

FUJITSU Enterprise Postgres 12 on IBM LinuxONE™



Installation and Setup Guide for Client

Preface

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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Issue date and version

Edition 1.0: September 2020

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Contents

Chapter 1 Overview of Installation.....	1
1.1 Features that can be Installed.....	1
1.2 Installation Types.....	1
1.2.1 New Installation.....	1
1.2.2 Reinstallation.....	1
1.2.3 Multi-Version Installation.....	1
1.3 Uninstallation.....	1
Chapter 2 Installation and Uninstallation of the Linux Client.....	2
2.1 Operating Environment.....	2
2.1.1 Required Operating System.....	2
2.1.2 Related Software.....	3
2.1.3 Excluded Software.....	3
2.1.4 Required Patches.....	3
2.1.5 Hardware Environment.....	3
2.1.6 Disk Space Required for Installation.....	4
2.1.7 Supported System Environment.....	4
2.1.8 Versions of Open-Source Software Used as the Base for FUJITSU Enterprise Postgres Drivers.....	4
2.2 Installation.....	4
2.2.1 Pre-installation Tasks.....	4
2.2.2 Run Installation.....	4
2.3 Uninstallation.....	6
2.3.1 Run Uninstallation.....	6
Chapter 3 Setup.....	8
3.1 Configuring Environment Variables.....	8
Index.....	9

Chapter 1 Overview of Installation

This chapter provides an overview of FUJITSU Enterprise Postgres installation.

1.1 Features that can be Installed

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

The following installation types are available for FUJITSU Enterprise Postgres:

- New installation
- Reinstallation
- Multi-version installation

1.2.1 New Installation

In initial installation, the FUJITSU Enterprise Postgres client feature is installed for the first time.

1.2.2 Reinstallation

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

1.2.3 Multi-Version Installation

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

1.3 Uninstallation

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.

- RHEL7.7 or later
- RHEL8.1 or later
- SLES 12 SP4 or later



Information

- The following packages are required for operations on RHEL7.

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

- The following packages are required for operations on RHEL8.

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

- The following packages are required for operations on SLES 12.

Package name	Remarks
glibc	-
libgcc	-
libmemcached	Required when using Pgpool-II.
libstdc++	-
libtool-ltdl	-
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 6 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

2.1.3 Excluded Software

There are no exclusive products.

2.1.4 Required Patches

There are no required patches.

2.1.5 Hardware Environment

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

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	106

2.1.7 Supported System Environment

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

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 42.2.8
ODBC	psqlodbc 12.01.0000
libpq	PostgreSQL 12.1

2.2 Installation

This section explains how to install the Linux client.

2.2.1 Pre-installation Tasks

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.

2.2.2 Run Installation

The installation procedure is described below.

Note

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
- pgBadger
- Pgpool-II

2. Change to the superuser

Run the following command to switch to the superuser on the system.

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

3. 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).

Note

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.

4. Run the installation

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

Feature Name	Operating System	Package (Path)
Client	RHEL7	CLIENT64/Linux/packages/r70s390x/FJSVfsep-CL-*.rpm
	RHEL8	CLIENT64/Linux/packages/r80s390x/FJSVfsep-CL-*.rpm
	SLES 12	CLIENT64/Linux/packages/SUSE12s390x/FJSVfsep-CL-*.rpm
Pgpool-II	RHEL7	PGPOOL2/Linux/packages/r70s390x/FJSVfsep-POOL2-*.rpm
	RHEL8	PGPOOL2/Linux/packages/r80s390x/FJSVfsep-POOL2-*.rpm
	SLES 12	PGPOOL2/Linux/packages/SUSE12s390x/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 RHEL7.

```
# cd /media/dvd/CLIENT64/Linux/packages/r70s390x
# rpm -ivh FJSVfsep-CL-12-1200-0.e17.s390x.rpm
```

Below is an example of new installation on RHEL8.

```
# cd /media/dvd/CLIENT64/Linux/packages/r80s390x
# rpm -ivh FJSVfsep-CL-12-1200-0.e18.s390x.rpm
```

Below is an example of new installation on SLES 12.

```
# cd /media/dvd/CLIENT64/Linux/packages/SUSE12s390x
# rpm -ivh FJSVfsep-CL-12-1200-0.s390x.rpm
```

Below is an example of reinstallation on RHEL7.

```
# cd /media/dvd/CLIENT64/Linux/packages/r70s390x
# rpm -ivh --replacepkgs FJSVfsep-CL-12-1200-0.e17.s390x.rpm
```

Below is an example of reinstallation on RHEL8.

```
# cd /media/dvd/CLIENT64/Linux/packages/r80s390x
# rpm -ivh --replacepkgs FJSVfsep-CL-12-1200-0.e18.s390x.rpm
```

Below is an example of reinstallation on SLES 12.

```
# cd /media/dvd/CLIENT64/Linux/packages/SUSE12s390x
# rpm -ivh --replacepkgs FJSVfsep-CL-12-1200-0.s390x.rpm
```



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.



- 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
- pgBadger

- Pgpool-II

2. Change to the superuser

Run the following command to switch to the superuser on the system.

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

3. Verifying Installation Features

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

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

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

Example

```
# rpm -qi FJSVfsep-CL-12
```

4. Run the uninstallation

Run the following command.

Example

```
# rpm -e FJSVfsep-CL-12
```

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*".

LD_LIBRARY_PATH environment variable

Add "*installationDirectory/lib*".

Examples of environment variable configurations are shown below.

Example

This example is specific to 64-bit Linux.

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
$ LD_LIBRARY_PATH=/opt/fsepv<x>client64/lib:$LD_LIBRARY_PATH ; export LD_LIBRARY_PATH
```

Index

[C]	
Check the disk capacity.....	4
Configuring Environment Variables.....	8
[D]	
Disk Space Required for Installation.....	4
[E]	
Excluded Software.....	3
[F]	
Features that can be Installed.....	1
[H]	
Hardware Environment.....	3
[I]	
Installation and Uninstallation of the Linux Client.....	2
Installation Types.....	1
[L]	
LD_LIBRARY_PATH environment variable.....	8
[M]	
MANPATH environment variable.....	8
Multi-Version Installation.....	1
[N]	
New Installation.....	1
[O]	
Operating Environment.....	2
[P]	
PATH environment variable.....	8
PGLOCALEDIR environment variable.....	8
Pre-installation Tasks.....	4
[R]	
Reinstallation.....	1
Related Software.....	3
Required Operating System.....	2
Required Patches.....	3
[S]	
Setup.....	8
Supported System Environment.....	4
[T]	
TCP/IP protocol.....	4
[U]	
Uninstallation.....	1,6
Uninstallation in Interactive Mode.....	6