

# Fujitsu Enterprise Postgres 16

## Installation and Setup Guide for Server Assistant

Linux

J2UL-2951-01PEZ0(00)  
June 2024

# Preface

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## Purpose of this document

This document describes how to install and uninstall the Fujitsu Enterprise Postgres Server Assistant.

## Intended readers

This document is intended for those who install and operate Fujitsu Enterprise Postgres.

Readers of this document are assumed to have general knowledge of:

- PostgreSQL
- SQL
- Linux

## Structure of this document

This document is structured as follows:

### [Chapter 1 Overview of Installation](#)

Describes the features that can be installed, and provides an overview of installation methods

### [Chapter 2 Installation and Uninstallation of the Linux Server Assistant](#)

Describes how to install and uninstall the Linux Server Assistant

### [Chapter 3 Setup of the Server Assistant](#)

Describes the setup to be performed after installation

### [Appendix A Estimating Memory Requirements](#)

Describes the formulas for estimating memory requirements

### [Appendix B Procedure when Modifying the JRE Installation](#)

Describes the procedure to follow when modifying the JRE installation.

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## Issue date and version

Edition 1.0: June 2024
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# Chapter 1 Overview of Installation

This chapter provides an overview of Fujitsu Enterprise Postgres Server Assistant installation and uninstallation.

## 1.1 Features that can be Installed

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The Server Assistant can be installed.

The Server Assistant is provided as a Server Assistant package, which is installed on a different server (referred to as the arbitration server) to that of the database server.

## 1.2 Installation Types

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The following installation types are available for Fujitsu Enterprise Postgres:

- New installation
- Reinstallation

### 1.2.1 New Installation

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In initial installation, the Fujitsu Enterprise Postgres Server Assistant is installed for the first time.

### 1.2.2 Reinstallation

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Perform reinstallation to repair installed program files that have become unusable for any reason.

## 1.3 Uninstallation

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Uninstallation removes the system files of the installed Fujitsu Enterprise Postgres Server Assistant.

# Chapter 2 Installation and Uninstallation of the Linux Server Assistant

This chapter explains how to install and uninstall the Linux Server Assistant.

## 2.1 Operating Environment

This section describes the operating environment required in order to use the Linux Server Assistant.

### 2.1.1 Required Operating System

One of the following operating systems is required in order to use the Linux Server Assistant. Check and use minor version, which is certified and currently supported by Red Hat or SUSE for IBM Power LE (POWER9 and POWER10).

- RHEL8.4 or later minor version
- RHEL9.2 or later minor version
- SLES 15 SP3 or later minor version



#### Information

- The following packages are required for operations on RHEL8.

Package name	Remarks
<code>gdb</code>	Required when using <code>pgx_fjqssinf</code> command.
<code>glibc</code>	-
<code>iputils</code>	Required for Mirroring Controller.
<code>libgcc</code>	-
<code>libstdc++</code>	-
<code>ncurses-libs</code>	-
<code>nss-softokn-freebl</code>	-
<code>sysstat</code>	Required when using <code>pgx_fjqssinf</code> command. Set up the <code>sar</code> command after installation.
<code>xz-libs</code>	-
<code>zlib</code>	-
<code>java-1.8.0-openjdk</code>	Use build 1.8.0.312.b07 or later for ppc64le architecture..

- The following packages are required for operations on RHEL9.

Package name	Remarks
<code>gdb</code>	Required if you use the <code>pgx_fjqssinf</code> command.
<code>glibc</code>	-
<code>iputils</code>	Required when using Mirroring Controller.
<code>libgcc</code>	-
<code>libstdc++</code>	-
<code>ncurses-libs</code>	-
<code>nss-softokn-freebl</code>	-

Package name	Remarks
sysstat	Required if you use the <code>pgx_fjqssinf</code> command. Configure the <code>sar</code> command after installation.
xz-libs	-
zlib	-
java-1.8.0-openjdk	For the ppc 64 le architecture, use build 1.8.0.322.b06 or later.

- The following packages are required for operations on SLES 15.

Package name	Remarks
<code>gdb</code>	Required when using <code>pgx_fjqssinf</code> command.
<code>glibc</code>	-
<code>iputils</code>	Required for Mirroring Controller.
<code>libgcc_s1</code>	-
<code>libstdc++</code>	-
<code>sysstat</code>	Required when using <code>pgx_fjqssinf</code> command. Set up the <code>sar</code> command after installation.
<code>java-1_8_0-openjdk</code>	Use build 1.8.0.312 or later for ppc64le architecture.

## 2.1.2 Related Software

No other software is required in order to use Fujitsu Enterprise Postgres.

The following table lists servers that can be connected to the Linux Server Assistant.

Table 2.1 Connectable servers

OS	Software name
Linux	Fujitsu Enterprise Postgres Advanced Edition 16

## 2.1.3 Excluded Software

There is no excluded software.

## 2.1.4 Required Patches

There are no required patches.

## 2.1.5 Hardware Environment

The following hardware is required in order to use the Linux Server Assistant:

Memory

At least 150 MB of memory is required.

Mandatory hardware

None.

## 2.1.6 Disk Space Required for Installation

The following table lists the disk space requirements of the corresponding directories for new installation of the Linux Server Assistant. If necessary, increase the size of the file system.

Table 2.2 Disk space required for installation

Directory	Required disk space Unit: MB
/etc	1
<i>serverAssistantInstallDir</i>	3

## 2.1.7 Supported System Environment

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This section describes the supported system environment.

### TCP/IP Protocol

Fujitsu Enterprise Postgres supports version 4 and 6 (IPv4 and IPv6) of TCP/IP protocols.



Do not use link-local addresses if TCP/IP protocol version 6 addresses are used.

## 2.2 Installation

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This section describes how to install the Linux Server Assistant.

### 2.2.1 Pre-installation Tasks

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Check the following system environment before installing the Linux Server Assistant.

#### Check the disk space

Ensure that there is sufficient disk space to install the Linux Server Assistant.

Refer to "[2.1.6 Disk Space Required for Installation](#)" for information on disk space requirements.

If sufficient free disk space is unavailable, reconfigure disk partitions.

#### Set JAVA\_HOME

Ensure that Open JRE 8 is installed, and export the JAVA\_HOME environment variable.

```
#export JAVA_HOME="OpenJre8InstallDir"
```

Refer to "[Appendix B Procedure when Modifying the JRE Installation](#)" for information on modifying JRE after installation.

#### Executable Users

Installation and uninstallation is performed by superuser.

On the system, run the following command to become superuser.

```
$ su -  
Password:*****
```

### 2.2.2 Run Installation

---

The installation procedure is described below.



The following characters can be used as input values:

Alphanumeric characters, hyphens and forward slashes

## 1. Stop the program

If the installation method is the following, the program must be stopped:

- Reinstallation

Before starting the installation, stop the following:

- Mirroring Controller arbitration process

Execute the `mc_arb` command in stop mode to stop the Mirroring Controller arbitration process.

Example

```
$ mc_arb stop -M /mcarb_dir/arbiter1
```

## 2. Mount the DVD drive

Insert the Server Assistant program DVD into the DVD drive, and then execute the following command:

Example

```
# mount -t iso9660 -r -o loop /dev/dvd /media/dvd
```

Here `/dev/dvd` is the device name for the DVD drive (which may vary depending on your environment), and `/media/dvd` is the mount point (which may need to be created before calling the command).



If the DVD was mounted automatically using the automatic mount daemon (`autofs`), "noexec" is set as the mount option, so the installer may fail to start. In this case, use the `mount` command to remount the DVD correctly, and then run the installation. Note that the mount options of a mounted DVD can be checked by executing the `mount` command without any arguments.

## 3. Run the installation

Install the following packages (rpm) with the `rpm` command.

Feature Name	Operating System	Package (Path)
Server Assistant	RHEL8	ARBITER/Linux/packages/r80ppc64le/FJSVfsep-ARB-*.rpm
	RHEL9	ARBITER/Linux/packages/r90ppc64le/FJSVfsep-ARB-*.rpm
	SLES 15	ARBITER/Linux/packages/SUSE15ppc64le/FJSVfsep-ARB-*.rpm

\*is the version, OS, etc.

Example

In the following example, `/media/dvd` is the name of the mount point where the DVD is mounted.

Below is an example of new installation on RHEL9.

```
# cd /media/dvd/ARBITER/Linux/packages/r90ppc64le
# rpm -ivh FJSVfsep-ARB-16-1600-0.e19.ppc64le.rpm
```

Below is an example of new installation on SLES 15.

```
# cd /media/dvd/ARBITER/Linux/packages/SUSE15ppc64le
# rpm -ivh FJSVfsep-ARB-16-1600-0.s15.ppc64le.rpm
```



Below is an example of reinstallation on RHEL9.

```
# cd /media/dvd/ARBITER/Linux/packages/r90ppc64le
# rpm -ivh --replacepks FJSVfsep-ARB-16-1600-0.el9.ppc64le.rpm
```

Below is an example of reinstallation on SLES15.

```
# cd /media/dvd/ARBITER/Linux/packages/SUSE15ppc64le
# rpm -ivh --replacepks FJSVfsep-ARB-16-1600-0.s15.ppc64le.rpm
```



### Note

If you perform reinstallation, and an installation prefix (in the --prefix option of the rpm command) was used for the new installation, you must use the same prefix.

## 4. Set the installation environment

Use the mc\_update\_jre\_env command to set the installation environment to be used by the Server Assistant.

Example

```
# /opt/fsepv<x>assistant/bin/mc_update_jre_env
```

## 2.3 Uninstallation

This section describes how to uninstall the Linux Server Assistant.



### Note

Before uninstalling the product, close the product program.

### 2.3.1 Run Uninstallation

The uninstallation procedure is described below.

#### 1. Stop the program

Before starting the uninstallation, stop the following:

- Mirroring Controller arbitration process

Execute the mc\_arb command in stop mode to stop the Mirroring Controller arbitration process.

Example

```
$ mc_arb stop -M /mcarb_dir/arbiter1
```

#### 2. Verifying Installation Features

Verify that the feature to be removed is installed by executing the following command.

Feature Name	Package Name
Server Assistant	FJSVfsep-ARB-<x>

\* Where *x* is a number indicating the version.

Example

```
# rpm -qi FJSVfsep-ARB-16
```

### 3. Run the uninstallation

Run the following command.

```
# rpm -e FJSVfsep-ARB-16
```

The installation directory may remain after uninstallation. If it is not required, delete it.

## Chapter 3 Setup of the Server Assistant

The Server Assistant is a feature that is installed and used on the arbitration server, so its setup is performed as the arbitration server setup.



See

.....  
Refer to "Setting Up Database Multiplexing Mode" in the Cluster Operation Guide (Database Multiplexing) for information on setting up and operating the Mirroring Controller arbitration server.  
.....

# Appendix A Estimating Memory Requirements

This appendix explains how to estimate the memory.

## A.1 Server Assistant Memory Requirements

This section describes the formula for estimating memory requirements for the Server Assistant.

Use the following formula to obtain a rough estimate of memory requirements:

```
Memory usage of the Server Assistant
      = Peak memory usage of the Mirroring Controller arbitration processes
      + Peak memory usage of the Mirroring Controller commands

Peak memory usage of the Mirroring Controller arbitration processes=100 MB

Peak memory usage of the Mirroring Controller commands=50 MB * Number of commands executed
simultaneously
```

## Appendix B Procedure when Modifying the JRE Installation

This appendix describes the procedure to follow when modifying the JRE installation.

Therefore, when updating or reinstalling JRE, it is necessary to restart the Mirroring Controller arbitration process, therefore follow the procedure below to modify the JRE installation:

1. Stop the Mirroring Controller arbitration process.

Refer to the Cluster Operation Guide (Database Multiplexing) for details.

2. Modify the JRE installation.

3. Change the installation environment to be used by Mirroring Controller.

Set the JAVA\_HOME environment variable to the installation destination of new JRE 8, and use the mc\_update\_jre\_env command to change the installation environment to be used by the Server Assistant.

This procedure must be executed by the superuser.

### Example

/opt/fsepv<x>assistant/bin is the installation directory where the Server Assistant is installed.

```
$ su -  
Password:*****  
# export JAVA_HOME="OpenJre8InstallDir"  
# /opt/fsepv<x>assistant/bin/mc_update_jre_env
```

4. Start the Mirroring Controller arbitration process.

Refer to the Cluster Operation Guide (Database Multiplexing) for details.

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