

# Fujitsu Enterprise Postgres 15 on IBM LinuxONE

## Installation and Setup Guide for Client

Linux

# Preface

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## Purpose of this document

This document describes how to install, uninstall and set up the "Fujitsu Enterprise Postgres client feature".

## 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 Client](#)

Describes how to install the Fujitsu Enterprise Postgres client feature (Linux client)

### [Chapter 3 Setup](#)

Describes the setup procedures to be performed after installation completes

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# Chapter 1 Overview of Installation

This chapter provides an overview of Fujitsu Enterprise Postgres installation.

## 1.1 Features that can be Installed

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Fujitsu Enterprise Postgres provides features to enable access to the database from a variety of platforms and languages, as the connection environment for the client and the database server.

The Fujitsu Enterprise Postgres client package must be installed on the client system to use these features.

The following list shows the features provided by client packages.

- JDBC
- ODBC
- C language (libpq)
- Embedded SQL (ECPG) in C language
- Connection Manager
- High speed data load
- Pgpool-II

## 1.2 Installation Types

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The following installation types are available for Fujitsu Enterprise Postgres:

- New installation
- Reinstallation
- Multi-version installation

### 1.2.1 New Installation

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In initial installation, the Fujitsu Enterprise Postgres client feature 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.

### 1.2.3 Multi-Version Installation

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Perform multi-version installation to install different versions to the installed program files separately.

## 1.3 Uninstallation

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Uninstallation removes the system files of the installed Fujitsu Enterprise Postgres client feature.

# Chapter 2 Installation and Uninstallation of the Linux Client

This chapter explains how to install and uninstall the Linux client.

## 2.1 Operating Environment

This section describes the operating environment required to use the Linux client.

### 2.1.1 Required Operating System

The following operating systems is required to use the Linux client. Check and use minor version, which is certified and currently supported by Red Hat or SUSE for the target IBM z / Linux One hardware.

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



#### Information

- The following packages are required for operations on RHEL8.

Package name	Remarks
glibc	-
libgcc	-
libmemcached	Required when using Pgpool-II.
libstdc++	-
libtool-ltdl	-
libzstd	-
ncurses-libs	-
nss-softokn-freebl	-
unixODBC	Required when using ODBC drivers.
xz-libs	-
zlib	-

- The following packages are required for operations on RHEL9.

Package name	Remarks
glibc	-
libgcc	-
libmemcached	Required if Pgpool-II is used.
libstdc++	-
libtool-ltdl	-
libzstd	-
ncurses-libs	-
nss-softokn-freebl	-
unixODBC	Required if you are using an ODBC driver.

Package name	Remarks
xz-libs	-
zlib	-

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

Package name	Remarks
glibc	-
libgcc	-
libmemcached	Required when using Pgpool-II.
libstdc++	-
libtool-ltdl	-
libzstd1	-
ncurses-libs	-
nss-softokn-freebl	-
unixODBC	Required when using ODBC drivers.
xz-libs	-
zlib	-

## 2.1.2 Related Software

The following table lists the software required to use the Linux client.

Table 2.1 Related software

No.	Software name	Version
1	C compiler (*1)	-
2	JDK or JRE (*2)	Java SE 8 or later

\*1: Only operations using the C compiler provided with the operating system are guaranteed.

\*2: OpenJDK and IBM Java are supported.

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

Table 2.2 Connectable servers

OS	Software name
Linux	FUJITSU Software Enterprise Postgres Advanced Edition 11 or later , up to 15

### Note

Connecting this client to a server product of a different version depends on compatibility with PostgreSQL on which the server product is based, so some features may not be available.

## 2.1.3 Excluded Software

There are no exclusive products.

## 2.1.4 Required Patches

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There are no required patches.

## 2.1.5 Hardware Environment

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The following hardware is required to use the Linux client.

### Memory

At least 160 MB of memory is required.

### Mandatory hardware

None.

## 2.1.6 Disk Space Required for Installation

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

Table 2.3 Disk space required for installation

Directory	Required disk space Unit: MB
/etc	1
Installation destination of the client	114

## 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.

## 2.1.8 Versions of Open-Source Software Used as the Base for Fujitsu Enterprise Postgres Drivers

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The following table lists the versions of open-source software used as the base for the various Fujitsu Enterprise Postgres drivers.

Driver	Open-source software version
JDBC	pgjdbc 42.5.0
ODBC	psqlodbc 13.02.0000
libpq	PostgreSQL 15.0

## 2.2 Installation

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This section explains how to install the Linux client.

### 2.2.1 Pre-installation Tasks

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Check the system environment for the following before the Linux client is installed.

## Check the disk capacity

Check if sufficient free disk space is available for installing the Linux client.

Refer to "[Table 2.3 Disk space required for installation](#)" for information on disk space requirements.

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

## 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

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The installation procedure is described below.



The following characters can be used as input values:

Alphanumeric characters, hyphens, commas and forward slashes

### 1. Stop applications and programs

If the installation method is the following, all applications and programs that use the product must be stopped:

- Reinstallation

Before starting the installation, stop the following:

- Applications that use the product
- Connection Manager
- pgBadger
- Pgpool-II

### 2. Mount the DVD drive

Insert the client 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)
Client	RHEL8	CLIENT64/Linux/packages/r80s390x/FJSVfsep-CL-*.rpm
	RHEL9	CLIENT64/Linux/packages/r90s390x/FJSVfsep-CL-*.rpm
	SLES 15	CLIENT64/Linux/packages/SUSE15s390x/FJSVfsep-CL-*.rpm
Pgpool-II	RHEL8	PGPOOL2/Linux/packages/r80s390x/FJSVfsep-POOL2-*.rpm
	RHEL9	PGPOOL2/Linux/packages/r90s390x/FJSVfsep-POOL2-*.rpm
	SLES 15	PGPOOL2/Linux/packages/SUSE15s390x/FJSVfsep-POOL2-*.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/CLIENT64/Linux/packages/r90s390x
# rpm -ivh FJSVfsep-CL-15-1500-0.e19.s390x.rpm
```

Below is an example of new installation on SLES 15.

```
# cd /media/dvd/CLIENT64/Linux/packages/SUSE15s390x
# rpm -ivh FJSVfsep-CL-15-1500-0.s15.s390x.rpm
```

Below is an example of reinstallation on RHEL9.

```
# cd /media/dvd/CLIENT64/Linux/packages/90s390x
# rpm -ivh --replacepks FJSVfsep-CL-15-1500-0.e19.s390x.rpm
```

Below is an example of reinstallation on SLES 15.

```
# cd /media/dvd/CLIENT64/Linux/packages/SUSE15s390x
# rpm -ivh --replacepks FJSVfsep-CL-15-1500-0.s15.s390x.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.

## 2.3 Uninstallation

This section describes the procedure for uninstalling the Linux client.



### Note

- Before uninstalling the product, close the product program and all applications that are using it.

### 2.3.1 Run Uninstallation

The uninstallation procedure is described below.

## 1. Stop applications and programs

Before starting the uninstallation, stop the following:

- Applications that use the product
- Connection Manager
- pgBadger
- Pgpool-II

## 2. Verifying Installation Features

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

Feature Name	Package Name
Client	FJSVfsep-CL-<x>

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

Example

```
# rpm -qi FJSVfsep-CL-15
```

## 3. Run the uninstallation

Run the following command.

Example

```
# rpm -e FJSVfsep-CL-15
```

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

## Chapter 3 Setup

This chapter describes the setup procedures to be performed after installation completes.

### 3.1 Configuring Environment Variables

Configure the following environment variables when using client commands.

PATH environment variable

Add "*installationDirectory/bin*".

MANPATH environment variable

Add "*installationDirectory/share/man*".

PGLOCALEDIR environment variable

Add "*installationDirectory/share/locale*".

Examples of environment variable configurations are shown below.

Example

Note that "<x>" indicates the product version.

```
$ PATH=/opt/fsepv<x>client64/bin:$PATH ; export PATH
$ MANPATH=/opt/fsepv<x>client64/share/man:$MANPATH ; export MANPATH
$ PGLOCALEDIR=/opt/fsepv<x>client64/share/locale ; export PGLOCALEDIR
```

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