dashboard			Co Co	2	,				
🔀 Configuration			Ven						
🏘 Jobs									
🖵 Clients									
😵 Client Overview									
+ Add New Client	Clients								
📚 Groups	: Name ▲	Select	Desc			Auto Prune	File Retention	Job Retention	Tags
Microsoft 365	aga-Dir-BWeb-BIM-ts	st-fd 🗹	16.0.3 (09Mar23) x86_64-	redhat-linux-gnu-ba	cula-enterprise,redhat,(Sky	1	60 days	180 days	⊘.
	aga-FD-BIM-tst-fd					1	60 days	180 days	∕?₊
Security Center	bp-lin2023-mssql-clie	ent 🗆				1	60 days	180 days	₊</td
🕒 Statistics	🕀 Last Jobs	rent Jobs 🕀	View Groups Edit Groups	Set Bandwidth	Set Debug	Delete	Edit Netv	rork Test	
									+

You should reach the following page:

lient Status			aga-Dir-BWeb- V 3 minutes V
Clien	t: aga-Dir-BWeb-BIM-t	;t-fd	
Version:	16.0.3 (09 March 2023)	Job Duration:'aga-Dir-BWeb-BIM-tst-fd'/all Job Ra	te : 'aga-Dir-BWeb-BIM-tst-fd'/all
Uname:	x86_64-redhat-linux-gnu-bacula enterprise,redhat,(Sky	0 min 76.3 MiB	aga-
Client Started:	2023-03-23 05:12:12	0 min DirrConfigs 57.2 MiB	DirrCatalog
Running Jobs:	0/1	DirLinuxEtc	DirLinuxEtc
No. Jobs:	61	0 min	DirrConfigs
No. Bytes:	113.7 MB	0 min 19.1 MiB	
No. Files:	4494	0 min	
No. Errors:	0	Apr Apr Apr Apr Apr Apr 10 11 12 13 14 15	Apr Apr Apr Apr Apr Apr 10 11 12 13 14 15
File/Job Retention:	2 months / 6 months	Job status rating JobBytes	sum : 'aga-Dir-BWeb-BIM-tst-fd'/all
AutoPrune:	Yes	28.6 MIB	
FIPS:	No	successfully 23.8 MiB	8
Debug:	Disabled	19.1 MIB	
Plugins:		별 14.3 MiB	
	1	9.5 МІВ	
	bpipe	4.8 MIB	
		8	Apr Apr Apr Apr Apr
			10 11 12 13 14 15 +
🔻 Set Bandwidth 📃	Set Debug 📄 Edit 🛑 Disable Client	Reset zo	om

If you can read the Client name and its Version, then it means you can start backing up and restoring this Client.

# **3 Bacula Ansible Collection with Ansible Galaxy**

Bacula Enterprise is proud to offer a fully integrated solution with Ansible in order to deploy Bacula Enterprise and very soon Bacula Community components.

Ansible Collections are a new and flexible standard to distribute content like playbooks and roles. This new format helps to easily distribute and automate your environment. These pre-packaged collections can also be modified to meet the needs of your environment, especially by using templates and variables. Our Bacula Enterprise Ansible Collection will help you to easily deploy Directors, Clients, and Storages in your environment.

Since Bacula Enterprise version 12.6.4, a new option was introduced to the BWeb configuration split script to allow the configuration to be "re-split" when deploying new resources with the Bacula Enterprise Ansible Collection playbooks. Our collection will create configuration files that can be integrated to your current BWeb configuration by using the tests/re-split-configuration.yml playbook provided in the collection. This is useful to know and use when BWeb is being used to manage your Bacula Enterprise environment. We strongly recommend to use the BWeb configuration split script if you use Bacula Enterprise Ansible Collection to deploy new Clients and Storages and you use BWeb to manage configuration files, because it will verify that all the resources being added to the current BWeb structure are correctly defined.

Bacula Enterprise plugins can also be deployed using the Ansible Collection. Please adapt the templates provided to take advantage of the specific configuration needs of your environment. More information about Ansible Galaxy Collections may be found in a blog post called "Getting Started With Ansible Content Collections" available on the official Ansible website here: https://www.ansible.com/ blog/getting-started-with-ansible-collections

The Bacula Enterprise Ansible Collection is publicly available in Ansible Galaxy (https://galaxy.ansible. com/baculasystems/bacula\_enterprise).

# 4 Bacula Enterprise Setup Test

In the following article, the reader is presented with initial actions to take after installation, such as checking the status of Bacula daemons, testing the network, and verifying your configuration using BWeb.

# 4.1 Check the Status of Bacula Daemons

In the following article, the reader is presented with information on where and how to check the status of Bacula daemons: Director, File Daemon (Client), Storage Daemon.

#### **Check Director Status**

The following article presents information on where and how to check the status of Bacula Director.

The overall status of the Bacula Director can be seen at any time on the Main Dashoard page of BWeb.

Clients				Catalog Si	re			Total Byte	s Stored on 1	. Media		Total Jobs		
	N	More info ⊖			More	info 🤿			Moi	re info 🕄			More inf	fe
Running J	obs										Statistics			
Jobid 🔺		Client	Job Name	Level	Start Time		Duration	Status	Selec	rt	23.8 MIB	Jok	size	
(1) View	(Cano	el 🔴 Stop							Select/U	Inselect All	19.1 MB			
	-										14.2 MD			
										2	0.5 MiD			
										7	9.5 MIB 4.8 MIB			
										2	9.5 MB 4.8 MB	08:	00:00	
Last Jobs	[limited to 1	0)		Comment	FilePet	L suel	Fed Time		Duration	Jah Silas	9.5 MB 4.8 MB	08:	00:00	
Jobid 365	Client	0) Job Name BackupCat	talog	Comment	FileSet	Level	End Time 2022-03-25 09:09:33		Duration 00:00:01	Job Files	9.5 MB 4.8 MB Job Bytes 205.6 KiB	08: Avg Speed 0.20 MiB/s	Errors 0	
Jobid 365 366	Client Client Client1	0) Job Name BackupCat BackupClie	alog	Comment	FileSet Catalog Full Set	Level F	End Time 2022-03-25 09:09:33 2022-03-25 09:10:20		Duration 00:00:01 00:00:03	3 Job Files 1 25	9.5 MB 4.8 MB 205.6 KIB 22.5 MB	08: Avg Speed 0.20 MiB/s 7.51 MiB/s	Errors 0 0	
Jobid 365 366 367	Client1 Client1	o) Job Name BackupCat BackupClie BACULA_/	talog ent1 ADMTASK	Comment	FileSet Catalog Full Set	Level F F	End Time 2022-03-25 09:09:33 2022-03-25 09:10:20 2022-03-25 09:10:43		Duration 00:00:01 00:00:03 00:00:00	<b>Job Files</b> 1 25 0	9.5 MB 9.5 MB 4.8 MB 205.6 KIB 22.5 KIB 22.5 KIB 0 B	08: Avg Speed 0.20 MiB/s 7.51 MiB/s 0.00 MiB/s	00:00 Errors 0 0 0 0	
Jobid 365 366 367 368	Client1 Client1 Client1 Client1 Client1	0) Job Name BackupCat BackupClie BACULA_/ BackupClie	alog ml1 ADMTASK	Comment	FileSet Catalog Full Set	Evel F F -	End Time 2022-03-25 09:09:33 2022-03-25 09:10:20 2022-03-25 09:10:43 2022-03-25 09:10:47		Duration 00:00:01 00:00:03 00:00:00 00:00:01	<b>Job Files</b> 1 25 0 0 0	9.5 MB 9.5 MB 4.8 MB 205.6 KIB 205.6 KIB 22.5 MB 0 B 0 B	08: Avg Speed 0.20 MiB/s 7.51 MiB/s 0.00 MiB/s 0.00 MiB/s	Errors           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0	

This page contains the following information:

- Number of configured Clients (File Daemons)
- Size of the Catalog database
- · Total amount of back up data stored
- Total number of Jobs in the Catalog
- List of currently Running Jobs
- Statistics of backed up data quantity over time
- List of 10 Last Jobs run.

If you can access and see the contents of the *Main Dashboard* page, you can be sure that Bacula Director is running and ready to be managed and configured.

## **Check File Daemon (Client) Status**

The following article presents information on where and how to check the status of Bacula File Daemon (Client).

The status of the Bacula Clients (File Daemons) can be verified by navigating to *Clients -> Client Overview*, then selecting the appropriate Client (check the box in the *Select* column) and clicking on the *Status* button.



This page contains the following information:

- The name of the Client followed by information about it retrieved from the Catalog database
- List of Bacula File Daemon Plugins installed (bpipe plugin shown in the image)
- Various statistical information graphs that depict Job Duration, Job Rate and JobBytes
- List of currently Running Jobs on this Client
- List of last 10 Terminated Jobs

The *Client Status* page will be refreshed automatically. The Client resource and the refresh interval can both be changed using the two drop-down menus in the top right corner of the screen.

You will be able to quickly verify whether or not a Bacula File Daemon is running and is accessible from the Bacula Director if you can access and see the content of the appropriate *Client Status* page.

#### **Check Storage Daemon**

The following article presents information on where and how to check the status of Bacula Storage Daemon.

The status of the Bacula Storage (Storage Daemon) can be accessed by navigating to *Storage and Media* -> *Storage Overview* and then selecting the appropriate Storage from the drop-down list.

Bacula	=						0 ¢
BWeb Management Console						Main →	Storage and Media → Storage Overview
C Restore	Set Debug	twork Test C Storage: Fiel	✓ Refresh: 30 seconds ✓ March 2022) Liname: x86_6	Device: Media Type:	Device T     Device T     Device T	ype: Vertice Status: Vertice S	Y Speed: 0.00 MiB/s
Search Q	Uptime: 0 min	FIPS: No Average Write Sp	eed: I 0.00 MiB/s	r rearras ande grid bassing enterprise r	cultur (colley   rianni	ing coop. o	
🚯 Main Dashboard						Device Details:	
💥 Configuration	HERE .					Device Type:	File
nº lohe		Autochanger: FileChgr1				Media Type:	File1
-						Device Status:	Not running (Idle)
L Clients						Space (Free/Total):	34.81 GB / 36.97 GB
Microsoft 365	Device Name	Status	Loaded	Volume Name	Slot	Running Jobs/Max. Job	os Speed
📾 Storage and Media	FileChgr1-Dev1					0/5	
🙆 Media Overview	FileChgr1-Dev2					0/5	
Rool Overniew						Device Details:	
D FOOI OVERVIEW	(Contraction)					Device Type:	File
22 Storage Overview		Autochanger: FileChgr2				Media Type:	File2
💩 Deduplication (GED)						Device Status:	Not running (Idle)
🕂 Add Media						Space (Free/Total):	34.81 GB / 36.97 GB
+ Add New Storage	Device Name	Status	Loaded	Volume Name	Slot	Running Jobs/Max. Job	os Speed
Re Locations	FileChgr2-Dev1					0/5	
	FileChgr2-Dev2					0/5	
la Tapes						Device Details:	
Security Center						Device Type:	File
Statistics		Device: Single Device				Media Type:	File2
						Device Status:	Not running (Idle)
	• •					Space (Free/Total):	34.81 GB / 36.97 GB
	Device Name▲	Status	Loaded	Volume Name	Slot	Running Jobs/Max. Job	os Speed
	FileDisk					0/5	
							(+

This page contains the following information:

- Basic information and statistical data retrieved from the Catalog database about the Bacula Storage Daemon on which the selected Storage resource resides.
- List of all Storage resources (Autochangers or single Devices) that reside on the Bacula Storage Daemon with list of Device resources belonging to each of them with basic information about each.

The *Storage Overview* page will be refreshed automatically. The Storage resource and the refresh interval can both be changed using the drop-down menus in the header row.

In addition, the header row offers the ability to filter the output shown on the *Storage Overview* page by *Device*, *Media Type*, *Device Type* and *Device Status*.

Also, by clicking on the picture icon that belongs to specific Storage resource (Autochanger or single Device) an additional *Autochanger/Device Details* page will be shown.

Bacula	=												0
BWeb Management Console											Main ⇒ S	torage and I	Media ⇒ Storage Over
C Restore	Set Debug	Network Test	orage: File	1 *	Refresh: 30 sec	ands Y Device:	× N	ledia Type:	V Devic	е Туре:	✓ Device Status:	···· ¥	
Conroh O		Version	n: 14.0.3 (	09 March 2	022) Unan	ne: x86_64-redhat-lin	nux-gnu-bacula-	enterprise redhat	(Core) Ru	nning Jobs: 0	Total Average Devices S	peed: 0.00	) MiB/s
	Uptime: 3 mins	FIPS: NO AV	Autocha	nger Details	: FileChar1				×	1			
2 Main Dashboard											Device Details:		
Configuration	SEE .			Ru	nning Status: No	ot running (Idle)					Device Type:	File	
lohs	EEE.	Autochanger: File		De	vice:	~	Slot				Media Type:	File1	
					ounto Umour						Device Status:	Not runnin	g (idle)
J Clients				U i	•	· · · ·					Space (Free/Total):	34.81 GB	36.97 GB
Microsoft 365	Device Name	Status	Device 1	Vpe:	File	Device					Running Jobs/Max. Jobs		Speed
Storage and Media	FileChgr1-Dev1		Media T	/pe:	File	1					0/5		
Martia Overview	FileChgr1-Dev2		Running	Jobs:	No	running jobs (Idle)					0/5		-
			Running J	obs:							Device Details:		
20 Pool Overview	STATISTICS.		Jobida	Level	Job Name	Average Speed	Cur	ent Speed	View		Device Type:	File	
Storage Overview		Autochanger: File	Terminate	d Jobs:							Media Type:	File2	
& Deduplication (GED)		-	Jobid	Level Jo	b Name		Star	Time	Status		Device Status:	Not runnin	g (Idle)
+ Add Media			359	F Cli	ient12Copy.2022-0	3-03_15.59.18_08	202	2-03-03 15:59:20	0		Space (Free/Total):	34.81 GB	36.97 GB
			360	- Re	estoreFiles.2022-0	3-03_16.00.08_09	202	2-03-03 16:00:10	<b>O</b>				
+ Add New Storage	Device Name	Status	361	F Cli	ient12Copy.2022-0	03-04_07.44.23_11	202	2-03-04 07:44:25	0		Running Jobs/Max. Jobs		Speed
💱 Locations	FileChgr2-Dev1		362	- Co	py.2022-03-04_07	7.44.34_12	202	2-03-04 07:44:36	0		0/5		
🗟 Tapes	FileCrigr2-Dev2		363	F Cli	ient12Copy.2022-0	3-04_07.44.34_13	202	2-03-04 07:44:36	0		0.5		-
			364	F Ba	ckupClient1.2022	03-21_09.33.46_35	202	2-03-21 09:33:49	<b>O</b>		Device Details:		
Security Center	• •		365	F Ba	ickupCatalog.2022	2-03-25_09.09.29_16	202	2-03-25 09:09:32	0		Device Type:	File	
Statistics		Device: Single De	366	F Ba	ckupClient1.2022	03-25_09.10.14_34	202	2-03-25 09:10:17	<b>O</b>		Media Type:	File2	
			368	I Ba	ckupClient1.2022	03-25_09.10.44_53	202	2-03-25 09:10:46	0		Device Status:	Not runnin	g (Idle)
	•		369	F Ba	ckupCatalog.202	2-03-25_09.10.54_01	202	2-03-25 09:10:57	<b>O</b>		Space (Free/Total):	34.81 GB	36.97 GB
	Device Name▲	Status			Loaded		Volume Name		Slot	_	Running Jobs/Max. Jobs		Speed
	FileDisk	-									0/5		-

This Autochanger/Device Details pop-up window contains the following information:

- Basic information about the Autochanger/Device resource
- · Autochanger/Device manipulation commands
- List of currently Running Jobs
- List of last 10 Terminated Jobs.

You will be able to quickly verify whether or not Bacula Storage Daemon is running and is accessible from the Bacula Director if you can access and see the content of the appropriate *Storage Overview* page.

# 4.2 Test the Network

The following article presents information on how to perform the network test.

In order to estimate the network throughput during a backup job execution, it is possible to run a network test.



The network test can be initiated from both the *Client Overview* and *Storage Overview* pages by clicking on the *Network Test* button.



The test itself is simple to run. All that it is required is to set the appropriate *Client* and *Storage*, and optionally modify the *Bytes to Transfer*. When all options are set the test is initiated by clicking on the *Run Test* button.



When the test completes, the network throughput measurements for Client to Storage and Storage to Client communication directions will be shown. The network test can be used to verify that the Client and the Storage resources are able to communicate over the network.

# 4.3 Verify Job Status and Configuration

The following article presents verification techniques to verify job execution status, and gives advice on the choice of adequate job-related resource definitions to fulfill the intended use case.

## **Job Overview**

The list of latest jobs run can be accessed by navigating to *Jobs -> Job Overview*.

Bacula	=														0 ¢
BWeb Management Console								×					Mai	n ⇒ Jobs ⇒	Job Overview
C Restore Run Backup	0 Jobs runnir			a a	O Jobs with Erro	rs or Warnin	gs	30 Jobs	<b>)4</b> s finished OK			<b>O</b> Jobs finished in E			8
Search Q		Ма	re info 🔹			More in	nfo <b>O</b>		м	ore info 🙃			More info	െ	
🕰 Main Dashboard															
🔀 Configuration	Filter														
🛱 Jobs															
Job Overview	Level			Ime Period		_	Num 10	ber of Items		obs Nothing colocted	-	C App	ly filters		
+ Add New Job	Any		-	1 week		•	Job	Type		Final Selected	÷				
Missing John	Any		-	ance 2022-03-2	22 11:20:37		A	ny	-	D EXClude 5005					
s missing Jobs	Pool			6			Tag			Nothing selected					
PP Next Jobs	All		•	2022-03-2	29 12:20:37										
Clients															
Microsoft 365	Last Jobs (si	ince 2022-03-	22 11:20:37 and during 7	days limit	ed to 100)										
📾 Storage and Media	i lobid e	Client	Job Namo		Commont	EiloCot	Louol	End Time	Duration	Job Files	Job Butos	Aug Encod	Errore	Tage	Status
Security Center	365	Client1	BackupCatalon		Comment	Catalon	E	2022-03-25-09-09-33	00:00:01	Job Files	205 6 KiB	0.20 MiB/s	0	/3	Status
Statistics	366	Client1	BackupClient1			Full Set	F	2022-03-25 09:10:20	00:00:03	25	22.5 MiB	7.51 MiB/s	0	0	ă l
	367	Client1	BACULA_ADMTASK					2022-03-25 09:10:43	00:00:00	0	0 B	0.00 MiB/s	0	0	0
	368	Client1	BackupClient1			Full Set	1	2022-03-25 09:10:47	00:00:01	0	0 B	0.00 MiB/s	0	0.	0
	369	Client1	BackupCatalog			Catalog	F	2022-03-25 09:10:59	00:00:02	1	220.0 KiB	0.11 MiB/s	0	∅.	0
	370	Client1	BackupClient1			Full Set	1	2022-03-25 23:05:03	00:00:00	0	0 B	0.00 MiB/s	0	∅.	0
	371	Client1	BackupCatalog			Catalog	F	2022-03-25 23:10:05	00:00:01	1	226.8 KiB	0.22 MiB/s	0	∅.	9
	372	Client1	BACULA_ADMTASK					2022-03-26 09:00:10	00:00:00	0	0 B	0.00 MiB/s	0	.</th <th>0</th>	0
	373	Client1	BackupClient1			Full Set	1	2022-03-26 23:05:03	00:00:00	0	0 B	0.00 MiB/s	0	<₽.	0
	374	Client1	BackupCatalog			Catalog	F	2022-03-26 23:10:04	00:00:01	1	236.3 KiB	0.23 MiB/s	0	.</th <th>0</th>	0
	375	Client1	BACULA_ADMTASK					2022-03-27 09:00:11	00:00:00	0	0 B	0.00 MiB/s	0	<2.	0
	376	Client1	BackupClient1			Full Set	D	2022-03-27 23:05:03	00:00:00	0	0 B	0.00 MiB/s	0	<2,	° (†
	377	Client1	BackupCatalog			Catalog	F	2022-03-27 23:10:03	00:00:00	1	245.8 KiB	0.00 MiB/s	0	(). /B	
	378	Client1	BACULA_ADMTASK			Evil Cat		2022-03-28 09:00:07	00:00:00	0	0.0	0.00 MiB/s	0	<2 79	0

The list of jobs shown can be filtered based on different criteria and sorted differently by clicking on different header row fields.

The detailed information about a specific job execution instance can be seen by clicking on the status icon located in the *Status* column inside the specified job's row.



The detailed joblog is shown on the Job Information page. Apart from the joblog, there is a row of buttons that can be used in order to view additional information or execute certain actions.

# **View Fileset**

By clicking on the *View Fileset* button, a page is displayed which shows the content of the File Set definition and lists all the included and excluded backup paths.

	BWeb - Bacula Web Interface - Chromium			_ ×
🔐 0008955:[RZG-55164-465]"Lei 🗙   🗙 proximox02 - Proximox Virtual i 🗙 🏠 Biweb - Bacula web Interface 🗴 🗍				~
← → C ▲ Not secure   as-bb-cos7-tst:9180/cgi-bin/bweb/bweb.pl?&fileset-Full%20Set&action-fileset_view				🖈 🛤 🗯 😫 E
🛗 Apps 🤮 Mantis 🦒 Main - Bacula Sys 🐱 Intranet 🦒 Customer Portal 🗙 proxmox02 - Prox 💽 Odoo	🥕 DL 🔥 myBacula 👙 Files - Bacula Sys 🧬 OpenPro	ject 🔇 TestLink-PROD 🦒 TEST - bsysdoc d	🔥 GitLab - Docume 🧕 Bacula Systems	» 🎛 Reading list
				<b>@</b> 4
BWeb Management Console				Main
Restore Ran Backup				
Search Q Not/bacula/bin				
Amin Dashboard G What is excluded:				
Configuration				
Clients				
Microsoft 365				
Storage and Media				
Security Center				
Statistics				

This page can be used in order to verify the actual configuration introduced by the Fileset resource definition.

# **View File List**

By clicking on the *View File List* button, a page is displayed which shows a list of full file names that have been backed up by the specific job execution.



This page can be used in order to verify the exact content of the backed up data set.

# **Next Jobs**

The list displaying the next scheduled time of execution of every job defined can be accessed by navigating to *Jobs -> Next Jobs*.

Bacula	=								0 ¢
BWeb Management Console								Main ⇒ Jobs =	Next Jobs
C Restore	Next Jobs								
	Scheduled -		Level	Туре	Priority	Name	Volume	e Select	
Search	2022-03-30 09:00:00			Admin	12	BACULA_ADMTASK			
🚯 Main Dashboard	2022-03-29 23:10:00		Full backup	Backup	11	BackupCatalog	Vol-000	01 -	
X Configuration	2022-03-29 23:05:00		Incr (since last backup)	Backup	10	BackupClient1	Vol-000	01 🗌	
🗘 Jobs	🤹 Run Now 🔴 Di	sable Q View Jobs							
D Job Overview									
+ Add New Job									
Missing Jobs									
► Next Jobs									
Clients									
Microsoft 365									
📾 Storage and Media									
Security Center									
Statistics									
									<b>A</b>

This page can be used to verify the Schedule resource definition by presenting the next time and in what backup level the specific Job resource instance is scheduled to be executed in.

# 5 File Daemon (Client) Registration

The following article describes how to use BWeb in order to generate an Automatic Configuration URL that is pushed to BIM or to the Windows Registration Wizard in order to register a new Client in BWeb with its configuration files.

This guide applies to Linux and Windows clients.

# 5.1 FD Registration - Client Already Created in BWeb

# Steps

1. From the left menu of BWeb, click "Configuration" -> "Workset" -> "File Daemon" -> "FDs Overview".



2. Select the Client to register and click "Push".

FileDaemons			Search		Q
Name			Selec	tion	
aga-Dir-BWeb-BIM-tst-fd			0		
aga-FD-BIM-tst-fd			0		
bp-lin2023-mssql-client			۲		
🔂 Add 📄 Edit Defaults	Edit FileDaemon	Delete FileDaemon	Push	🧔 Restart	
🕀 Show Configuration					

3. From the drop list, select the "QR Code/Registration Wizard".

This assistant can auto on your remote compo	omatically co onent host u	onfigure the compone sing SSH or SMB.	nt configuration	file located
Push Method:	QR Code /	Registration Wizard 🗸		
Token validity period:	10 mins	*		

- 4. Click "Next".
- 5. Scan the QR code or click on "Copy to clipboard" to copy the URL.

Push Configuration to bp-win2016-mssql-client

URL to copy to the Installation Manager script: 📋 Copy to clipboard

QR Code to scan for your Android installation:



6. Paste it into the bee\_installation\_manager wizard or the Windows installer registration wizard.

Once copied to the clipboard, go back to WindowsInstallFD or LinuxInstallFileDaemon in order to paste it in one of these executables.

# 5.2 FD Registration - Client to Be Created in BWeb

# Steps

- 1. Click on the + button in BWeb (bottom right corner) and choose "Add Client".
- 2. Set a name, and optionally a description for this new Client.

Configure a new Client r	esource 1/4	
This assistant will guide	you in the creation of a new	w Client resource.
Please, choose a name of definitions, so it should FD plus a '-fd' at the end	for your Client resource. Th be meaningful. We recomm d, as in 'localhost-fd'.	is name will be used in all Job end using the hostname of your
Client Name:	bp-lin2023-mssql-client	*
Description:		
		🔀 Cancel 📀 Next

- 3. Click "Next".
- 4. On the next screen, keep the default communication type: "Standard encrypted communication".

Configure new Client resource bp-lin2023-mssql-client 2/4
Please select communication type which you want to use to communicate with Client/FileDaemon component.
You can choose between standard communication with encryption, encrypted communication with TLS with using private keys and certificates or standard communication without encryption.
Select Client Communication Type:
Standard encrypted communication
O Advanced encrypted communication with private keys and certificates
O Standard not encrypted communication
😢 Cancel 😞 Next

- 5. Click "Next".
- 6. Choose the OS Type (Linux or Windows) according to the operating system of the new client target. The Password can be left as proposed. Fill in the Address with the FQDN, the hostname or the IP address of the new client. The Port should be left as it is.

Configure new Client resource bp-lin2023-mssql-client 3/4						
Please, specify who Password field is a	ere the Director should conn utomatically generated with	ect to use th a random pa	e Client resource. The assword.			
OS Type:	Linux/Unix	× *				
Password:	•••••	* 🕚				
Director can connect	ct to the Client (Normal)					
Address	aga-FD-BIM-tst		*			
Port:	9102		*			
O Client must connect	to the Director (Client behind NAT	)				
Create Restricted	Console Access		🗙 Cancel 🖱 Nevt			

8. Click "Next".

9. On the next screen, click on deploy in order to access the unique identifier to register the File Daemon.

Configure new Client resource bp-lin2023-mssql-client 4/4
Now you can create a backup Job for this Client. (Note that as the Client is new, the workset is not commited and the Director is not reloaded, so when editing the FileSet, it will not be possible to browse files for this Client)
Or deploy this newly created FileDaemon Resource.
Or view the bacula-fd.conf for this newly created FileDaemon Resource.
Or edit the Client Director Resource.
🔂 Add a Next Client Resource 🥑 OK

10. If Autocommit is disabled, commit your changes created by the new Client wizard if - click Next on the screen.

#### Push Configuration to bp-lin2023-mssql-client

The component that you are trying to push is not committed to your production configuration.

Date	Author Component	Resource		Action
2023-04-13 02:29	FileDaemon bp-lin2023- mssql-client	Director	aga-Dir-BWeb-BIM- tst-dir	Create
2023-04-13 02:29	FileDaemon bp-lin2023- mssql-client	Director	bp-lin2023-mssql- client-mon	Create
2023-04-13 02:29	FileDaemon bp-lin2023- mssql-client	Messages	Standard	Create
2023-04-13 02:29	FileDaemon bp-lin2023- mssql-client	FileDaemon	bp-lin2023-mssql- client	Create

If you want to commit and push the configuration, click on Next

Please note, that the Director configuration will be reloaded automatically.

- 🔀 Cancel 🔁 Next
- 11. Select QR Code/Registration Wizard, keep the Token validity period to 10 min.

Push Configuration to I	əp-lin2023-mssql-client
This assistant can auto on your remote compo	omatically configure the component configuration file located onent host using SSH or SMB.
Push Method:	QR Code / Registration Wizard $ {\rm \backsim}$
Token validity period:	10 mins *
	Cancel S Next

12. Click "Next".

13. On the next screen, click "Copy to clipboard".



Once copied to the clipboard, go back to WindowsInstallFD or LinuxInstallFileDaemon in order to paste it in one of these executables.

# 6 Bacula Enterprise Installation in Air-Gapped Environment

**Note:** The guidance provided in this document offers general recommendations for setting up Bacula Enterprise in air-gapped environments. Due to the wide variability in organizational infrastructure, security policies, and operational goals, exact instructions may not be universally applicable.

In secure environments where network isolation is critical, installing and maintaining software requires a different approach. Air-gapped systems—those disconnected from the internet or external networks—demand careful planning to ensure software availability and integrity.

This guide outlines the recommended methods for installing Bacula Enterprise in an air-gapped environment and includes steps for mirroring repositories and managing dependencies for both RPM- and Debian-based Linux systems.

# 6.1 Overview of Air-Gapped Installation Options

There are two main approaches to installing Bacula Enterprise in an air-gapped environment:

- Repository Mirroring:
  - Mirror the Bacula Enterprise repository and any required third-party repositories (e.g., RHEL, EPEL) on an internet-connected system.
  - Either move system to air-gapped network, or transfer the mirrored content to the internal network.
  - Set up an internal web server to host the mirrored repositories.
  - Optional: use internal DNS to facilitate the connection of upstream internal repositories to air-gapped systems.
  - Configure repositories on the air-gapped Bacula system to direct to the internal mirrored repository server.
  - Tools for repository mirroring include:
    - \* reposync (Red Hat-based systems)
    - \* apt-mirror (Debian/Ubuntu)
    - \* Other tools such as redhat satellite, debmirror
- Package Download and Manual Installation
  - Download all required Bacula Enterprise packages and dependencies on an internetconnected system.
  - Transfer the downloaded packages to the air-gapped system.
  - Manually install the packages using:
    - \* dnf install \*.rpm (for RPM-based systems)
    - \* dpkg -i \*.deb (for Debian-based systems)

# 6.2 Repository Mirroring

#### **Dependency Mirroring**

• For RPM-based systems:

Shows dependencies:

# rpm -q --requires bacula-enterprise-client

Downloads all deps as RPM to the /tmp/packages folder:

# dnf install --downloadonly --downloaddir=/tmp/packages/ bacula-enterprise-client

• For Debian-based systems:

# apt-rdepends bacula-enterprise-client | grep -oP '^\S+' > deps.txt
Downloads all deps:

# cat deps.txt | xargs -n1 apt-get download

#### **APT Repository Mirroring**

1. Installation of apt-mirror: Install apt-mirror to handle the mirroring process.

sudo apt-get install apt-mirror

2. **Configuration of apt-mirror:** Configure apt-mirror by editing the /etc/apt/mirror.list file to specify which repositories to mirror.

# vim /etc/apt/mirror.list

Add repository lines such as:

clean http://archive.ubuntu.com/ubuntu

3. Run apt-mirror: Start the mirroring process.

sudo apt-mirror

4. Setting up a Web Server: Configure a web server to serve the mirrored repository.

```
sudo apt-get install apache2
sudo ln -s /var/spool/apt-mirror/mirror /var/www/html/ubuntu
```

5. **Distribute the GPG Key:** Import the GPG key used to sign the mirrored packages and distribute it to the clients.

```
wget -q0 - http://<your_server_ip>/repo_signing_key.gpg | sudo apt-key_

add -
```

## **RPM Repository Mirroring**

1. Installation of reposync: Install *reposync* and related tools to handle the RPM mirroring.

sudo yum install yum-utils createrepo httpd

2. Sync the Repository: Use *reposync* to download the packages and metadata from the specified repository.

3. Serve the Repository via Web Server: Ensure that the web server (e.g., Apache) is serving the mirrored repository.

```
sudo ln -s /var/www/html/rpmrepo /var/www/html/myrepo
sudo systemctl start httpd
sudo systemctl enable httpd
```

4. **Distribute the GPG Key:** Import and distribute the GPG key used to sign the original RPM repository to the clients.

```
sudo rpm --import http://<your_server_ip>/repo_signing_key.gpg
```

5. Client-Side Configuration: Configure the client machines to use the local RPM mirror.

```
[localrepo]
name=Local RPM Mirror
baseurl=http://<your_server_ip>/myrepo
enabled=1
gpgcheck=1
gpgkey=http://<your_server_ip>/repo_signing_key.gpg
```

# 6.3 Package Download and Manual Installation

In cases where establishing a complete repository mirror is neither desirable nor essential, you may opt to download the required packages along with their dependencies for future use. The commands for both RPM and Debian-based systems are provided below.

# **RPM-based Systems (Fedora, CentOS)**

1. **Download a Package and Its Dependencies:** Use dnf or yum to download a specific package and all its dependencies without installing them.

2. List Package Dependencies: To see what dependencies a package requires, you can query them as follows:

```
rpm -q --requires bacula-enterprise-fd
```

#### Debian-based Systems (Ubuntu, Debian)

1. List and Download Dependencies: Use apt-rdepends to list and then download the dependencies for a specific package.

```
sudo apt-get install apt-rdepends
apt-rdepends bacula-enterprise-fd | grep -oP '^\S+' > deps.txt
cat deps.txt | xargs -n1 apt-get download --downloaddir=/tmp/packages/
```
## **Creating a Portable Archive**

Once all required packages are downloaded to a directory, you can create a tar.gz archive for easy transportation to another system.

cd /tmp
tar -czvf packages.tar.gz packages/

This archive (packages.tar.gz) can then be transferred to and unpacked on another server where the packages are required. This is particularly useful for systems without an internet connection or those in secure environments.

To unpack the archive on another system:

|--|

An alternative method of installation:

- Bacula Ansible Collection with Ansible Galaxy
- Bacula Enterprise Installation in Air-Gapped Environment

## See also:

Go to: Bacula Enterprise Setup Test.