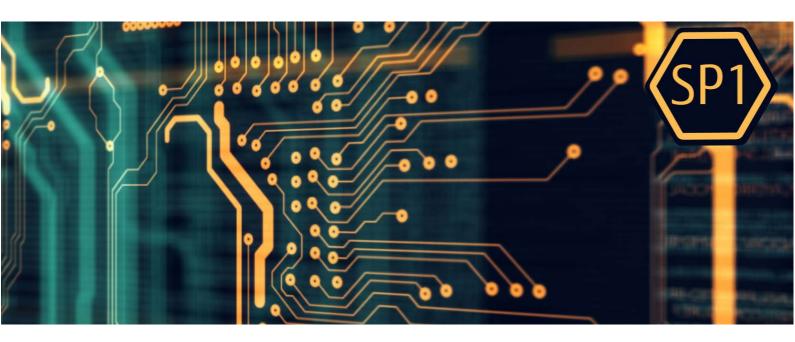# FUJITSU Enterprise Postgres 13

SP1

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
- Windows

- 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 Windows Client

Describes how to install the FUJITSU Enterprise Postgres client feature (Windows client)

Chapter 3 Installation and Uninstallation of the Linux Client

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

Chapter 4 Setup

Describes the setup procedures to be performed after installation completes

Export restrictions

Exportation/release of this document may require necessary procedures in accordance with the regulations of your resident country and/or US export control laws.

Issue date and version

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Edition 2.0: August 2021
Edition 1.0: April 2021
```

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Contents

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 table shows the relationship between the platforms and the features provided by client packages.

Platform	JDBC	ODBC	.NET Data Provider	C language (libpq)	Embedded SQL (ECPG) in C language	Embedded SQL (ECOBPG) in COBOL	Connection Manager	High-speed data load	pgAdmin	Pgpool-II
Windows	Y	Y	Y	Y	Y	Y		Y	Y	
Linux	Y	Y		Y	Y	Y	Y	Y		Y

Y: Supported

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 Installation Procedure

The following installation procedures are available for FUJITSU Enterprise Postgres:

- Installation in interactive mode

- Installation in silent mode

Select the installation procedure that corresponds to your environment.

1.3.1 Installation in Interactive Mode

Interactive mode enables installation to be performed while the required information is entered interactively.

In interactive mode installation, the FUJITSU Enterprise Postgres installer automatically determines the installation state of FUJITSU Enterprise Postgres. Install FUJITSU Enterprise Postgres using one of the following installation types in accordance with the installation state:

- New installation

- Reinstallation

- Multi-version installation

1.3.2 Installation in Silent Mode

Silent mode enables installation to be performed without the need to enter any information interactively.

New installations and multi-version installations can be performed in silent mode.

1.4 Uninstallation

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

Chapter 2 Installation and Uninstallation of the Windows Client

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

2.1 Operating Environment

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

2.1.1 Required Operating System

One of the following operating systems is required to use the Windows client:

- Windows(R) 8.1

- Windows(R) 8.1 Pro

- Windows(R) 8.1 Enterprise

- Windows(R) 10 Home

- Windows(R) 10 Education

- Windows(R) 10 Pro

- Windows(R) 10 Enterprise

- Microsoft Windows Server 2016 Datacenter

- Microsoft Windows Server 2016 Standard

- Microsoft Windows Server 2016 Essentials

- Microsoft Windows Server 2019 Datacenter

- Microsoft Windows Server 2019 Standard

- Microsoft Windows Server 2019 Essentials

  Note: If Windows is 32 bit, only the Windows client (32 bit) can be installed.

🛈 Note

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The following components of Windows Server(R) 2016 and Windows Server(R) 2019 are not supported:

- Server Core

- Nano Server

- Windows Server Container

．．．

2.1.2 Related Software

The following table lists the software compatible (that can operate) with the Windows client.

Before using any of these, confirm that the OS supports the software.

Table 2.1 Related software

No.	Software name	Version
1	Visual Studio	2015 2017 2019

No.	Software name	Version
2	.NET Framework	4.6.1 or later 4.7/4.7.x 4.8
3	C compiler (*1)	-
4	JDK or JRE	Java SE 6 or later
5	NetCOBOL	(*2)
	NetCOBOL for .NET	(*3)

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

*2: NetCOBOL is available in the following editions:

- NetCOBOL Base Edition V10.5.0 or later

- NetCOBOL Standard Edition V10.5.0 or later

- NetCOBOL Professional Edition V10.5.0 or later

- NetCOBOL Enterprise Edition V10.5.0 or later

*3: NetCOBOL for .NET is available in the following editions:

- NetCOBOL Standard Edition for .NET V5.0.0 or later

- NetCOBOL Professional Edition for .NET V5.0.0 or later

- NetCOBOL Enterprise Edition for .NET V5.0.0 or later

Note

The following JDKs or JREs are available:

- JDK or JRE shipped with the Interstage Application Server

- JDK shipped with the Enterprise Application Platform

- Oracle JDK or JRE

- An OpenJDK that has passed the Java TCK (Technology Compatibility Kit)

It is recommended that the JDK or JRE included with Interstage Application Server and Enterprise Application Platform is used.

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

Table 2.2 Connectable servers

OS	Software name
Windows Linux	- FUJITSU Software Enterprise Postgres Advanced Edition 9.5 or later - FUJITSU Software Enterprise Postgres Standard Edition 9.4 or later
Solaris	- FUJITSU Software Enterprise Postgres Standard Edition 9.6 or later

2.1.3 Excluded Software

FUJITSU Enterprise Postgres

The Windows client cannot coexist with the FUJITSU Enterprise Postgres Community Edition (hereafter, "CE") client.

Other products

There are no exclusive products.

2.1.4 Hardware Environment

The following hardware is required to use the Windows client.

Memory

At least 256 MB of memory is required.

Mandatory hardware

None.

2.1.5 Disk Space Required for Installation

The disk space shown below is required for new installation of the Windows client.

At the Windows (32-bit) client installation destination:

467 MB

At the Windows (64-bit) client installation destination:

485 MB

System folder:

273 MB

2.1.6 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.

Note

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

File system

You can install FUJITSU Enterprise Postgres only if the system folder is an NTFS volume.

2.1.7 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
.NET Data Provider	Npgsql 4.1.7
JDBC	pgjdbc 42.2.18
ODBC	psqlodbc 13.00.0000
libpq	PostgreSQL 13.3

2.2 Installation

This section explains how to install the Windows client.

ⓖ Note

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When installing the Fujitsu Enterprise Postgres Client (32 bit) in a 64 bit environment, do not specify a destination folder under the environment ProgramFiles variable.

....

2.2.1 Pre-installation Tasks

This section describes the operations to be performed before installing the Windows client.

hosts file settings

Using an editor, add the IP address and server name of the connected server to the \System32\drivers\etc\hosts file in the folder where Windows is installed.

ⓖ Note

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For Windows(R) 8.1, or Windows(R) 10, assign write privileges in advance to the user responsible for editing the hosts file.

....

Check the installed product and determine the installation method

In Windows, click [All Programs] or [All apps], then [Fujitsu], and then [Uninstall (middleware)]. In the displayed window, check the installed products.

If the Windows client is already installed, determine the installation method to use:

- Reinstallation

- Multi-version installation

Remove applied updates

If you perform reinstallation as the installation method, remove applied updates using the procedure shown below.

ⓖ Note

....

If a product is installed without removing applied updates, the following problems will occur:

- Performing reinstallation

    If an update with the same update and version number is applied, an error informing you that the update has already been applied is displayed.

....

1. Display the applied updates

    Execute the following command to display the applied updates:

    ```
    C:\Program Files (x86)\Fujitsu\UpdateAdvisor\UpdateAdvisorMW>uam showup
    ```

2. Remove the updates

    Execute the command below to remove the updates. If an update with the same update number was applied more than once, the updates are removed in order, starting from the highest version number.

    ```
    C:\Program Files (x86)\Fujitsu\UpdateAdvisor\UpdateAdvisorMW>uam remove -i update-number
    ```

Confirm service

The Windows Installer service must be running.

Confirm Path system environment variable

Ensure that the Path system environment variable includes "%SystemRoot%\system32".

2.2.2 Pre-installation Considerations

This section describes points that the user must take into account prior to installation.

- The remote desktop service is installed in application server mode, it is necessary to switch to install mode by executing the command shown below before installation. Also, after the installation is completed, execute the command shown below to switch back to execute mode.

Before installation:

```
CHANGE USER /INSTALL
```
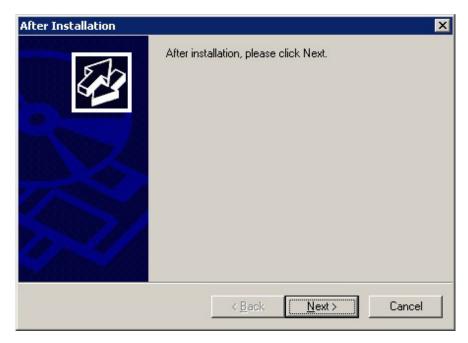
After installation:

```
CHANGE USER /EXECUTE
```

- The following window may be displayed when the installation program is executed.

If the above window is displayed, follow the procedure below:

1. Perform the steps in the installation procedure until the [InstallShield Wizard Complete] window is displayed.

2. Click [Next] in the [InstallShield Wizard Complete] window.

3. The following window is displayed. Click [Finish].

4. Restart the system.

📖 Information
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- If the [User Account Control] dialog box is displayed when installation or uninstallation starts, click [Yes] to continue the operation.

  If [No] is clicked, the [Error] dialog box will be displayed because continuing is not permitted.
  Click [Retry] in the displayed [Error] dialog box to proceed with installation or uninstallation. To end operations, click [Cancel].

- If installation or uninstallation is suspended or processing terminates abnormally, the [Program Compatibility Assistant] dialog box may be displayed.
  If this happens, click [This program installed correctly] or [This program uninstalled correctly] and continue operation.

··

2.2.3 Installation in Interactive Mode

The installation procedure is described below.

📘 Point
··

For installation in interactive mode, default values are set for the installation information. The following settings can be changed for a new installation or a multi-version installation:

- Installation folder

··

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

- pgAdmin

2. Insert the DVD

Insert the client program DVD into the DVD drive.

3. Run the installation

The installation menu is displayed. Click [Installation].

4. Select the product to install

Select the product to install, and then click [Next].
If a selected product can only be reinstalled, refer to "6. Check the settings".

Information
. . . .
If multi-version installation is possible, the [Select Installation Method] window is displayed for each selected product. Select "Multi-version installation" and click [Next].
. . . .

5. Confirm the contents for installation

The [Confirm installation] window will be displayed.

Click [Next] to start the installation.

To modify the settings, select [Modify], and then click [Next]. Follow the on-screen instructions.

6. Check the settings

The [Confirm installation] window will be displayed for reinstallation, or if the installation information is modified.

Click [Install] to start the installation.

To modify the settings again, click [Back].

7. Completion of installation

The completion window is displayed. Click [Finish].

Note
. . . .
In the cases below, refer to "2.4 Registering .NET Data Provider" for information on how to set up .NET Data Provider:

- .NET Framework is installed subsequently

- An issue occurs during installation

- A multi-version installation is performed
. . . .

2.2.4 Installation in Silent Mode

Installation in silent mode can be performed only when the installation method is one of the following:

- New installation

- Multi-version installation

See
. . . .
Refer to the FUJITSU Enterprise Postgres product website for information on installation in silent mode, such as the installation parameters and error messages.
. . . .

The installation procedure is described below.

1. Insert the DVD

Insert the client program DVD into the DVD drive.

The [Install Menu] window is displayed. Click [Finish].

2. Create an installation parameters CSV file

Consider the server type or features that will be required for system operations, and then create an installation parameters CSV file that uses the following specification format.

```
sectionName, parameterName, value
sectionName, parameterName, value
          :
```

📖 Information
....

The template for the installation parameters CSV file is "Z:\sample\sample_windows.csv (Z is the drive into which the DVD is inserted.).

....

3. Start the command prompt

In Windows, right-click [Command Prompt] and then select [Run as administrator].

4. Run the installation

Execute the following command:

```
Z:\>silent.bat c:\temp\inspara.csv
```

Z: The drive into which the DVD is inserted.

c:\temp\inspara.csv: The installation parameter CSV file name.

If the silent installer ends in an error, a message is output to the log file and return values are returned.

📝 Note
....

In the cases below, refer to "2.4 Registering .NET Data Provider" for information on how to set up .NET Data Provider:

- .NET Framework is installed subsequently

- An issue occurs during installation

- A multi-version installation is performed

....

2.3 Uninstallation

This section describes the procedure for uninstalling the Windows client.

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

- Log in using an account that has administrator privileges and then execute the command, or switch to an account that has administrator privileges and then uninstall the product.

....

2.3.1 Uninstallation in Interactive Mode

The uninstallation procedure is described below.

Information

....

If an error occurs while the product is being uninstalled, refer to "Uninstall (middleware) Messages" in the FUJITSU Enterprise Postgres product website, and take the required action.

....

1. Stop applications and programs

Before starting the uninstallation, stop the following:

- Applications that use the product

- pgAdmin

2. Start the Uninstall (middleware) tool

In Windows, click [All Programs] or [All apps], then [Fujitsu], and then [Uninstall (middleware)].

3. Select the software

Select the product to be uninstalled from [Software Name], and then click [Remove].

4. Start the uninstallation

Click [Uninstall].

5. Finish the uninstallation

The uninstallation completion window is displayed. Click [Finish].

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

6. Stop the Uninstall (middleware) tool

The [Uninstall (middleware)] window is displayed. Click [Close].

2.3.2 Uninstallation in Silent Mode

The uninstallation procedure is described below.

See

....

Refer to the FUJITSU Enterprise Postgres product website for information on uninstallation in silent mode, such as the error messages.

....

1. Stop applications and programs

Before starting the uninstallation, stop the following:

- Applications that use the product

- pgAdmin

2. Start the command prompt

In Windows, right-click [Command Prompt] and then select [Run as administrator].

3. Start the uninstaller

Execute the command below.

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

Example

```
X:> installFolder\suninst.bat
```

X: Drive on which the product is installed

2.4 Registering .NET Data Provider

This section explains how to register the .NET Data Provider feature in cases such as below, after installing the FUJITSU Enterprise Postgres client feature.

-   .NET Framework is installed subsequently

-   An issue occurs during installation of the FUJITSU Enterprise Postgres client feature

-   Multiple versions of the FUJITSU Enterprise Postgres client feature are installed

In [Control Panel], select [Programs and Features], right-click [FUJITSU Enterprise Postgres Npgsql <x>], and then select [Change]. Note that "<x>" indicates the product version.

Operation	Description
Change	Install Npgsql Performance Counters or perform the Npgsql GAC Installation again. Click [Change], click the relevant item, select "Entire feature will be installed on local hard drive", and then click [Next] >> [Change] >> [Finish].
Repair	Repair a damaged installation. Click [Repair] >> [Repair] >> [Finish].

When you select [Change] and then select [Npgsql Installation], note that this consists of two parts:

-   "Npgsql GAC only Installation"

-   "Npgsql Publisher Policy and machine.config Installation"

If the FUJITSU Enterprise Postgres client feature is installed in an environment where no other versions exist

Perform "Npgsql GAC only Installation" and "Npgsql Publisher Policy and machine.config Installation".

If multiple versions of the FUJITSU Enterprise Postgres client feature are installed

The procedure differs depending on whether "FUJITSU.Npgsql" or another value is used for the invariant value.

Using "FUJITSU.Npgsql"

Perform "Npgsql GAC only Installation" and "Npgsql Publisher Policy and machine.config Installation".

📋 Note
. . . .

-   When "Npgsql Publisher Policy and machine.config Installation" is performed, an entry with the invariant value "FUJITSU.Npgsql" will be registered in the DbProviderFactories section of the machine.config file. All .NET applications that specify "FUJITSU.Npgsql" as an argument of GetFactory method of the DbProviderFactories class will now use the latest FUJITSU Enterprise Postgres Npgsql. Therefore, in a multi-version installation environment, carefully consider whether to use this option.

-   If creating an application using Visual Studio tools when using the invariant value "FUJITSU.Npgsql" in a multi-version environment with FUJITSU Enterprise Postgres 9.6 or earlier, use the Visual Studio Integration Add-On bundled with this version.
    Refer to "Setting Up the Visual Studio Integration Add-On" in the Application Development Guide for details.

. . . .

Using values other than "FUJITSU.Npgsql"

> When using a value other than "FUJITSU.Npgsql" for the invariant value, perform "Npgsql GAC only Installation" and "2.4.1 Registering Entries to the machine.config File".

P Point

- If you want to make a modification to use a value other than "FUJITSU.Npgsql" after performing the procedure to use "FUJITSU.Npgsql" for the invariant value, follow the procedure below:

    1. In [Control Panel], select [Programs and Features], right-click [FUJITSU Enterprise Postgres Npgsql <x>], and then select [Change]. Note that "<x>" indicates the product version.

    2. Open the [Npgsql Installation] feature and deselect [Npgsql Publisher Policy and machine.config Installation].

    3. Select [Next] >> [Change] >> [Finish].

- If you want to use different versions of Npgsql for each application in a multi-version environment, use the NpgsqlRegister.exe tool provided. Refer to "2.4.1 Registering Entries to the machine.config File" for details.

2.4.1 Registering Entries to the machine.config File

If you want to use different versions of Npgsql for each application during multi-version installation, this can be achieved by registering multiple entries with different invariant values to DbProviderFactories in the machine.config file and using the relevant value for each application.

NpgsqlRegister.exe is a tool provided by FUJITSU.

The NpgsqlRegister.exe tool allows a user to:

- Change the invariant value registered to a different version of FUJITSU Enterprise Postgres to this version (cannot be edited with the exception of the default invariant value "FUJITSU.Npgsql").

- Register an invariant value.

Note

- When changing existing invariant values, a user must edit existing DbProvider entries very carefully. Ensure that no application is using the DbProvider entries being edited.

- If it is likely that a user will install multiple versions of Npgsql, then it is recommended to add and use new invariant values.

The instructions below describe where to find and how to use this tool to register machine.config entries for the version being installed.

Location of NpgsqlRegister.exe

> The NpgsqlRegister.exe tool is stored in the following location.

```
fujitsuEnterprisePostgresClientInstallDir\dotnet\NpgsqlRegister.exe
```

> The NpgsqlRegister.exe tool requires .NET Framework 4.6.1 or later to be installed. If not installed, install .NET Framework 4.6.1 or later, and then execute the command again.

Using NpgsqlRegister.exe

> Execute the command below as a user with administrator privileges.

```
> NpgsqlRegister.exe
```

> The NpgsqlRegister.exe tool checks if a FUJITSU Enterprise Postgres invariant value exists. If a FUJITSU Enterprise Postgres invariant value does not exist in machine.config, an invariant value with the current version (FUJITSU.Npgsql)

is registered to machine.config, and this will be notified to the user. If a FUJITSU Enterprise Postgres invariant value exists, the user will be prompted with the following options.

```
1 - Edit an existing DbProvider entry to point to the current version
2 - Add a new Invariant alias DbProvider entry to point to the current version
3 - Exit
```

Editing an existing DbProvider entry

When this option is selected, applications that use an existing DbProvider entry will reference the latest installed Npgsql version from the GAC.

A list of all FUJITSU Enterprise Postgres Npgsql invariant name entries that exist in machine.config will be displayed as follows.

Example

```
Please select the Invariant attribute you would like to point
to the current version.
1 - Invariant attribute: FUJITSU.Npgsql.12, Npgsql Version: 12.0.0.0
2 - Invariant attribute: FUJITSU.Npgsql.13, Npgsql Version: 13.0.0.0
3 - Invariant attribute: Npgsql, Npgsql Version: 13.0.0.0
4 - Exit
```

Selecting one of the invariant values listed will result in the machine.config entries being updated to point to this version, and any existing application referencing this invariant value will start referencing this version of Npgsql.

Adding a new entry to DbProvider

When this option is selected, a new invariant value can be registered. When referencing the new registered invariant value from the application, this FUJITSU Enterprise Postgres server version of Npgsql is referenced.

Upon selecting the option to add a new invariant value, the following will be displayed.

```
You have chosen to add a new DbProvider entry with an Invariant Alias to the
machine.config

The Invariant attribute can either be in the form of 2 user defined formats (define
xyz):
1 - 'FUJITSU.Npgsql.xyz'
2 - 'Npgsql.xyz'

or add a DbProvider entry with Invariant attribute set to 'Npgsql'
3 - 'Npgsql'
4 - Exit

Please enter one of the options (1 .. 4):
```

By specifying a value to "*xyz*" in the first two options, any invariant value can be created. However, the user must specify at least one alphanumeric character of up to 10 characters.

The option three registers a new invariant value "Npgsql".

If the specified value already exists, a warning will be output as follows.

```
A DbProvider entry with Invariant attribute 'Npgsql' already exists in machine.config
If you require this Invariant attribute, restart the application and choose 'Edit an
existing DbProvider entry'
```

Chapter 3 Installation and Uninstallation of the Linux Client

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

3.1 Operating Environment

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

3.1.1 Required Operating System

One of the following operating systems is required to use the Linux client:

- RHEL7.2 or later minor version

- RHEL8.1 or later minor version

- SLES 12 SP5

![Information icon] Information

- The following packages are required for operations on RHEL7.

Package name	Remarks
glibc	-
glibc.i686	-
libgcc	-
libmemcached	Required when using Pgpool-II.
libstdc++	-
libtool-ltdl	-
ncurses-libs	-
nss-softokn-freebl	-
redhat-lsb	-
rsync	Required when using Pgpool-II.
unixODBC	Required when using ODBC drivers
unzip	-
xz-libs	-
zlib	-

- The following packages are required for operations on RHEL8.

Package name	Remarks
glibc	-
glibc.i686	-
libnsl2	-
libgcc	-
libmemcached	Required when using Pgpool-II.
libstdc++	-

Package name	Remarks
libtool-ltdl	-
ncurses-libs	-
nss-softokn-freebl	-
redhat-lsb	-
rsync	Required when using Pgpool-II.
unixODBC	Required when using ODBC drivers
unzip	-
xz-libs	-
zlib	-

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

Package name	Remarks
glibc	-
glibc-32bit	-
JRE 8	Required by installer The following JREs are available: - Oracle JRE Use update 31 or later of the 64-bit version. - OpenJDK Past the Java TCK (Technology Compatibility Kit)
libfreebl3	-
libgcc	-
libltdl7	-
liblzma5	-
libmemcached	Required when using Pgpool-II.
libncurses5	-
libstdc++	-
libz1	-
rsync	Required when using Pgpool-II.
unixODBC	Required when using ODBC drivers
unzip	-

3.1.2 Related Software

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

Table 3.1 Related software

No.	Software name	Version
1	C compiler (*1)	-
2	JDK or JRE	Java SE 6 or later
3	NetCOBOL	(*2)

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

*2: NetCOBOL is available in the following editions:

(RHEL8)

- NetCOBOL Base Edition V12.2.0 or later

- NetCOBOL Standard Edition V12.2.0 or later

- NetCOBOL Enterprise Edition V12.2.0 or later

(RHEL7)

- NetCOBOL Base Edition V11.1.0 or later

- NetCOBOL Standard Edition V11.1.0 or later

- NetCOBOL Enterprise Edition V11.1.0 or later

Note

The following JDKs or JREs are available:

- JDK or JRE shipped with the Interstage Application Server

- JDK shipped with the Enterprise Application Platform

- Oracle JDK or JRE

- An OpenJDK that has passed the Java TCK (Technology Compatibility Kit)

It is recommended that the JDK or JRE included with Interstage Application Server and Enterprise Application Platform is used.

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

Table 3.2 Connectable servers

OS	Software name
Windows Linux	- FUJITSU Software Enterprise Postgres Advanced Edition 9.5 or later - FUJITSU Software Enterprise Postgres Standard Edition 9.4 or later
Solaris	- FUJITSU Software Enterprise Postgres Standard Edition 9.6 or later

3.1.3 Excluded Software

FUJITSU Enterprise Postgres

The Linux client cannot coexist with the FUJITSU Enterprise Postgres Community Edition (hereafter, "CE") client.

Other products

There are no exclusive products.

3.1.4 Required Patches

There are no required patches.

3.1.5 Hardware Environment

The following hardware is required to use the Linux client.

Memory

At least 160 MB of memory is required.

Mandatory hardware

None.

3.1.6 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.

RHEL

Directory	Required disk space Unit: MB
/etc	1 + 1 (*1)
/var	1 + 2 (*1)
/opt	248 (*1)
Installation destination of the client (64-bit)	131
Installation destination of Pgpool-II	14

*1: Uninstall (middleware) must be installed.

SLES

Directory	Required disk space Unit: MB
/etc	1 + 1 (*1)
/var	1 + 2 (*1)
/opt	2 (*1)
Installation destination of the client (64-bit)	126
Installation destination of Pgpool-II	12

*1: Uninstall (middleware) must be installed.

3.1.7 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.

📝 **Note**

. . . .

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

. . . .

3.1.8 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 42.2.18
ODBC	psqlodbc 13.00.0000
libpq	PostgreSQL 13.3

3.2 Installation

This section explains how to install the Linux client.

3.2.1 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 "3.1.6 Disk Space Required for Installation" for information on disk space requirements.

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

Set JAVA_HOME (SLES 12 only)

Ensure that JRE 8 is installed, and export the JAVA_HOME environment variable.

```
#export JAVA_HOME="Jre8InstallDir"
```

Check the installed product and determine the installation method

Using the operation shown below, start Uninstall (middleware), and check the installed products.

Example

```
# /opt/FJSVcir/cimanager.sh -c
Loading Uninstaller...


Currently installed products
1. productName
2. productName

Type [number] to select the software you want to uninstall.
[number,q]
=>q



Exiting Uninstaller.
```

If the Linux client is already installed, determine the installation method to use:

- Reinstallation

- Multi-version installation

Remove applied updates

If you perform reinstallation as the installation method, remove applied updates using the procedure shown below.

1. Display the applied updates

   Execute the following command to display the applied updates:

   ```
   # /opt/FJSVfupde/bin/uam showup
   ```

2. Remove the updates

   Execute the command below to remove the updates. If an update with the same update number was applied more than once, the updates are removed in order, starting from the highest version number.

   ```
   # /opt/FJSVfupde/bin/uam remove -i update-number
   ```

3.2.2 Installation in Interactive Mode

The installation procedure is described below.

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

Execute the following command:

Example

```
# cd /media/dvd
# ./install.sh
```

In the example above, /media/dvd is the DVD mount point.

5. Select the product to install

The list of installation target products is displayed.
Type the number for the product to be installed, or "all", and press Enter.

Information

If the selected product has already been installed, a window for selecting reinstallation or multi-version installation is displayed for each product. Follow the on-screen instructions to select the installation method.

6. Check the settings

The window for checking the installation information is displayed as shown below.
Type "y" and press Enter to start the installation.
To change the settings, type "c" and press Enter, and follow the on-screen instructions. This option is not displayed if there is no information that can be modified.

7. Check the changed settings

If the installation information has been modified, the new installation information is displayed.
Type "y" and press Enter to start the installation.
To change the settings again, type "c" and press Enter.

8. Finish the installation

When the installation is complete, a message is displayed showing the status.

If installation was successful, the following message is displayed:

```
Installed successfully.
```

Note

....

If an error occurs during the installation, read the error message and remove the cause of the error, and then reexecute the install.sh command.

....

3.2.3 Installation in Silent Mode

Installation in silent mode can be performed only when the installation method is one of the following:

- New installation

- Multi-version installation

See

....

Refer to the FUJITSU Enterprise Postgres product website for information on installation in silent mode, such as the installation parameters and error messages.

....

The installation procedure is described below.

1. Change to the superuser

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

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

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).

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.

....

3. Create an installation parameters CSV file

Consider the features that will be required for system operations, and then create an installation parameters CSV file that uses the following specification format.

```
sectionName, parameterName, value
sectionName, parameterName, value
     :
```

Information

The templates for the installation parameters CSV file is "*mountPoint*/sample/sample_linux.csv"

4. Run the installation

Execute the following command:

Example

```
# cd /media/dvd
# ./silent.sh /home/work/inspara.csv
```

In the example above, /media/dvd is the DVD mount point, and /home/work/inspara.csv is the installation parameter CSV.

If the silent installer ends in an error, a message is output to the log file and return values are returned.

3.3 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.

- On SLES 12, before uninstallation, ensure that JRE 8 is installed, and export the JAVA_HOME environment variable.

```
#export JAVA_HOME="Jre8InstallDir"
```

3.3.1 Uninstallation in Interactive Mode

The uninstallation procedure is described below.

Information

If an error occurs while the product is being uninstalled, refer to "Uninstall (middleware) Messages" in the FUJITSU Enterprise Postgres product website, and take the required action.

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. Start the Uninstall (middleware)

Execute the following command:

```
# /opt/FJSVcir/cimanager.sh -c
```

4. Select the product

Enter the number for the product to be uninstalled, and press Enter.

5. Start the uninstallation

To start the uninstallation, type "y" and press Enter.

To display the list of products again, type "b" and press Enter.

6. Finish the uninstallation

If uninstallation is successful, the message below is displayed.

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

```
Uninstalling...

productName is being uninstalled now.
    100% ############################


The following products have been uninstalled successfully:
    productName

Uninstallation of "productName" has completed successfully.



Exiting Uninstaller.
```

3.3.2 Uninstallation in Silent Mode

The uninstallation procedure is described below.

See
. . . .
Refer to the FUJITSU Enterprise Postgres product website for information on uninstallation in silent mode, such as the error messages.
. . . .

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. Run the uninstallation

Execute the following command:

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

Example

```
# /opt/fsepv<x>client64/setup/suninst.sh
```

In the example above, /opt/fsepv<x>client64 is the installation directory, and "<x>" indicates the product version.

```
# /opt/fsepv<x>pgpool-II/setup/suninst.sh
```

In the example above, /opt/fsepv<x>pgpool-II/setup is the name of the installation directory in which the Pgpool-II is installed.

Chapter 4 Setup

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

4.1 Configuring Environment Variables

Configure the following environment variables when using client commands.

4.1.1 Windows

PATH environment variable

>   Add "*installationFolder*\bin".

PGLOCALEDIR environment variable

>   Add "*installationFolder*\share\locale".

Examples of environment variable configurations are shown below.

Example

>   This example is specific to 32-bit Windows.
>
>   Note that "*<x>*" indicates the product version.

```
> SET PATH=%ProgramFiles%\Fujitsu\fsepv<x>client32\bin;%PATH%
> SET PGLOCALEDIR=%ProgramFiles%\Fujitsu\fsepv<x>client32\share\locale
```

4.1.2 Linux

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

>   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
```

 Note

If you execute any command other than FUJITSU Enterprise Postgres (OS commands, etc.) after LD_LIBRARY_PATH is set, remove the installation directory/lib from LD_LIBRARY_PATH.

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