Rational® Developer for System z

Version 7.6

IBM

RSE Server Installation Guide
Linux on System z

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IBM

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Contents

Chapter 1. Linux on System z host requisites

The products listed in this section are all available at the time of publication for this manual. See the IBM® Software Support Lifecycle Web site (http://www.ibm.com/software/support/lifecycle/), to see whether a selected IBM product is still available at the time that you want to use the related Developer for System z function.

The most current listing of prerequisites and corequisites is available in the *Developer for System z Prerequisites Guide* (SC23-7659). This document is available on the IBM Rational Developer for System z Web site library page (http://www-01.ibm.com/software/awdtools/rdz/library/) and supersedes the requirements listed in this document.

Common to all platforms, a version of Perl must be installed to start the IBM Rational Developer for System z Remote Systems Explorer (RSE) server. The Host Connect emulator requires a Telnet server. To connect to an RSE server using Host Connect, the RSE server must have a Telnet server installed and running to create a session.

Linux on System z host prerequisites

Linux on System z

One of the following levels must be installed:

Product Name
Red Hat Linux® Enterprise Server 5 (s390x)
Red Hat Linux Enterprise Server 4 (s390x)
SUSE Linux Enterprise Server 10 (s390x)
SUSE Linux Enterprise Server 9 (s390x)

The related product Web site is:

http://www-03.ibm.com/systems/z/os/linux/

SDK for Linux on System z, Java 2 Technology Edition

To use Remote Systems Explorer (RSE) on Linux on System z®, one of the following levels must be installed:

Program Number	Product Name
6207-001	IBM 64 bit Runtime Environment for Linux on System z, Java™ 2 Technology Edition, Version 6
6205-001	IBM 64 bit Runtime Environment for Linux on System z, Java 2 Technology Edition, Version 5

The related product Web site is:

http://www.ibm.com/developerworks/java/jdk/linux/

Attention: The 64 bit version is supported.

Chapter 2. RSE Server installation and configuration

The supported functions on Linux on System z using IBM Rational Developer for System z are the following:

- RSE access to Linux on System z including SSL connections.
- Command shell use in RSE except vi or similar programs.
- Connection by the Host Emulator with full shell access.
- Compiling, linking, and running programs on Linux on System z.

There is currently no z/OS® Project for Linux on System z.

RSE Server installation, updates, and uninstall

Installing

RSE Server is a version of RSE that allows access to the file system and command shells on a Linux on System z system using Developer for System z.

The RSE Server install is simple and uses Installation Manager.

The following steps guide you through the RSE Server installation:

1. Copy the installation file, `rdzrse76.tar`, from the *IBM Rational Developer for System z RSE Server for AIX®, Linux, and Linux on System z Installation CD* to a writable file system directory on the server (`/tmp` would be a good location). The CD has three directories, `AIX`, `Linux`, and `zLinux` that contain the `rdzrse76.tar` specific to the target OS. Pick the appropriate file from the directory that matches the OS on the intended installation system.

2. Extract the RSE Server install image.

   `tar -xvf rdzrse76.tar`

3. Use Installation Manager to install the RSE Server as well as installing updates and rolling back to the previous version of installed products. You can run Installation Manager as an X Window System program or from the command line in a silent install mode. If you run Installation Manager using X Windows, a console must be connected to the Linux on System z system or an X Windows server running on another system to which the *DISPLAY* variable is redirected. Install the RSE Server when running as the root user.

   - If your system does not have a console or the display needs to be redirected to another system, you must set the *DISPLAY* variable on the system running Installation Manager. For example, if you are in csh and the system that shows Installation Manager has a host name of `littlebox`, enter the following command on the system installing the Developer for System z RSE Server:

     `setenv DISPLAY littlebox:0`

     Start X Windows on the system installing the Developer for System z RSE Client. In a command-line window on `littlebox`, allow X Windows to accept a display stream from **RDzServer** by using the following command.

     `xhost +RDzServer`

4. From the directory that contains the extracted tar file, run the **install** program to run the X Windows Installation Manager. If X Windows® is not available, you can run a silent install from the directory that contains the untarred

Developer for System z installation files. By default the RSE server is placed in the `/opt/IBM/RDz76` directory. To install in a non default directory with silent install, edit the install.xml file and update the this line, `<profile installLocation="<desired install location>" id="IBM Rational Developer for System z"/>`, to specify the desired directory. To run the silent install execute the following command.:

```
./install --launcher.ini ./silent-install.ini
```

- Follow the steps in the program to install the RSE Server. By default the RSE Server is installed in `/opt/IBM/RDz76`. Installation Manager creates the following directories:
  - `/opt/IBM/RDz76` which hold the Developer for System z RSE server.
  - `/opt/IBM/InstallationManager` which is the directory for the program that installed the product.
  - `/var/ibm/InstallationManager` is a directory that contains various files used by Installation Manager such as logs, configuration, license, and so on.

Uninstalling

To uninstall the Developer for System z RSE Server start the IBM Installation Manager launcher in the `/opt/IBM/InstallationManager/eclipse` directory, click the **uninstall** button and follow the instructions on the panels. For a silent uninstall go to the `/opt/IBM/InstallationManager/eclipse` directory and run:

```
./IBMIM --launcher.ini silent-install.ini -input <RSE install dir>/uninstall/uninstall.xml
```

where installed path is the directory where Developer for System z RSE Server is installed. The default installation directory is `/opt/IBM/RDz76`.

Updating

To update the Developer for System z RSE Server, start the IBM Installation Manager launcher in the `/opt/IBM/InstallationManager/eclipse` directory. Point to the location that contains the update by clicking **File**->**Preferences** and clicking the **Add Repository** button. After adding the repository, click the **Update** link on the main IBM Installation Manager screen and follow the instructions on the panels.

RSE directory configuration

After the RSE server has been installed, **only the root user can log in to the system using RSE**. To allow other users to access the Linux on System z system using RSE, the Linux on System z system administrator must open permissions for those users using the `chmod` command. Read and execute permission is required on the directory path to the RSE installation as well as the files in the RSE directory.

Assuming that the RSE server is the only product installed in the default directory `/opt/IBM/RDz76`, executing the following command allows the owning user, `root`, and any user in the root group, to connect to the RSE server:

```
 chmod –R ug+xr /opt/IBM/RDz76
```

Using `chmod –R ugo+xr /opt/IBM/RDz76` gives every user on the system permission to use RSE.

Starting the RSE Server

In the default installation directory /opt/IBM/RDz76/bin, there are two scripts which start the RSE server. One script, rsedaemon.RedHat.sh, is for running a Red Hat system and the other, rsedaemon.SuSe.sh, is for use on SuSe. Use one of the following commands to start the RSE server:

rsedaemon.RedHat.sh
> The RSE server starts and is listening on the default port of 4035.

rsedaemon.RedHat.sh 3076
> The RSE server starts and is listening on the specified port of 3076.

rsedaemon.SuSe.sh
> The RSE server starts and is listening on the default port of 4035.

rsedaemon.SuSe.sh 3076
> The RSE server starts and is listening on the specified port of 3076.

Example: Server start

When the RSE server is successfully started on a system the display shows configuration information used by the startup script. This information scrolls off the screen looks like the following example:

```
rsedaemon.RedHat.sh

...
java version "1.6.0"
Java(TM) SE Runtime Environment (build pxz6460sr5-20090529_04(SR5))
IBM J9 VM (build 2.4, J2RE 1.6.0 IBM J9 2.4 Linux s390x-64 jvmxz6460sr5-20090519_35743 (JIT enable
J9VM - 20090519_035743_BHdSMr
JIT  - r9_20090518_2017
GC   - 20090417_AA)
JCL  - 20090529_01

FEK001I RseDaemon being initialized
FEK010I (rsed.envvars location = /opt/IBM/RDz76/bin/)
FEK011I (log directory = ./../log/)
java version "1.6.0"
Java(TM) SE Runtime Environment (build pxz6460sr5-20090529_04(SR5))
IBM J9 VM (build 2.4, J2RE 1.6.0 IBM J9 2.4 Linux s390x-64 jvmxz6460sr5-20090519_35743 (JIT enable
J9VM - 20090519_035743_BHdSMr
JIT  - r9_20090518_2017
GC   - 20090417_AA)
JCL  - 20090529_01

FEK002I RseDaemon started. (port=4035)
Server Started Successfully
```

RSE Server SSL configuration

SSL can be used to secure communication between Developer for System z and the Linux on System z system by creating a Java keystore file and setting the RSE ssl.properties file to point to this JKS file. When the RSE server starts, the properties file is read and the connection with Developer for System z is secured with SSL.

Since RSE uses the ssl.properties file to enable SSL, the system administrator can secure communication, or not, with the installation. You cannot have both secured and non-secured from the same RSE directory. If secured and non-secured ports are needed, you need a second installation of the RSE Server. To accomplish this, rerun Installation Manager and specify a new install directory such as /opt/IBM/RDz76SSL.

In the new directory, modify the `ssl.properties` file to reference the Java keystore file, which is in the `<RDz Install Path>/bin` directory. Now the RSE server can be started on a different port, 4077, with SSL securing the communications.

```
 rsedaemon.RedHat.sh 4077
```

With a Java keystore file named RDZRSE.jks, created in the /opt/IBM/RDz76SSL directory and using the password RDzisGreat, edit the `ssl.properties` file and change the following stanzas:

Note: The path to the JKS file MUST be given in the `daemon_keystore_file` parameter.

```
#
daemon_keystore_file=/opt/IBM/RDz750SSL/RDZRSE.jks
daemon_keystore_password=RDzisGreat
#
```

To enable SSL authentication change the two stanzas `enable_ssl` and `disable_server_ssl` in the `ssl.properties` file to:

```
enable_ssl=true
disable_server_ssl=false
```

Example: Server start using SSL

When the RSE server is successfully started and a connection is made using SSL, on a system with a host name of RDzAIXServer, the screen looks like the following example:

```
 rsedaemon.RedHat.sh 4077
SSL Settings
[daemon keystore:                /opt/IBM/RDz76SSL/rdzrse.jks]
[daemon keystore pw:    RDzisGreat]
[server keystore:                /opt/IBM/RDz76SSL/rdzrse.jks]
[server keystore pw:    RDzisGreat]
Daemon running on:      RDzServer.rtp.raleigh.ibm.com, port: 4077
```

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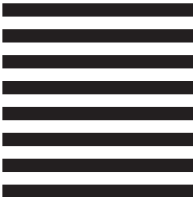
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