

# **FUJITSU Software**

## **Symfoware Server V12.0.0**

A decorative horizontal band with a red-to-dark-red gradient, featuring abstract, glowing white and red lines that swirl and intersect, creating a sense of motion and technology.

# **Installation and Setup Guide**

## **for Client**

Windows/Linux

J2UL-1735-03ENZ0(00)  
November 2013

# Preface

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## Purpose of this document

This document describes how to install and setup the "Symfoware Server client feature".

## Intended readers

This document is intended for those who install and operate Symfoware Server.

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

W

- PostgreSQL

- SQL

- Windows

L

- 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 Installing Windows Client](#)

Describes how to install the Symfoware Server client feature (Windows client)

### [Chapter 3 Installing Linux Client](#)

Describes how to install the Symfoware Server client feature (Linux Client)

### [Chapter 4 Setup](#)

Describes the setup procedures to be performed after installation completes

### [Appendix A Installation in Silent Mode](#)

Provides specifications for installation in silent mode

### [Appendix B Multi-Version Installation](#)

Describes how to install a version different from the one currently installed

### [Appendix C Checking the Version of the Installed Product](#)

Describes how to check the version of the installed product.

### [Appendix D Uninstall \(middleware\) Tool](#)

Describes the Uninstall (middleware) tool.

## Issue date and version

First edition: November 2013
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# Chapter 1 Overview of Installation

This chapter provides an overview of Symfoware Server installation.

## 1.1 Features that Can Be Installed

Symfoware Server 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 Symfoware Server 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	features					pgAdmin
	JDBC	ODBC	.NET Data Provider	C language (libpq)	Embedded SQL (ECPG) in C language	
Windows	Y	Y	Y	Y	Y	Y
Linux	Y	Y		Y	Y	

Y: Supported

## 1.2 Installation Types

The following three installation types are available for Symfoware Server:

- Initial installation
- Reinstallation
- Multi-version installation

### 1.2.1 Initial Installation

In initial installation, the Symfoware Server client feature is installed for the first time.

W

#### Windows

Refer to "[2.4 Initial Installation](#)" for details.

L

#### Linux

Refer to "[3.3 Initial Installation](#)" for details.

### 1.2.2 Reinstallation

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

W

#### Windows

Refer to "[2.5 Reinstallation](#)" for details.

L

#### Linux

Refer to "[3.4 Reinstallation](#)" for details.

### 1.2.3 Multi-Version Installation

Perform multi-version installation when installing a version different from the one currently running on the same OS.

Refer to "[Appendix B Multi-Version Installation](#)" for details.

## 1.3 Installation Procedure

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The following installation procedures are available for Symfoware Server:

- 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 Symfoware Server installer automatically determines the installation state of Symfoware Server. Install Symfoware Server using one of the following installation types in accordance with the installation state:

- Initial installation
- Reinstallation
- Multi-version installation

### 1.3.2 Installation in Silent Mode

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

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

## 1.4 Uninstallation

---

Uninstallation removes the system files of the installed Symfoware Server client feature.

**W**

#### Windows

Refer to "[2.6 Uninstallation](#)" for details.

**L**

#### Linux

Refer to "[3.5 Uninstallation](#)" for details.

# Chapter 2 Installing Windows Client

This chapter describes how to install 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:

- Microsoft Windows XP Professional Service Pack 3 or later
- Microsoft Windows XP Home Edition Service Pack 3 or later
- Microsoft Windows XP Professional x64 Edition Service Pack 3 or later
- Windows Vista Home Basic
- Windows Vista Home Premium
- Windows Vista Business
- Windows Vista Ultimate
- Windows Vista Enterprise
- Windows 7 Home Premium
- Windows 7 Professional
- Windows 7 Enterprise
- Windows 7 Ultimate
- Windows 8
- Windows 8 Pro
- Windows 8 Enterprise
- Microsoft Windows Server 2003, Standard Edition
- Microsoft Windows Server 2003, Standard x64 Edition
- Microsoft Windows Server 2003, Enterprise Edition
- Microsoft Windows Server 2003, Enterprise x64 Edition
- Microsoft Windows Server 2003 R2, Standard Edition
- Microsoft Windows Server 2003 R2, Standard x64 Edition
- Microsoft Windows Server 2003 R2, Enterprise Edition
- Microsoft Windows Server 2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2008 Standard
- Microsoft Windows Server 2008 Enterprise
- Microsoft Windows Server 2008 Datacenter
- Microsoft Windows Server 2008 Foundation
- Microsoft Windows Web Server 2008
- Microsoft Windows Server 2008 Standard without Hyper-V
- Microsoft Windows Server 2008 Enterprise without Hyper-V

- Microsoft Windows Server 2008 Datacenter without Hyper-V
- Microsoft Windows Server 2008 R2 Datacenter
- Microsoft Windows Server 2008 R2 Enterprise
- Microsoft Windows Server 2008 R2 Standard
- Microsoft Windows Server 2008 R2 Foundation
- Microsoft Windows Web Server 2008 R2
- Microsoft Windows Server 2012 Datacenter
- Microsoft Windows Server 2012 Standard
- Microsoft Windows Server 2012 Essentials
- Microsoft Windows Server 2012 Foundation

 **Note**

Always install the TCP/IP protocol.

## 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	2008 2010 2012
2	.NET Framework	3.5 SP1 or later 4 4.5
3	JDK or JRE	Java SE 6/7 or later
4	NetCOBOL	(*1)

\*1: NetCOBOL is available in the following editions:

- NetCOBOL Standard Edition V7.0L10 or later
- NetCOBOL Professional Edition V7.0L10 or later
- NetCOBOL Enterprise Edition V7.0L10 or later

 **Note**

Either the JDK or JRE included with Interstage Application Server, or the Oracle JDK or JRE can be used. It is recommended that the JDK or JRE included with Interstage Application Server is used.

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

Table 2.2 Connectable servers

OS	Software name
Linux	Symfoware Server Standard Edition (Open Interface) V12.0.0 or later



### 2.1.3 Excluded Software

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There is no excluded software.

### 2.1.4 Hardware Environment

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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

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The capacity given below is required for new installation of the Windows client.

At the Windows client installation destination:

170 MB

System folder:

100 MB

### 2.1.6 Supported System Environment

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This section describes the supported system environment.

#### TCP/IP protocol

Symfoware Server 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.

#### File system

You can install Symfoware Server only if the system folder is an NTFS volume.

### 2.1.7 Versions of Open-Source Software Used as the Base for Symfoware Server Drivers

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The following table lists the versions of open-source software used as the base for the various Symfoware Server drivers.

Driver	Open-source software version
.NET Data Provider	Npgsql 2.0.12.0
JDBC	pgjdbc 9.2-1002
ODBC	psqlodbc 09.01.0200
libpq	PostgreSQL 9.2.4

## 2.2 Preparing for Installation

---

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 directory where Windows is installed.

### Note

For Windows Vista, Windows 7, or Windows 8, assign write privileges in advance to the user responsible for editing the hosts file.

## Uninstalling PostgreSQL

You must uninstall PostgreSQL if you are using the open-source version.

If you installed Symfoware Server Client without uninstalling PostgreSQL first, you must uninstall Symfoware Server Client and the open-source PostgreSQL, and then install Symfoware Server Client again.

### Note

If you install Symfoware Server Client without uninstalling PostgreSQL, pgAdmin of Symfoware Server Client will not operate properly

The pgAdmin tool installed by Symfoware Server Client enables you to use the features of Symfoware Server in addition to the features of PostgreSQL pgAdmin.

## Notes on installation

Installation fails if any of the Windows client features is active. Terminate every Windows client feature before starting installation.

## Confirm service

The Windows Installer service must be running.

## 2.3 Pre-Installation Notes

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

- In any of the following cases, the command given below must be executed to switch to installation mode before performing installation. After installation is complete, the next command given below must be executed to switch to execution mode.
  - A terminal server is installed in application server mode on Windows Server 2003, Windows Server 2003 R2 or Windows Server 2008
  - A remote desktop service is installed in application server mode on Windows Server 2008 R2 or Windows Server 2012

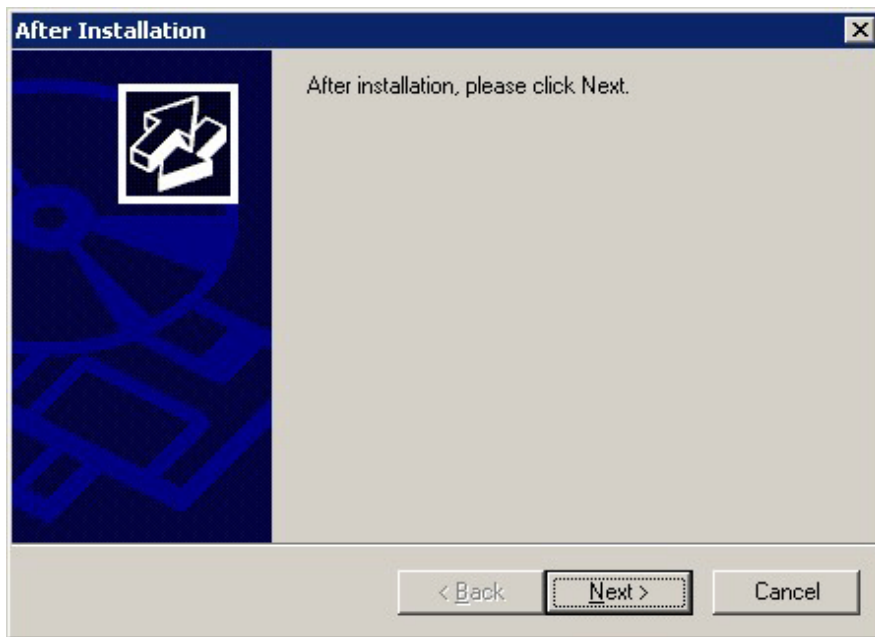
Before installation:

```
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:

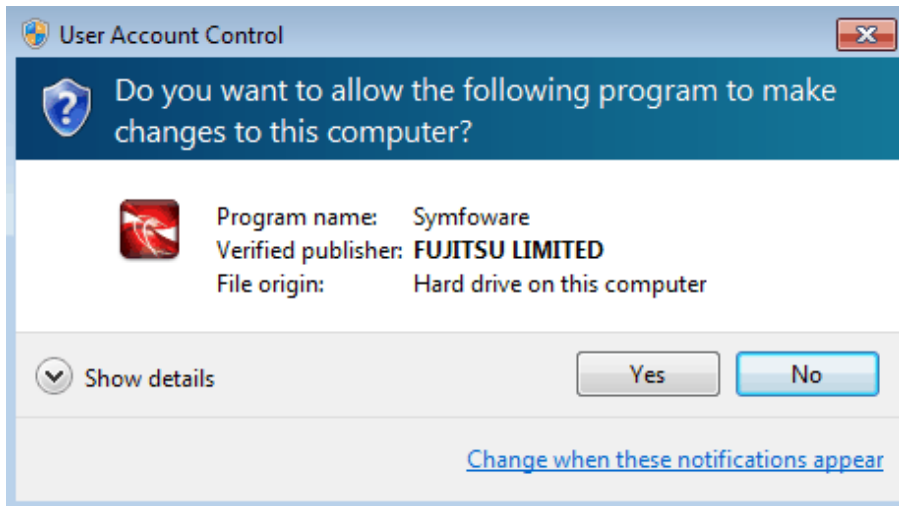
1. Perform the steps in the installation procedure until the [InstallShield Wizard Complete] window is displayed.
2. Click [Next] in the [InstallShield Wizard Complete] window.
3. The following window is displayed. Click [Finish].



4. Restart the system.

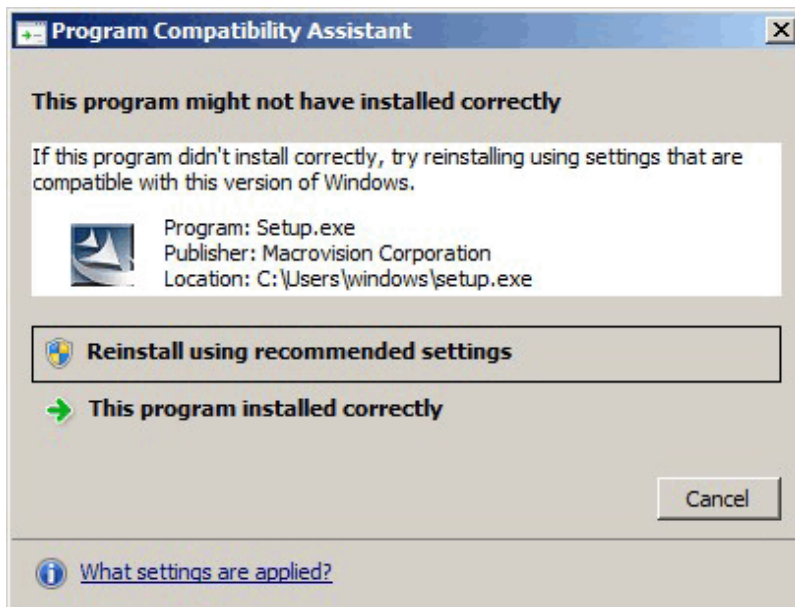
### Information

If a [User Account Control] dialog box, such as the one shown below, 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, a dialog box of the program compatibility assistant similar to the one below may be displayed. If this happens, click [This program installed correctly] or [This program uninstalled correctly] and continue operation.



---

## 2.4 Initial Installation

---

This section describes the procedures for the initial installation of the Windows client.

### Information

Refer to "[Appendix C Checking the Version of the Installed Product](#)" for information on how to check the versions of installed products.

## 2.4.1 Installation in Interactive Mode

A user with administrator privileges (who has a user ID belonging to the Administrator group) should perform the installation.

This example illustrates installation of Symfoware Server Client (64-bit) on a 64-bit operating system.

The installation procedure is described below.

### 1. Run the installation program

The [Install Menu] is automatically displayed when the client feature DVD is inserted in the DVD drive. Click [Install].



### Note

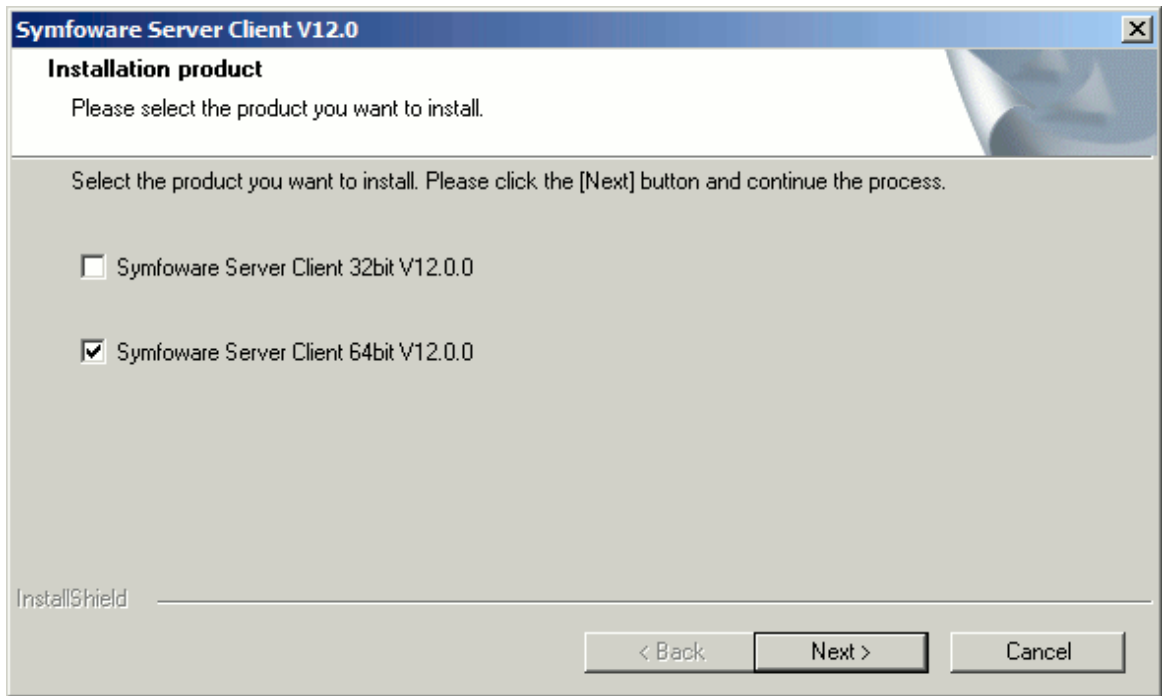
If the Autorun feature of Windows is disabled, or if the operating system is a remote desktop service (terminal service), the installation program will not start automatically. Execute the following file using [Run] or Windows Explorer.

```
Z:\autorun.exe
```

For Z, specify the drive name for the DVD.

### 2. Select the product for installation

The [Installation product] window will be displayed. After confirming that the intended installation destination has enough free space, select the product and click [Next].

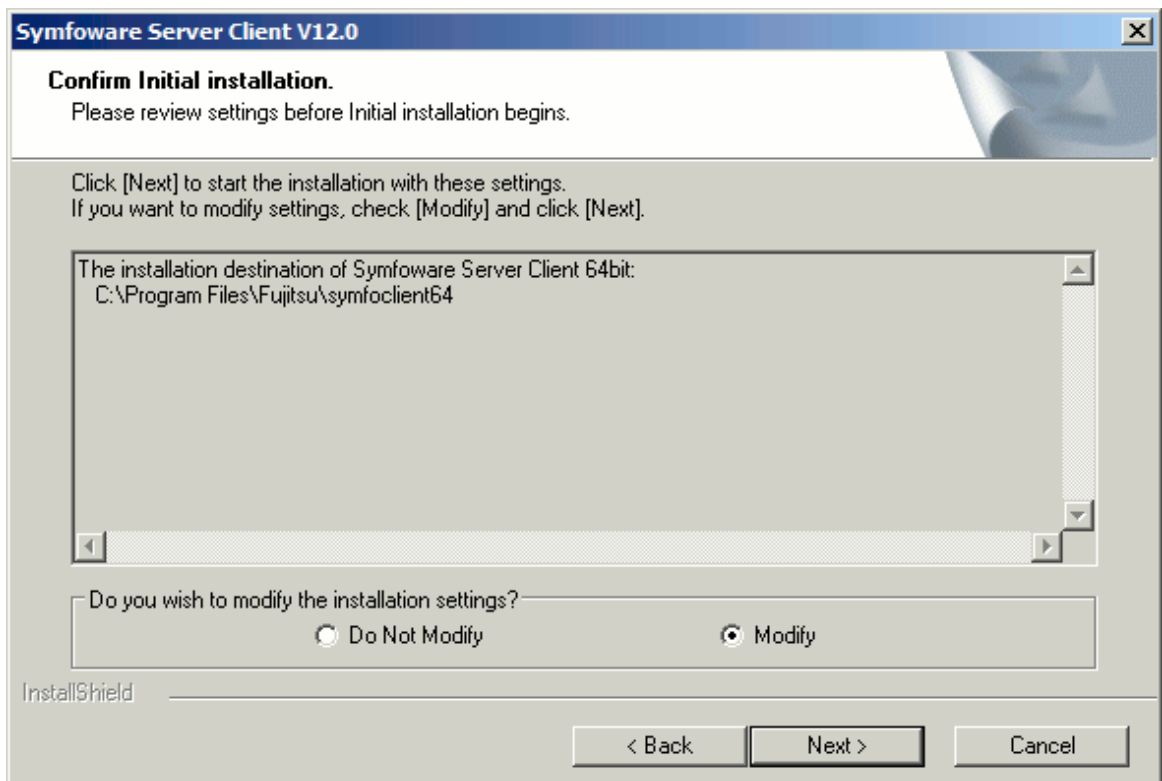


3. Confirm the contents for installation

The [Confirm Initial installation] window will be displayed.

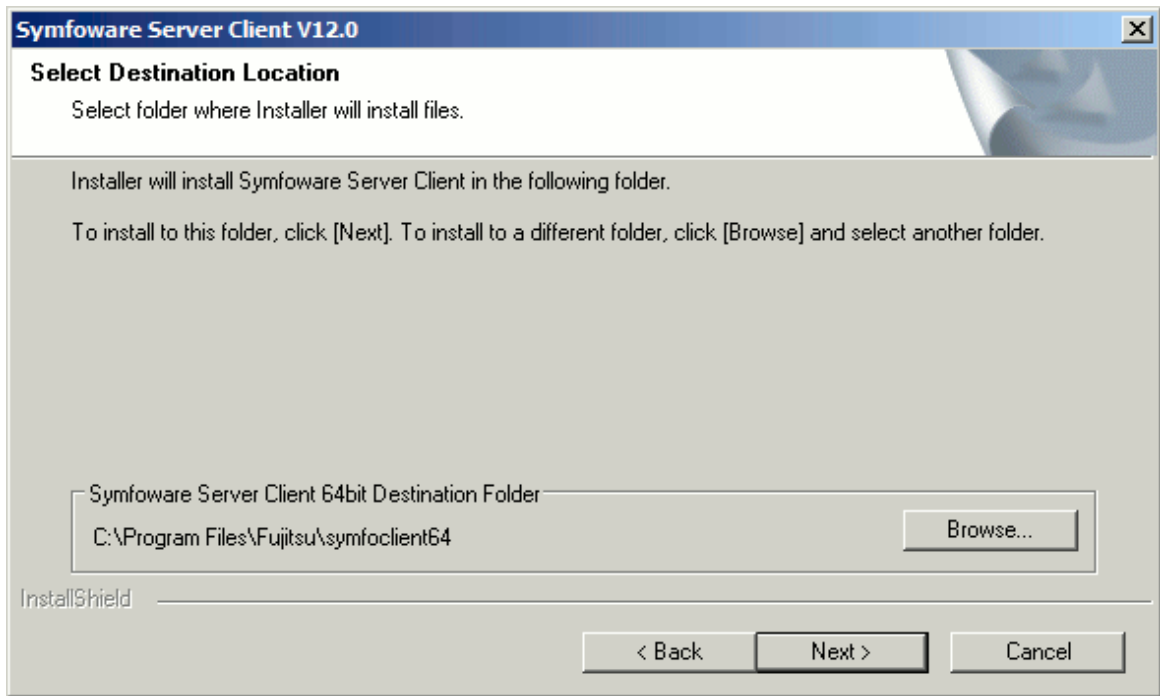
If the settings are correct, click [Next] to start installation. Proceed to "[6. Completion of installation](#)".

To modify the settings, select [Modify] and click [Next].



4. Select the installation destination

The [Select Destination Location] window will be displayed. After confirming that the intended installation destination has enough free space, select the installation destination and click [Next].

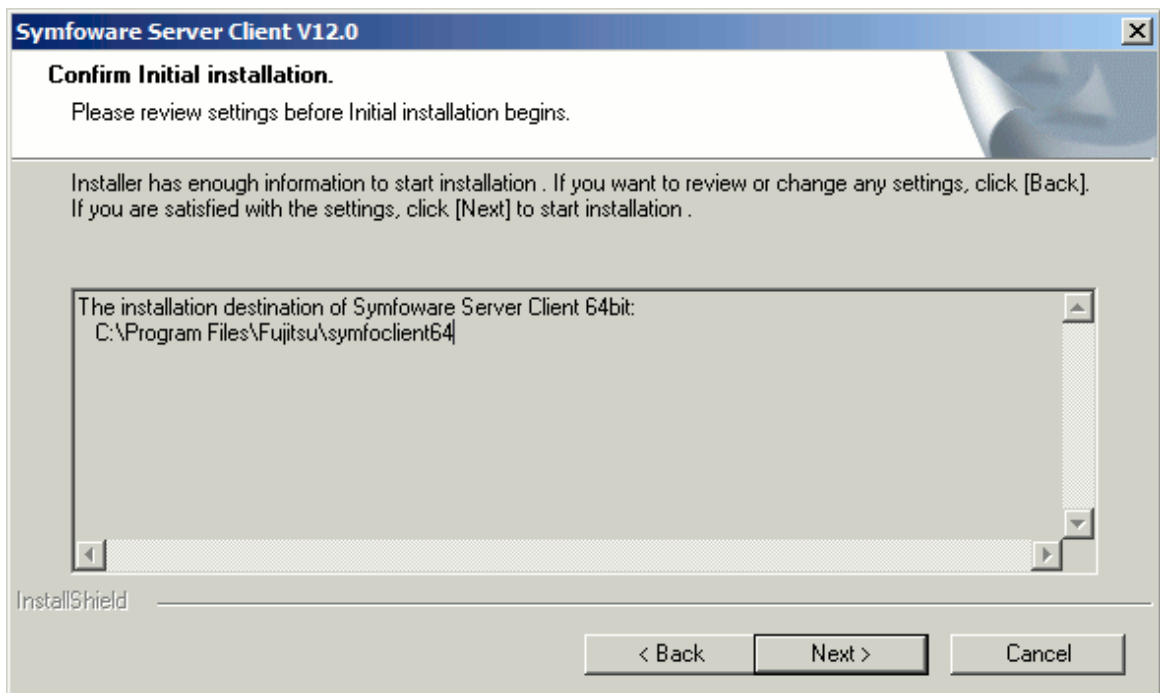


5. Confirm the modified contents for installation

The [Confirm Initial installation] window will be displayed.

If the settings are correct, click [Next] to start installation.

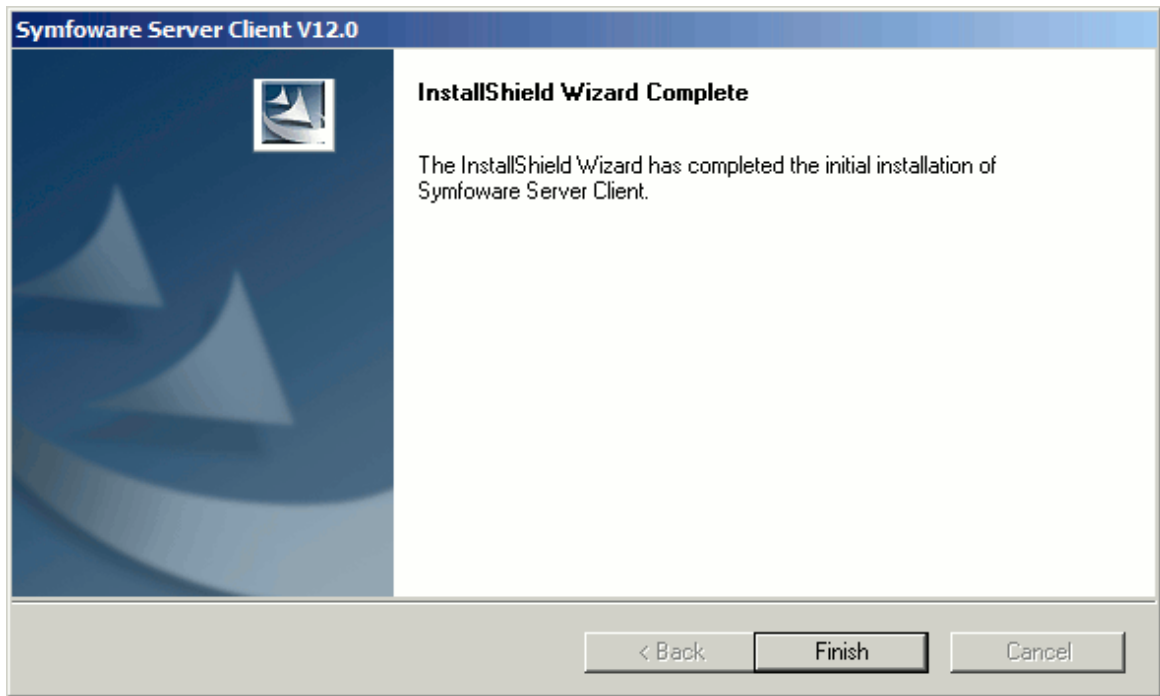
To modify the settings again, click [Back].



6. Completion of installation

The completion window is displayed. Click [Finish].





### Note

#### **If subsequently installing .NET Framework 3.5 SP1 or later, or .NET Framework 4.0 or later**

If you intend to subsequently install .NET Framework 3.5 or .NET Framework 4.0 or later, install .NET Framework and then run the `pgx_NpgsqlRegister.exe` command to set up Fujitsu Npgsql .NET Data Provider.

The `pgx_NpgsqlRegister.exe` command is installed in `symfowareServerClientFunctionInstallationDirectory\DOTNET\Bin`.

Execute this command as a user with administrator privileges.

#### Example

Setup on a 32-bit product

```
> pgx_NpgsqlRegister.exe /x86
```

Setup on a 64-bit product

```
> pgx_NpgsqlRegister.exe /x64
```

## 2.4.2 Installation in Silent Mode

Install according to the following procedure:

A user with administrator privileges (who has a user ID belonging to the Administrator group) should perform the installation.

1. Create an installation parameters CSV file.
2. Run the installation.

### 1) 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
:
```

Refer to "[Appendix A Installation in Silent Mode](#)" for information on section names, parameter names, and values that can be specified.

### Information

The template for the installation parameters CSV file is "Z:\sample\sample\_windows.csv" (where Z is the drive where the DVD is mounted).

## 2) Run the installation

1. Insert the client feature DVD in the DVD drive - in the [Install Menu] window automatically displayed, click [Exit].
2. Execute the following command in the command prompt:

```
Z:\> silent.bat installationParametersCsvFile
```

For Z, specify the drive name for the DVD.

If the silent installer ends in an error, a message is output to the log file and return values are returned. Refer to "[Appendix A Installation in Silent Mode](#)" for details.

### Note

On Windows Vista or later and on Windows 2008 or later, right-click the command prompt icon and click [Run as administrator].

## 2.5 Reinstallation

This section describes the procedure for reinstalling the Windows client.

### 2.5.1 Installation in Interactive Mode

A user with administrator privileges (who has a user ID belonging to the Administrator group) should perform the reinstallation.

### Note

Before starting installation, delete all urgent updates, temporary fixes, and specific updates that have been applied. After installation, apply reapply the latest update applied.

The reinstallation procedure is described below.

1. Run the installation program

The [Install Menu] is automatically displayed when the client feature DVD is inserted in the DVD drive. Click [Install].



### Note

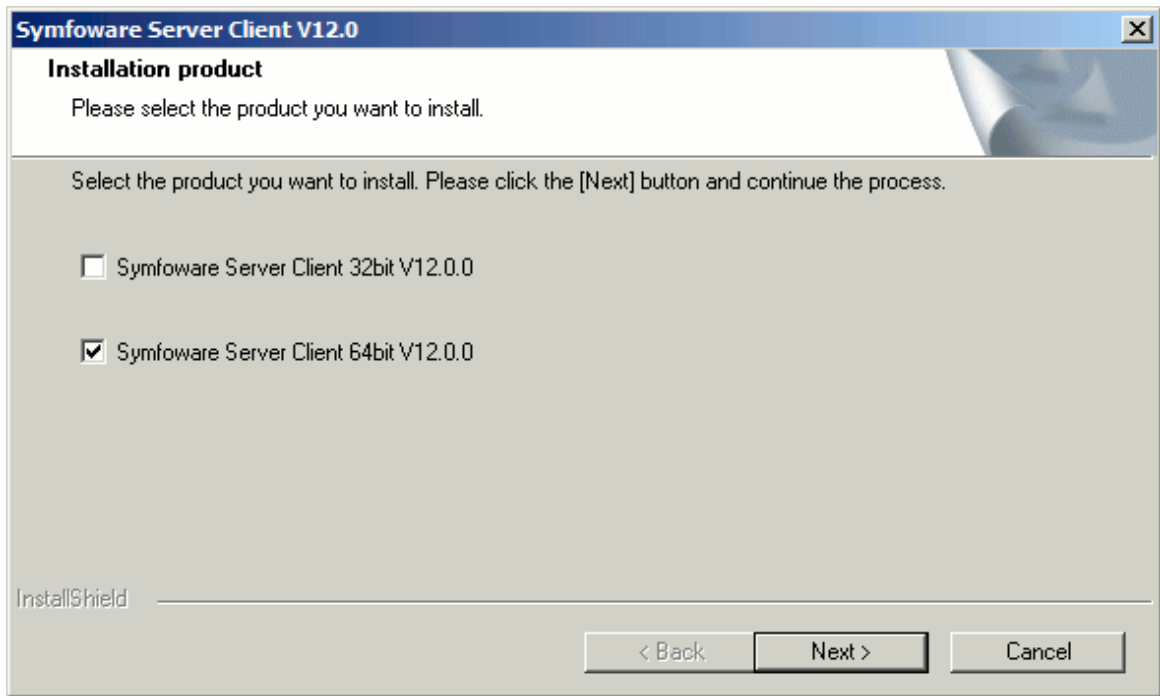
If the Autorun feature of Windows is disabled, or if the operating system is a remote desktop service (terminal service), the installation program will not start automatically. Execute the following file using [Run] or Windows Explorer.

```
Z:\autorun.exe
```

For Z, specify the drive name for the DVD.

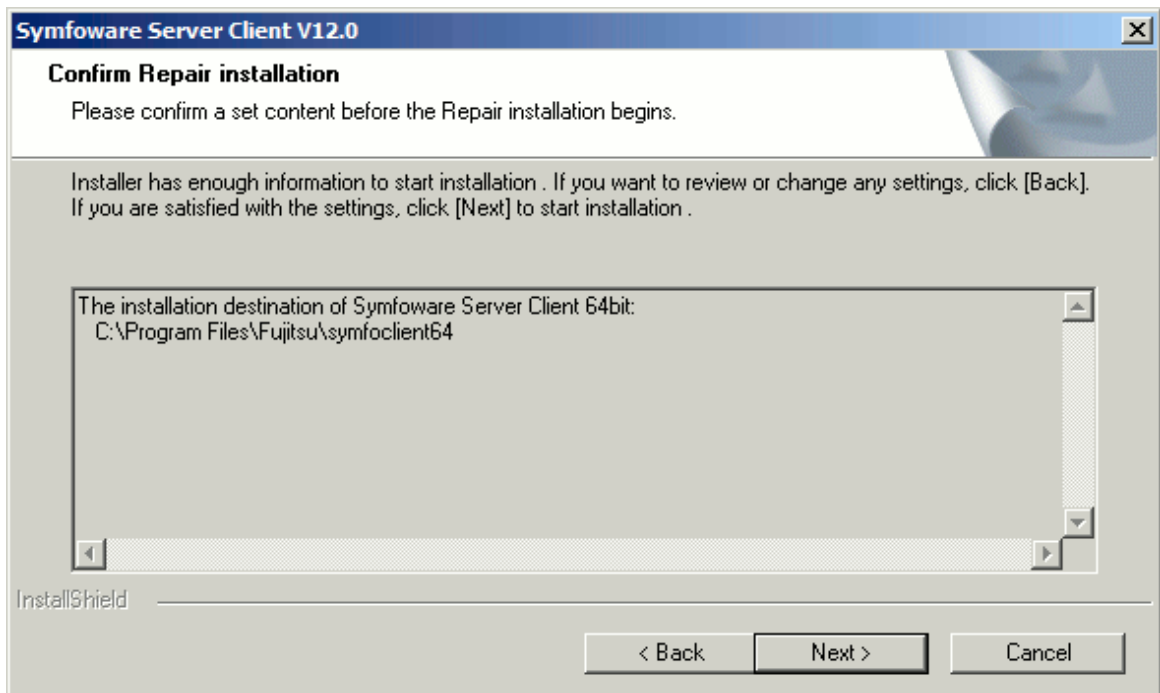
#### 2. Select the product for reinstallation

The [Installation product] window is displayed. Verify that there is sufficient free space at the installation destination, select a product, and then click [Next].



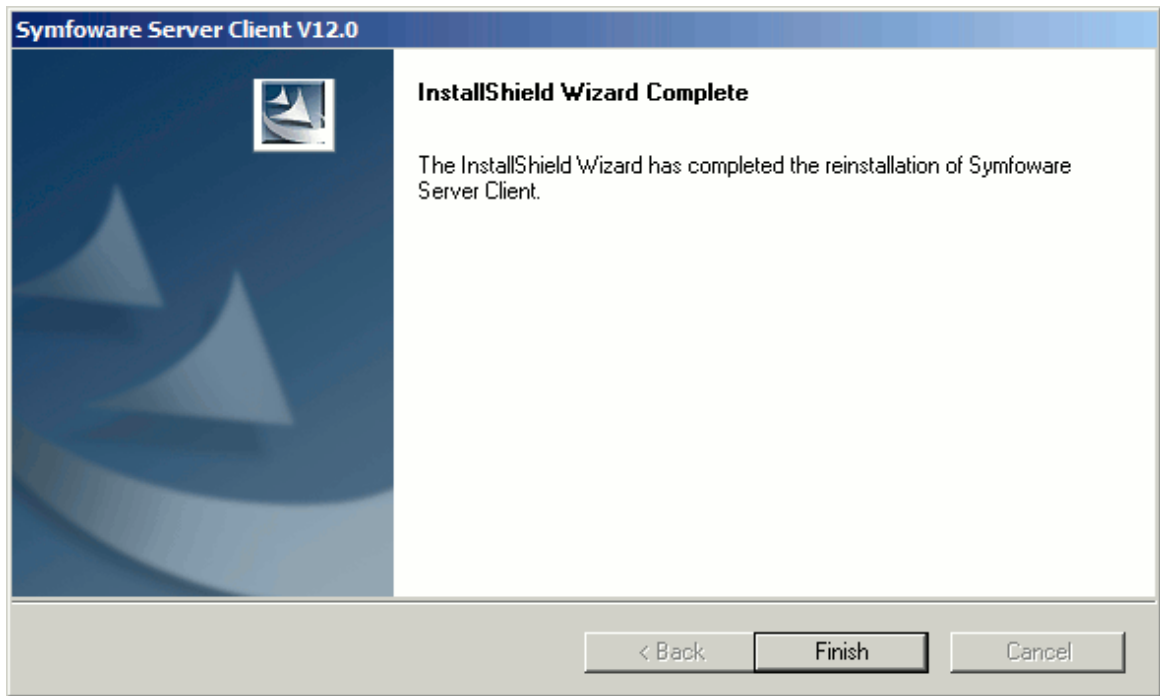
### 3. Run the reinstallation

Click [Next] in the [Confirm Repair installation] window to start reinstallation.



### 4. Completion of reinstallation

The completion window is displayed. Eject the installed media, and then click [Finish].



### Note

To use the Visual Studio integration feature, wait until reinstallation finishes, and then set up the Visual Studio integration add-on.

Refer to "Setting Up the Visual Studio Integration Add-On" in the Application Development Guide for details.

## 2.6 Uninstallation

---

This section describes the procedure for uninstalling the Windows client.

### 2.6.1 Installation in Interactive Mode

---

A user with administrator privileges (who has a user ID belonging to the Administrator group) should perform the reinstallation.

The uninstallation procedure is described below.

#### 1. Stop pgAdmin and applications

Stop pgAdmin and all applications that are using the product to be uninstalled.

#### 2. Start the uninstaller

##### Windows(R) XP

##### 1. Display the [Control Panel]

Click [Control Panel] in the [Start] menu.

##### 2. Start the uninstaller

Double-click the [Add or Remove Programs] icon in [Control Panel].

Select one of the following from the list, and then click [Change/Remove].

- Symfoware Server Client (Open Interface) (32bit) V12.0.0
- Symfoware Server Client (Open Interface) (64bit) V12.0.0

### **Windows Server(R) 2003 or Windows Server(R) 2003 R2**

1. Display [Add or Remove Programs]  
Click [Control Panel] in the [Start] menu, and then click [Add or Remove Programs].
2. Start the uninstaller  
Select one of the following from the list, and then click [Change/Remove].
  - Symfoware Server Client (Open Interface) (32bit) V12.0.0
  - Symfoware Server Client (Open Interface) (64bit) V12.0.0

### **Windows Vista(R) or Windows(R)7**

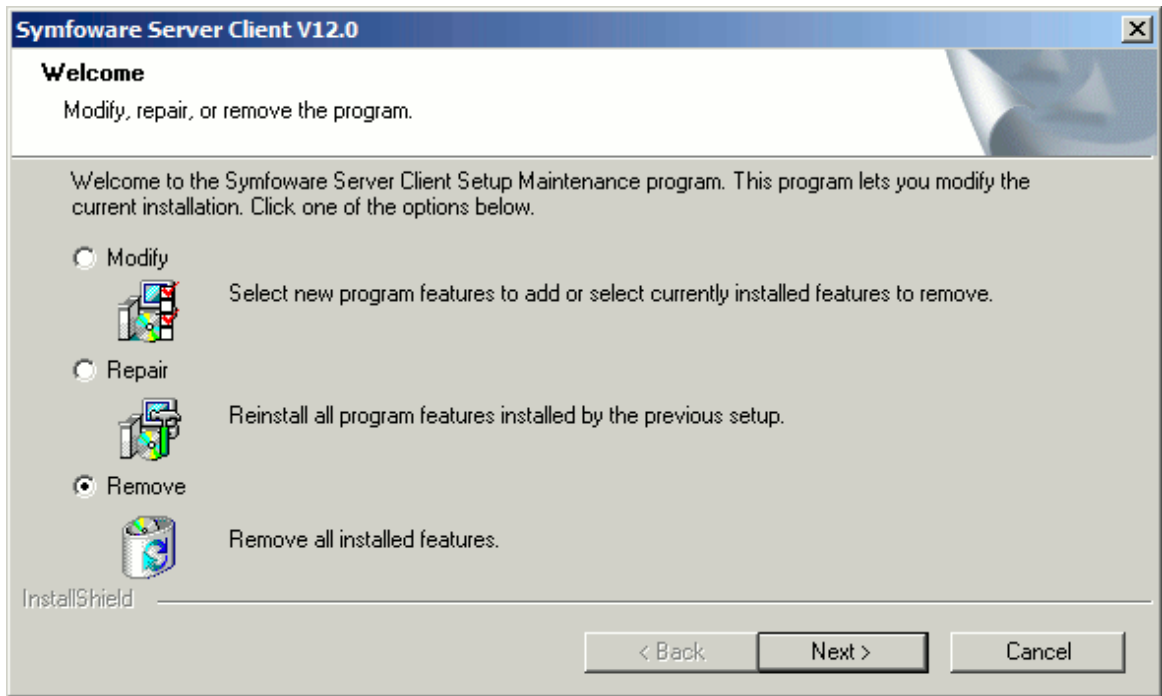
1. Display the [Control Panel]  
[Click [Control Panel] in the [Start] menu.
2. Start the uninstaller  
Double-click the [Programs] icon in [Control Panel].  
Double-click the [Programs and Features] icon in [Programs].  
Double-click one of the following from the list:
  - Symfoware Server Client (Open Interface) (32bit) V12.0.0
  - Symfoware Server Client (Open Interface) (64bit) V12.0.0

### **Windows Server(R) 2008 or Windows Server(R) 2008 R2**

1. Display the [Control Panel]  
Click [Control Panel] in the [Start] menu.
2. Start the uninstaller  
Click [Programs], and then click [Programs and Features].  
Select one of the following from the list, and then click [Uninstall or change a program].
  - Symfoware Server Client (Open Interface) (32bit) V12.0.0
  - Symfoware Server Client (Open Interface) (64bit) V12.0.0

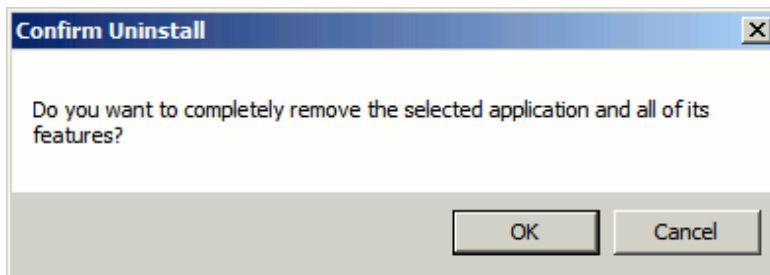
### **Windows(R) 8 or Windows Server(R) 2012**

1. Display [Control Panel]  
Right-click in the [Start] screen, and then click [All apps] which is displayed in the lower-right corner. Click [Control Panel] in the [Apps] screen.
2. Start the uninstaller  
Click [Programs], and then click [Programs and Features].  
Select one of the following from the list, and then click [Uninstall or change a program].
  - Symfoware Server Client (Open Interface) (32bit) V12.0.0
  - Symfoware Server Client (Open Interface) (64bit) V12.0.0
3. Run the uninstaller  
The [Welcome] window is displayed. Select [Remove], and click [Next].



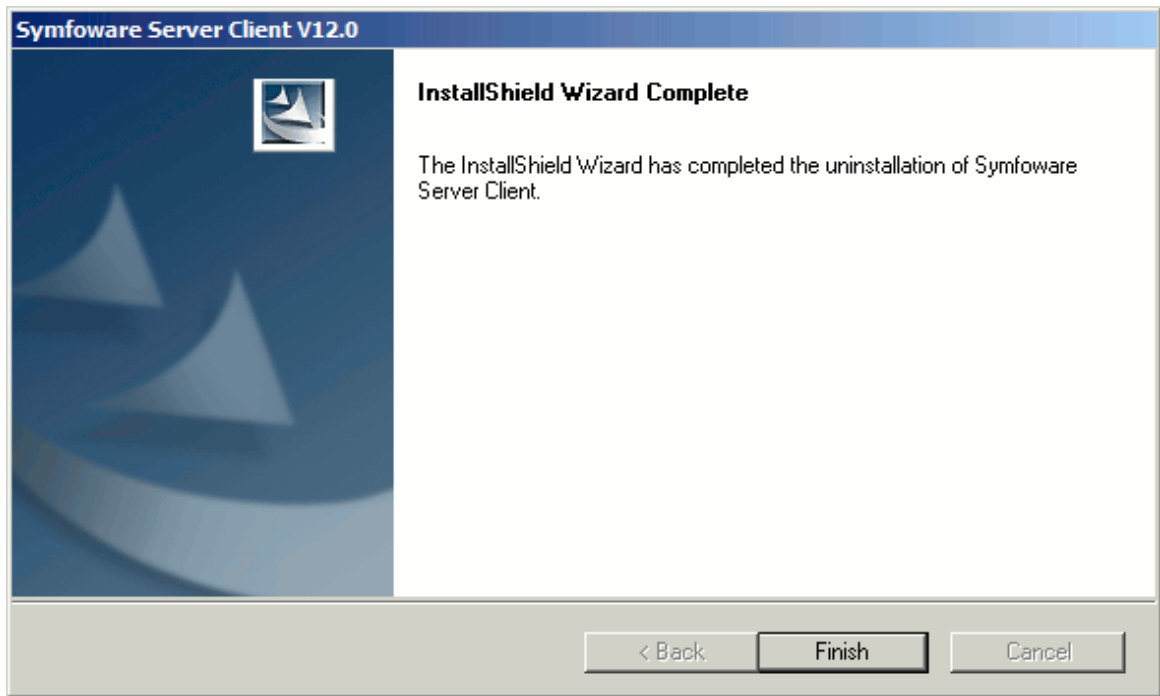
4. Run the uninstallation

The following window will be displayed. Click [OK].



5. Completion of uninstallation

The completion window is displayed. Eject the installed media, and then click [Finish].



### Note

- The folder may still remain in the installation directory after the uninstallation - if it is not required, then delete it.
- On Windows(R) 7, Windows Server(R) 2008, and Windows Server(R) 2008 R2, an empty folder may remain in the [Start] menu after the uninstallation - if this happens, then click [Start], point to [All Programs], right-click one of the options below, and then click [Delete]:
  - Symfoware Server Client (Open Interface) (32bit) V12.0.0 or
  - Symfoware Server Client (Open Interface) (64bit) V12.0.0

## 2.6.2 Uninstallation in Silent Mode

A user with administrator privileges (who has a user ID belonging to the Administrators group) should perform the uninstallation.

The uninstallation procedure is described below.

### 1. Stop all applications

Stop all applications that are using the product to be uninstalled.

### 2. Start the uninstaller

Run suninst.bat to start uninstallation.

Example

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

X: Drive where the product is installed

### Note

- The folder may still remain in the installation directory after the uninstallation - if it is not required, then delete it.

- On Windows(R) 7, Windows Server(R) 2008, and Windows Server(R) 2008 R2, an empty folder may remain in the [Start] menu after the uninstallation - if this happens, then click [Start], point to [All Programs], right-click one of the options below, and then click [Delete]:
  - Symfoware Server Client (Open Interface) (32bit) V12.0.0 or
  - Symfoware Server Client (Open Interface) (64bit) V12.0.0

### 3. Check the uninstallation results

The uninstaller result is output to the log file.

Log file

"nnnn" refers to the numeric part of the product version and level. For example, V12.0.0 is written as "1200".

64-bit product:

Path name: %TEMP%\SymfowareOpen\_CL\_64\_nnnn.log

32-bit product:

Path name: %TEMP%\SymfowareOpen\_CL\_32\_nnnn.log

Return values

The following return values are returned:

Return values	Meaning
0	Uninstallation completed successfully.
64	Uninstallation failed because Uninstall (middleware) is running.
65	Failed to start Uninstall (middleware).
70	An error occurred during conversion from a string to a numeric value.
71	The InstallShield response file (.iss) does not exist or contains an error.
73	The InstallShield definition file (.ini) does not exist or contains an error.
76	The process for checking if the environment is 64-bit failed.
79	Failed to load the registry.
81	Failed to load symrdb.dll.
128	A system error occurred.
144	The command was not executed with administrator privileges.
180	A product is using Symfoware Server.
205	The display size is not supported.



# Chapter 3 Installing Linux Client

This chapter describes how to install 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:

- RHEL5(Intel64)
- RHEL5(x86)
- RHEL6(Intel64)
- RHEL6(x86)



#### Information

Select the x86\_64 architecture package when installing the 64-bit product.

Select the i386 to i686 architecture packages when installing the 32-bit product.

- The following packages are required for operations on RHEL5(x86).

Package name	Remarks
glibc	
libgcc	
libstdc++	
libtermcap	
libxml2	Required when using XPath queries and the XSLT feature
libxslt	Required when using XPath queries and the XSLT feature
unixODBC	Required when using ODBC drivers
zlib	

- The following packages are required for operations on RHEL5(Intel64).

Package name	Remarks
glibc	
libgcc	
libstdc++	
libtermcap	
libxml2	Required when using XPath queries and the XSLT feature
libxslt	Required when using XPath queries and the XSLT feature
unixODBC	Required when using ODBC drivers
zlib	

- The following packages are required for operations on RHEL6 (x86).

Package name	Remarks
glibc	
libgcc	
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 RHEL6 (Intel64).

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

### 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	Package name	Version
1	C compiler (*1)	gcc Other related packages	-
2	JDK or JRE	-	Java SE 6/7 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:

- NetCOBOL Standard Edition V7.0L10 or later



Either the JDK or JRE included with Interstage Application Server, or the Oracle JDK or JRE can be used. It is recommended that the JDK or JRE included with Interstage Application Server is used.

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

Table 3.2 Connectable servers

OS	Software name
Linux	Symfaware Server Standard Edition (Open Interface) V12.0.0 or later

### 3.1.3 Excluded Software

---

There is no excluded software.

### 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 70 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.

Table 3.3 Disk space required for installation

Directory	Required disk space Unit: MB
/etc	1
/var	1
Installation destination of the client (32-bit)	65
Installation destination of the client (64-bit)	65

### 3.1.7 Supported System Environment

---

This section describes the supported system environment.

#### TCP/IP protocol

Symfaware Server 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.

#### File system

All file systems with a POSIX-compliant interface are supported.

However, for stable system operation, the disk where the database is deployed must use a highly reliable file system. Consider this aspect when selecting the file system to be used.

The recommended file system is "ext3".

### Note

In terms of software reliability, ext3 is preferable to ext4 on RHEL 6.4 and earlier.

## 3.1.8 Versions of Open-Source Software Used as the Base for Symfoware Server Drivers

The following table lists the versions of open-source software used as the base for the various Symfoware Server drivers.

Driver	Open-source software version
JDBC	pgjdbc 9.2-1002
ODBC	psqlodbc 09.01.0200
libpq	PostgreSQL 9.2.4

## 3.2 Preparing for Installation

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 3.3 Disk space required for installation](#)" for information on disk space requirements.

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

## 3.3 Initial Installation

This section describes the procedures for the initial installation of the Linux client.

### Information

Refer to "[Appendix C Checking the Version of the Installed Product](#)" for information on how to check the versions of installed products.

### 3.3.1 Installation in Interactive Mode

Install according to the following procedure:

1. Change to the superuser.
2. Mount the DVD drive.
3. Install.

### Note

- Configure the LANG environment variable in the console window where the install.sh command is executed in accordance with the display environment. If the LANG environment variable is not set correctly, the display may be the displayed characters may appear garbled.

- Do not enter the following halfwidth characters, otherwise install.sh may not work properly:

```
" # $ & ' ( ) ^ ~ \ | @ ` [ ] { } ; : < > tab
```

## 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 feature DVD in the DVD drive, and run the command given below.



If the automatic mount daemon (autofs) is used to mount DVDs automatically, the installer fails to start because "noexec" is set in the mount options. 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.

Example

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

## 3) Install

Follow the installation procedure described below.

This example illustrates installation of Symfoware Server Client (64-bit) V12.0.0 on a 64-bit operating system.

### 1. Start installation

Run the install.sh command to start installation.

Example

```
# LANG=en_US.UTF-8;export LANG  
# cd /media/dvd  
# ./install.sh
```

### 2. Select the product for installation

The list of products to be installed is shown below.

Steps 4 to 10 are repeated if multiple products are selected.

```
The following products can be installed:  
1: Symfoware Server Client 32bit V12.0.0  
2: Symfoware Server Client 64bit V12.0.0  
  
Select the product to be installed.  
To select multiple products, separate using commas (,). (Example: 1,2)  
[1,2,all,q](The default value is all):2
```



To create a 32-bit application in a 64-bit environment, Symfoware Server Client 32-bit is required. It is therefore recommended that you use the default value "all" to install all products.

### 3. Confirm the product for installation

The selected installation product will be displayed as follows:

```
Selected product
  Symfoware Server Client 64bit V12.0.0

Do you want to install the above product?
y: Proceed to the next step
n: Select the product again
q: Quit without installing
[y,n,q](The default value is y): y
```

### 4. Check the product name and installation environment

The message for the product name and installation environment check is displayed as follows.

```
=====
Symfoware Server Client 64bit V12.0.0
=====

Installation environment check will start.
Installation environment check has completed.
```

### 5. Display the start message

The start message is displayed as follows:

```
Initial installation will start.
```

### 6. Change the installation information

The window for checking the installation information is displayed as follows:

```
Installation directory information
Installation directory: /opt/symfoclient64

Start installation using the above information?
y: Start the installation
c: Change the information
q: Quit without installing
[y,c,q](The default value is y): y
```

If you select "y: Start the installation", refer to ["9. Display the installation status"](#).

If you select "c: Change the information", the following window is displayed.

### 7. Enter the installation destination

The window to enter the installation destination is displayed as follows:

```
Specify the installation directory.
[directory name,q](The default value is /opt/symfoclient64):
```

### 8. Confirm the installation information

The installation information is displayed as shown below. The directory name that was entered in the above window is displayed as the installation destination.

Enter "y" to start installation using the displayed installation information.

```
Installation directory information
  Installation directory: /opt/symfoclient64

Start installation using the above information?
y: Start the installation
c: Change the information
q: Quit without installing
[y,c,q](The default value is y): y
```

### 9. Display the installation status

Select "y: Start the installation" in the above window to start installation. The installation status is displayed as shown below.

```
Starting installation.  
Installation is complete.
```

### 10. Display and check the completion message

When installation completes, a message is displayed showing the installation results.

When the process completes successfully

The following message is displayed when installation completes successfully.

```
Initial installation has completed successfully.
```

When the process ends in an error

The following message is displayed when an error occurs during installation.

```
error: ./CLIENT64/packages/r60x64/FJSVsymci12006-12006E.6-2.x86_64.rpm: not an rpm  
package (or package manifest):  
  
ERROR: An error occurred in FJSVsymdb12006 installation.  
  
Initial installation has terminated abnormally.
```



If an error occurs during installation, take the following corrective actions:

1. Eliminate the cause by referring to the error message.
2. Execute the install.sh command again.

## 3.3.2 Installation in Silent Mode

Install according to the following procedure:

1. Create an installation parameters CSV file.
2. Change to the superuser.
3. Mount the DVD drive.
4. Run the installation.



Configure the LANG environment variable in the console window where the silent.sh command is executed in accordance with the display environment. If the LANG environment variable is not set correctly, the display may be the displayed characters may appear garbled.

### 1) 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  
:
```

Refer to "[Appendix A Installation in Silent Mode](#)" for information on the installation parameters CSV file.

## Information

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

### 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 feature DVD in the DVD drive, and run the command given below.

#### Note

If the automatic mount daemon (autofs) is used to mount DVDs automatically, the installer fails to start because "noexec" is set in the mount options. 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.

Example

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

### 4) Run the installation

Execute the silent.sh command to start installation.

This example uses the installation parameters CSV file saved as "inspara.csv".

Note that the installation parameters CSV file can be stored in any location. In the example below, this location is "/home/work".

Example

```
# LANG=en_US.UTF-8;export LANG  
# cd /media/dvd  
# ./silent.sh /home/work/inspara.csv
```

If the silent installer ends in an error, a message is output to the log file and return values are returned. Refer to "[Appendix A Installation in Silent Mode](#)" for details.

## 3.4 Reinstallation

---

This section describes the procedures for the reinstallation of the Linux client.

### 3.4.1 Installation in Interactive Mode

---

Install according to the following procedure:

1. Stop applications
2. Change to the superuser.
3. Mount the DVD drive.
4. Install.



## Note

- Configure the LANG environment variable in the console window where the install.sh command is executed in accordance with the display environment. If the LANG environment variable is not set correctly, the display may be the displayed characters may appear garbled.
- Do not enter the following halfwidth characters, otherwise install.sh may not work properly.  
`" # $ & ' ( ) ^ ~ \ | @ ` [ ] { } ; : < > tab`
- Before starting installation, delete all urgent updates, temporary fixes, and specific updates that have been applied. After installation, reapply the latest update applied.

### 1) Stop applications

Stop all applications that are using the product to be reinstalled.

### 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 feature DVD in the DVD drive, and run the command given below.

## Note

If the automatic mount daemon (autofs) is used to mount DVDs automatically, the installer fails to start because "noexec" is set in the mount options. 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.

Example

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

### 4) Install

Follow the installation procedure described below.

This example illustrates reinstallation of Symfoware Server Client 64-bit V12.0.0 .

#### 1. Start reinstallation

Run the install.sh command to start reinstallation.

Example

```
# LANG=en_US.UTF-8;export LANG  
# cd /media/dvd  
# ./install.sh
```

#### 2. Select the product for reinstallation

The list of products to be reinstalled is shown below.

Steps 4 to 9 are repeated if multiple products are selected.

```
The following products can be installed:  
1: Symfoware Server Client 32bit V12.0.0  
2: Symfoware Server Client 64bit V12.0.0
```

```
Select the product to be installed.
To select multiple products, separate using commas (,). (Example: 1,2)
[1,2,all,q](The default value is all): 2
```

### 3. Confirm the product for reinstallation

A window for confirming the product to be installed is displayed as follows:

```
Selected product
  Symfoware Server Client 64bit V12.0.0

Do you want to install the above product?
y: Proceed to the next step
n: Select the product again
q: Quit without installing
[y,n,q](The default value is y): y
```

### 4. Check the product name and installation environment

The message for the product name and installation environment check is displayed as follows.

```
=====
Symfoware Server Client 64bit V12.0.0
=====

Installation environment check will start.
Installation environment check has completed.
```

### 5. Select the installation type

The following window may be displayed, depending on the product being installed. Enter a number.

```
Select the installation type.
Select a number if performing an upgrade installation (reinstallation).

1: Symfoware Server Client 64bit V12.0.0
q: Quit without installing
[u,m,q](The default value is q):1
```

### 6. Display the installation information

The installation type is displayed as follows:

Enter "y" to start installation using the displayed installation type.

```
1: Symfoware Server Client 64bit V12.0.0

Do you want to install the above product?
y: Proceed to the next step
n: Select the product again
q: Quit without installing
[y,n,q](The default value is y): y
```

### 7. Display the start message

The start message is displayed as shown below.

```
Upgrade installation (reinstallation) will start.
```

### 8. Display the installation status

The installation status is displayed as follows:

```
Starting deletion.
Deletion is complete.
```

```
Starting installation.  
Installation is complete.
```

## Information

The above process must not be canceled using CTRL+C or 'kill -15'.

If you need to forcibly terminate the process, then follow the procedure below:

1. Run the following command to determine the process ID.

```
# ps -af | grep symfo_install
```

Example

```
root 17238 17184 0 23:29 pts/0 00:00:00 sh ./CLIENT64/symfo_install  
root 17496 17480 0 23:30 pts/1 00:00:00 grep symfo_install
```

2. Run the following command to forcibly terminate the process.

```
# kill -9 17238
```

## 9. Display the completion message

When installation completes, a message is displayed showing the installation results.

When the process completes successfully

The following message is displayed when reinstallation completes successfully.

```
Upgrade installation (reinstallation) has completed successfully.
```

When the process ends in an error

The following message is displayed when an error occurs during reinstallation.

```
error: ./CLIENT64/packages/r60x64/FJSVsymci12006-12006E.6-2.x86_64.rpm: not an rpm  
package (or package manifest):  
  
ERROR: An error occurred in FJSVsymdb12006 installation.  
  
Upgrade installation (reinstallation) has terminated abnormally.
```

## Note

If an error occurs during reinstallation, take the following corrective actions:

1. Eliminate the cause by referring to the error message.
2. Execute the install.sh command again.

## 3.5 Uninstallation

This section describes the procedure for uninstalling the Linux client.

### 3.5.1 Uninstallation in Interactive Mode

This section explains how to use the symfo\_remove command for uninstallation.

Uninstall according to the following procedure:

1. Stop applications.
2. Change to the superuser.
3. Uninstall.

### Note

- Configure the LANG environment variable in the console window where the symfo\_remove command is executed in accordance with the display environment. If the LANG environment variable is not set correctly, the display may be the displayed characters may appear garbled.
- Do not enter the following halfwidth characters, otherwise install.sh may not work properly:  
`" # $ & ' ( ) ^ ~ \ | @ ` [ ] { } ; : < > tab`
- The installation directory may still remain after uninstallation - if it is not required, then delete it.

## 1) Stop applications

Stop all applications that are using the product to be uninstalled.

## 2) Change to the superuser

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

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

## 3) Uninstall

Use the following procedure to uninstall.

### 1. Start uninstallation

Run the following command to start uninstallation.

Example

```
# LANG=en_US.UTF-8;export LANG  
# installationDirectory/setup/symfo_remove
```

### 2. Check the uninstallation

The message for the uninstallation environment check is displayed as follows:

```
"Symfoware Server Client 64bit V12.0.0" will be uninstalled.  
  
Do you want to uninstall the above product?  
y: Start the uninstallation  
q: Quit without uninstalling  
[y,q](The default value is q): y
```

### 3. Display the uninstallation status

The uninstallation status is displayed as shown below.

```
Starting uninstallation.  
Uninstallation is complete.
```

### Information

The above process must not be canceled using CTRL+C or 'kill -15'.

If you need to forcibly terminate the process, then follow the procedure below:

1. Run the following command to determine the process ID.

```
# ps -af | grep symfo_remove
```

Example

```
root      19040 18612  0 23:54 pts/0    00:00:00 /bin/sh /opt/symfoclient64/setup/
symfo_remove
root      19071 17480  0 23:55 pts/1    00:00:00 grep symfo_remove
```

2. Run the following command to forcibly terminate the process.

```
# kill -9 19040
```

#### 4. Check the uninstallation results

When uninstallation completes, a message is displayed showing the uninstallation results.

When the process completes successfully

The following message is displayed when uninstallation completes successfully.

```
Uninstallation of "Symfoware Server Client 64bit V12.0.0" has completed successfully
```

When the process ends in an error

The following message is displayed when an error occurs during uninstallation.

```
Uninstallation of "Symfoware Server Client 64bit V12.0.0" has ended in an error.
```



Note

If an error occurs during uninstallation, take the following corrective actions:

1. Eliminate the cause by referring to the error message.
2. Execute the symfo\_remove command again.

## 3.5.2 Uninstallation in Silent Mode

Uninstall according to the following procedure:

1. Stop applications.
2. Change to the superuser.
3. Uninstall.



Note

The installation directory may still remain after the uninstallation - if it is not required, then delete it.

### 1) Stop applications

Stop all applications that are using the product to be uninstalled.

### 2) Change to the superuser

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

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

### 3) Uninstall

Use the following procedure to uninstall.

This example illustrates uninstallation of Symfoware Server Client 64-bit V12.0.0.

#### 1. Start uninstallation

Run the `symfo_remove` command with the `-S` option to start uninstallation.

Example

```
# LANG=en_US.UTF-8;export LANG
# installationDirectory/setup/symfo_remove -S
```



#### Information

The above process must not be canceled using `CTRL+C` or `'kill -15'`.

If you need to forcibly terminate the process, then follow the procedure below:

#### 1. Run the following command to determine the process ID.

```
# ps -af | grep symfo_remove
```

Example

```
root    19040 18612  0 23:54 pts/0    00:00:00 /bin/sh /opt/symfoclient64/setup/
symfo_remove -S
root    19071 17480  0 23:55 pts/1    00:00:00 grep symfo_remove
```

#### 2. Run the following command to forcibly terminate the process.

```
# kill -9 19040
```

#### 2. Check the uninstallation results

The uninstaller result is output to the log file.

Log file

"nnnn" refers to the numeric part of the product version and level. For example, V12.0.0 is written as "1200".

64-bit products

```
Path name:/var/log/symfoware_cl_64_nnnn.log
```

32-bit products

```
Path name:/var/log/symfoware_cl_32_nnnn.log
```

Return values

The following return values are output:

Return values	Meaning
0	Uninstallation was successful.
4	Failed to uninstall the package.
64	Failed to delete product information from Uninstall (middleware).
106	The command was not executed with administrator privileges.

# 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 "*installationDirectory*\bin".

PGLOCALEDIR environment variable

Add "*installationDirectory*\share\locale".

Examples of environment variable configurations are shown below.

Example

```
> SET PATH=%ProgramFiles%\Fujitsu\symfoclient32\bin;%PATH%
> SET PGLOCALEDIR=%ProgramFiles%\Fujitsu\symfoclient32\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

This example is specific to 64-bit Linux.

```
$ PATH=/opt/symfoclient64/bin:$PATH ; export PATH
$ MANPATH=/opt/symfoclient64/share/man:$MANPATH ; export MANPATH
$ PGLOCALEDIR=/opt/symfoclient64/share/locale ; export PGLOCALEDIR
$ LD_LIBRARY_PATH=/opt/symfoclient64/lib:$LD_LIBRARY_PATH ; export LD_LIBRARY_PATH
```

# Appendix A Installation in Silent Mode

This appendix provides specifications for installation in silent mode.

## A.1 Specification Format

The installation parameters CSV file, which is specified as the argument for the silent installer, has three columns per line in CSV format.

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

Enter the following settings in respective columns.

Item	Settings	Optional
<i>sectionName</i>	Specify the section name. There are two types of section names: "installInfo": Set the product information. "parameters": Set the parameter information for this product.	Mandatory
<i>parameterName</i>	Specify the parameter name. Each section has a valid parameter.	Mandatory
<i>value</i>	Specify the value.	Optional

### Note

- Blank lines cannot be included.
- Section names and parameter names cannot be omitted.
- Undefined parameters cannot be set in lines where the section name is "installInfo". Also, note that the same parameter cannot be specified multiple times.
- Specify at least one line with the section name "parameters".
- Undefined parameters specified in lines within the "parameters" section will be ignored during execution. Note that when the same parameter is specified multiple times, the settings in the lowest line will be valid.
- The setting values for lines where the section name is "installInfo" may contain alphanumeric characters (at least one), and symbols, excluding double quotation marks (") and commas (,).
- Do not use the following halfwidth characters in the setting values for lines with the section name "parameters".

W

Windows: # \$ & ' = ^ ~ | @ ` [ ] ; < > / tab

L

Linux: " # \$ & = ' ( ) ^ ~ \ | @ ` [ ] { } ; : < > tab

### Information

The templates for the installation parameters CSV file are as follows:

W

- Windows client: Z:\sample\sample\_windows.csv (where Z is the drive where the DVD is mounted)

L

- Linux client: *mountPoint*/sample/sample\_linux.csv



## A.2 List of Parameters

This section describes the parameters that can be set for each section.

### installInfo section

The parameters that can be set in the installInfo section are shown below.

No.	Type	Parameter		Description
1	Software ID	<b>Parameter name</b>	Name	Mandatory. Specify the software identifier. For this software, specify the following value: "Symfoware Server"
		<b>Value/Range</b>	String	
		<b>Default value</b>	None	



### Information

- In addition to "Name", the following parameters can be used in the "installInfo" section.
  - softwareName
  - OS
  - Version
  - Edition
- Note that specifying a parameter name other than "Name" and the parameters listed above will result in an error.
- The values set in these parameters do not affect silent installation.

### Example

The following specification example installs Linux Symfoware Server Client (Open Interface) V12.0.0.

```
installInfo,Name,Symfoware Server
```

### parameters section

The parameters that can be set in the parameters section are shown below.

No.	Parameter		Description
1	<b>Parameter name</b>	Client32InstallExecute	Optional. Specify whether to run the installation of the client (32-bit). Y: Install N: Do not install
	<b>Value/Range</b>	Y or N	
	<b>Default value</b>	Y	
2	<b>Parameter name</b>	Client32InstallPath	Optional. Specify the installation destination of the client (32-bit). <b>W</b> A root folder (such as C:\) cannot be specified. <b>L</b> A root directory cannot be specified.
	<b>Value/Range</b>	Path name	
	<b>Default value</b>	<b>W</b> Windows(32-bit) %ProgramFiles%\Fujitsu \symfoclient32 <b>W</b> Windows(64-bit)	

No.	Parameter		Description
		%ProgramFiles(x86)% \Fujitsu\symfoclient32 <b>L</b> Linux /opt/symfoclient32	
3	<b>Parameter name</b>	Client64InstallExecute	Optional. Specify whether to run the installation of the client (64-bit). Y: Install N: Do not install This parameter is ignored on 32-bit operating systems.
	<b>Value/Range</b>	Y or N	
	<b>Default value</b>	Y	
4	<b>Parameter name</b>	Client64InstallPath	Optional. Specify the installation destination of the client (64-bit). This parameter is ignored on 32-bit operating systems. <b>W</b> A root folder (such as C:\) cannot be specified. <b>L</b> A root directory cannot be specified.
	<b>Value/Range</b>	Path name	
	<b>Default value</b>	<b>W</b> Windows(64-bit) %ProgramFiles%\Fujitsu \symfoclient64 <b>L</b> Linux /opt/symfoclient64	

#### Example

The following specification example installs Linux Symfoware Server Client (Open Interface) V12.0.0.

```
parameters,Client32InstallExecute,Y
parameters,Client32InstallPath,/opt/symfoclient32
parameters,Client64InstallExecute,Y
parameters,Client64InstallPath,/opt/symfoclient64
```

## A.3 Messages and Return Values

Messages are output when errors are detected during parametric analysis.

If an error occurs during installation of the product, a message is output to the log.

#### Log file

"nnnn" refers to the numeric part of the product version and level. For example, V12.0.0 is written as "1200".

**W**

#### Windows

##### 64-bit product:

```
Path name:%TEMP%\SymfowareOpen_CL_64_nnnn.log
```

##### 32-bit product:

```
Path name:%TEMP%\SymfowareOpen_CL_32_nnnn.log
```

**L**

#### Linux

##### 64-bit product:

```
Path name:/var/log/symfoware_cl_64_nnnn.log
```

32-bit product:

Path name: /var/log/symfoware\_cl\_32\_nnnn.log

## Messages and return values

### CSV file errors

The following messages are output if errors are detected while parsing CSV files.

Return value	Message	Explanation and actions
4	CSV file error:code = 1, Invalid CSV error.	There is an error in the specification format of the CSV file.
4	CSV file error:code = 2, installInfo/Name is required.	There is an error in the specification format of the CSV file.
4	CSV file error:code = 3, Invalid installInfo key.	There is an error in the installInfo specification. Or the section name is invalid.
4	CSV file error:code = 4, Duplicated installInfo key.	The same parameter has been defined more than once in installInfo.
4	CSV file error:code = 5, Invalid character length.	No setting value has been specified, or the specified string is too long.
4	CSV file error:code = 6, Invalid character format or encoding.	An invalid character has been specified in the installation parameters CSV file.
4	CSV file error:code = 8, Parameter is required.	The "parameters" section has no lines.
20	The input file does not exist.	The input file does not exist.
21	The value of @1@ is incorrect,the value is @2@.	The value is incorrect. Specify the correct value. The parameter name is displayed in @1@. The specified value is displayed in @2@.
22	The value same at @1@ and @2@ is specified.	The same value is specified in different parameters. Specify different values. The parameter name is displayed in @1@ and @2@.
23	The @2@ of @1@ already exists.	The path already exists. Specify a different path. he parameter name is displayed in @1@. The specified value is displayed in @2@.
24	Drive @2@ of @1@ does not exist.	he drive does not exist. Specify an existing drive. The parameter name is displayed in @1@. The specified value is displayed in @2@.
28	There is no product for installation.	There is no product to be installed. Specify "Y" for either or both of the following parameters: Client32InstallExecute Client64InstallExecute
29	<p><b>W</b> Windows USAGE : silent.bat inputfile</p> <p><b>L</b> Linux USAGE : silent.sh inputfile</p>	The argument specified in the command is incorrect. Specify the correct argument.

## Product installer errors

The following return values are returned when errors occur while the product installer is running.

### W

#### Windows

Return value	Explanation
0	Completed successfully.
1	Failed to register .NET Data Provider.
62	Failed to install because product information still exists at Uninstall (middleware).
63	Failed to install because Uninstall (middleware) is running.
64	Failed to register product information in Uninstall (middleware).
65	Failed to install Uninstall (middleware).
70	An error occurred during conversion from a string to a numeric value.
71	The InstallShield response file (.iss) does not exist or contains an error.
72	Failed to load the dynamic link library.
73	The InstallShield definition file (.ini) does not exist or contains an error.
74	Failed to write to the registry.
77	Failed to set up the component.
78	Failed to compare the disk capacity.
79	Failed to load the registry.
80	Failed to change the file privileges.
81	Failed to load symrdb.dll.
82	The Binary parameter of the InstallShield definition file (.ini) contains an error.
88	An excluded product is installed.
128	A system error has occurred.
129	The OS is not supported.
136	No installation folder was specified.
137	The full path of the installation folder was not specified.
138	The specified path name contains invalid characters.
139	Failed to recognize the specified drive.
142	Insufficient disk space at the installation destination.
144	The command was not executed with administrator privileges.
164	The specified path name already exists.
205	The display size is unsupported.

### L

#### Linux

Return value	Explanation
0	Completed successfully.
2	Could not perform upgrade installation (reinstallation).
4	Failed to uninstall the package.

Return value	Explanation
5	Failed to install the package.
11	A product that cannot coexist with Symfoware has been installed.
12	The operating system is not supported.
32	The product is already installed.
61	Failed to install Uninstall (middleware).
62	Installation failed because Uninstall (middleware) is running.
63	Failed to register product information in Uninstall (middleware).
64	Failed to delete product information from Uninstall (middleware).
99	A system error occurred.
106	The command was not executed with administrator privileges.

## A.4 CSV File Format

---

The format of CSV files is based on RFC4180, with the following specifications.

### Records

- Separate each record with a "CRLF" newline (operation is not guaranteed with only a "CR" or "LF" newline).
- Specify a newline at the end of a file.
- Separate each field within a record with a halfwidth comma ",".

Format	Record		
aaa,bbb,ccc	aaa	bbb	ccc

- If several commas are entered in succession, or if a comma precedes a newline, the data following the comma is regarded as empty.

Format	Record		
aaa,,ccc	aaa		ccc
aaa,bbb,	aaa	bbb	

- You cannot specify a header.

Format	Record		
	field1	field2	field 3
aaa,bbb,ccc	aaa	bbb	ccc

### Double quotation marks

- Enclose fields that contain newlines, double quotation marks, or commas in double quotation marks.

Format	Record		
"aaa","bb b","ccc"	aaa	bb b	ccc
"aaa","bb,b","ccc"	aaa	bb,b	ccc

- If a double quotation mark is used in a field enclosed with double quotation marks, the first double quotation mark is regarded as an escape character.

Format	Record		
"aaa","bb""b","ccc"	aaa	bb""b	ccc

### Note

An error occurs in the following cases:

- Each space, tab, or whitespace character is recognized as one character, and will cause a parameter error.
- A space is entered before or after a field enclosed with double quotation marks.

```
"zzz ", "yyy ", " xxx "
```

- The number of fields differs between records.

```
aaa,bbb
aaa,bbb,ccc
aaa,bbb,ccc,ddd
```

- Fields enclosed with double quotation marks and fields not enclosed with double quotation marks are both used.

```
aaa,"bbb",ccc
"xxx",yyy,"zzz"
```

- The double quotation escape characters are not positioned correctly.

```
"aaa","bb""b","ccc"
```

- Double quotation marks enclose the entire field.

```
"aaa,bbb,ccc"
```

# Appendix B Multi-Version Installation

This appendix describes how to install a version different from the one currently installed.

## B.1 Multi-Version Installation of the Windows Client

This section describes how to install a different version of the Windows client from the one currently installed.

### B.1.1 Installation in Interactive Mode

The procedure to perform a multi-version installation in interactive mode is the same as for an initial installation in interactive mode. Refer to "[2.4.1 Installation in Interactive Mode](#)" for details.

However, the information listed below must be modified to ensure that is not duplicated with those of the currently-installed product.

- Installation folder

### B.1.2 Installation in Silent Mode

The procedure to perform a multi-version installation in silent mode is the same as for an initial installation in silent mode. Refer to "[2.4.2 Installation in Silent Mode](#)" for details.

However, note that the installation parameters CSV file must be modified to ensure that the parameters listed below are not duplicated with those of the currently-installed product.

- Client32InstallPath
- Client64InstallPath

## B.2 Multi-Version Installation of the Linux Client

This section describes how to install a different version of the Linux client from the one currently installed.

### B.2.1 Installation in Interactive Mode

Install according to the following procedure:

1. Change to the superuser.
2. Mount the DVD drive.
3. Install.



- Configure the LANG environment variable in the console window where the install.sh command is executed in accordance with the display environment. If the LANG environment variable is not set correctly, the display may be the displayed characters may appear garbled.
- Do not enter the following halfwidth characters, otherwise install.sh may not work properly:

```
" # $ & ' ( ) ^ ~ \ | @ ` [ ] { } ; : < > tab
```

#### 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 feature DVD in the DVD drive, and run the command given below.



If the automatic mount daemon (autofs) is used to mount DVDs automatically, the installer fails to start because "noexec" is set in the mount options. 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.

### Example

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

## 3) Install

Follow the installation procedure described below.

This example illustrates installation of Symfoware Server Client 64-bit V12.0.0 in an environment where a different version is already installed.

### 1. Start installation

Run the install.sh command to start installation.

#### Example

```
# LANG=en_US.UTF-8;export LANG
# cd /media/dvd
# ./install.sh
```

### 2. Select the product for installation

The list of products to be installed is shown below.

Steps 4 to 11 are repeated if multiple products are selected.

```
The following products can be installed:
1: Symfoware Server Client 32bit V12.0.0
2: Symfoware Server Client 64bit V12.0.0

Select the product to be installed.
To select multiple products, separate using commas (,). (Example: 1,2)
[1,2,all,q](The default value is all):2
```



To create a 32-bit application in a 64-bit environment, Symfoware Server Client 32-bit is required. It is therefore recommended that you use the default value "all" to install all products.

### 3. Confirm the product for installation

The selected installation product will be displayed as follows:

```
Selected product
  Symfoware Server Client 64bit V12.0.0

Do you want to install the above product?
y: Proceed to the next step
n: Select the product again
q: Quit without installing
[y,n,q](The default value is y): y
```



#### 4. Check the product name and installation environment

The message for the product name and installation environment check is displayed as follows.

```
=====
Symfoware Server Client 64bit V12.0.0
=====

Installation environment check will start.
Installation environment check has completed.
```

#### 5. Select the installation type

The following window may be displayed, depending on the product being installed. Enter "m".

```
Select the installation type.
Select "m" for multi-version installation.

m:Run the multi-version installation
q: Quit without installing
[m,q]: m
```

#### 6. Display the start message

The start message is displayed as follows:

```
Multi-version installation will start.
```

The following window is displayed. Change the information as required.

```
Modify the information below to ensure that it is not duplicated with that of the
currently-installed product:
  Installation directory
```

#### 7. Change the installation information

The window for checking the installation information is displayed as follows. Enter "c".

```
Installation directory information
Installation directory: /opt/symfoclient64

Start the installation?
y: Start the installation
c: Change the information
q: Quit without installing
[y,c,q](The default value is y): c
```

#### 8. Enter the installation destination

The window to enter the installation destination is displayed as follows:

Enter an installation destination different from the one for the currently-installed product.

```
Specify the installation directory.
[directory name,q](The default value is /opt/symfoclient64):/opt/symfocll1200
```

#### 9. Confirm the installation information

The installation information is displayed as shown below. The actual window will display the information that is entered or selected.

Enter "y" to start installation using the displayed installation information.

```
Installation directory information
  Installation directory: /opt/symfocll1200

Start installation using the above information?
```

```
y: Start the installation
c: Change the information
q: Quit without installing
[y,c,q](The default value is y): y
```

#### 10. Display the installation status

The installation status is displayed as follows:

```
Starting installation.
Installation is complete.
```

#### 11. Display and check the completion message

When installation completes, a message is displayed showing the installation results.

When the process completes successfully

The following message is displayed when installation completes successfully.

```
Multi-version installation completed successfully.
```

When the process ends in an error

The following message is displayed when an error occurs during installation.

```
error: ./CLIENT64/packages/r60x64/FJSVsymcil2006-12006E.6-2.x86_64.rpm: not an rpm
package (or package manifest):

ERROR: An error occurred in FJSVsyndb12006 installation.

Multi-version installation terminated abnormally.
```



If an error occurs during installation, take the following corrective actions:

1. Eliminate the cause by referring to the error message.
2. Execute the install.sh command again.

## B.2.2 Installation in Silent Mode

The procedure to perform a multi-version installation in silent mode is the same as for an initial installation in silent mode. Refer to "[3.3.2 Installation in Silent Mode](#)" for details.

However, note that the installation parameters CSV file must be modified to ensure that the parameters listed below are not duplicated with those of the currently-installed product.

- Client32InstallPath
- Client64InstallPath

## Appendix C Checking the Version of the Installed Product

To check the version of Symfoware Server installed, start the Uninstall (middleware) tool. The procedure for starting the tool is described below.

### W

#### Windows

A user with administrator privileges (who has a user ID belonging to the Administrators group) should start the tool.

##### 1) Start the Uninstall (middleware) tool

Windows 8, or Windows Server 2012

Right-click the [Start] screen, click [All apps], click [Fujitsu], and then [Uninstall (middleware)].

Other operating systems

Click [Start], point to [All Programs], click [Fujitsu], and then [Uninstall (middleware)].

### L

#### Linux

##### 1) Change to the superuser

Change to the superuser:

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

##### 2) Start the Uninstall (middleware) tool

Start the Uninstall (middleware) tool.

```
# /opt/FJSVc1r/cimanager.sh -c
```

## Appendix D Uninstall (middleware) Tool

The Uninstall (middleware) tool is a common tool for Fujitsu middleware products. It manages information about the Fujitsu middleware products installed, as well as launching the product uninstallers. However, it cannot be used to uninstall Symfoware Server.

### Note

This tool manages information for other Fujitsu middleware products, as well as for Symfoware Server. Do not uninstall it unless absolutely necessary.

If you must uninstall this tool, follow the steps below:

1. Start the Uninstall (middleware) tool, and ensure that there are no other Fujitsu middleware products left on the system:

Windows(R)

Click [Start], point to [All Programs], click [Fujitsu], and then [Uninstall (middleware)].

Linux

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

-c: Command interface

Note: The command will fail to start if the command path includes spaces, so do not move this command to a directory whose name contains spaces.

2. If no Fujitsu middleware products are installed, run the following uninstall command:

Windows(R)

```
%SystemDrive%\FujitsuF4CR\bin\cirremove.exe
```

Linux

```
/opt/FJSVcir/bin/cirremove.sh
```

3. In the " This software is a common tool of Fujitsu products.Are you sure you want to remove it?[y/n]:" prompt, enter "y" - the uninstallation will finish in a few seconds.

4. If the following directories remain, delete them and any files they may contain:

Windows(R)

```
%SystemDrive%\FujitsuF4CR
```

Linux

```
/opt/FJSVcir/
```

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---

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