Rational. Directory Server

IBM.

Installation Guide

IBM Rational Directory Server

Installation Guide

Release 5.0

Before using this information, be sure to read the general information under Appendix, .

Table of contents

1 *About this manual*

This manual guides you through the IBM® Rational® Directory Server (RDS) installation and uninstallation. It contains the following sections:

- Introduction
- Types of RDS installations
- Modes of installations
- Preparing installation information
- Server Installation
- Server Removal
- Client Installation
- Client Removal
- Troubleshooting RDS

RDS documentation

This section provides the information on the related documents available for RDS. The following RDS documents are available on the Product Support Web site, http://www.ibm.com/software/rational/support/

Document name	Description
IBM Rational Directory Server Installation Guide	Provides information about how installing RDS.
IBM Rational Server Product Manual	Provides detailed information about RDS features supported in this release.
IBM Rational Server Administration Manual	Provides information about RDS administration.

Contacting IBM Rational Software Support

If the self-help resources have not provided a resolution to your problem, you can contact IBM® Rational® Software Support for assistance in resolving product issues.

Note If you are a heritage Telelogic customer, a single reference site for all support resources is located at http://www.ibm.com/software/rational/support/telelogic/

Prerequisites

To submit your problem to IBM Rational Software Support, you must have an active Passport Advantage® software maintenance agreement. Passport Advantage is the IBM comprehensive software licensing and software maintenance (product upgrades and technical support) offering. You can enroll online in Passport Advantage from http://www.ibm.com/software/lotus/passportadvantage/howtoenroll.html

- To learn more about Passport Advantage, visit the Passport Advantage FAQs at http://www.ibm.com/software/lotus/passportadvantage/brochures_faqs_quickguides.html.

- For further assistance, contact your IBM representative.

To submit your problem online (from the IBM Web site) to IBM Rational Software Support, you must additionally:

- Be a registered user on the IBM Rational Software Support Web site. For details about registering, go to http://www.ibm.com/software/support/.

- Be listed as an authorized caller in the service request tool.

Submitting problems

To submit your problem to IBM Rational Software Support:

1. Determine the business impact of your problem. When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting.

Use the following table to determine the severity level.

Severity	Description
1	The problem has a *critical* business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.
2	This problem has a *significant* business impact: The program is usable, but it is severely limited.
3	The problem has *some* business impact: The program is usable, but less significant features (not critical to operations) are unavailable.
4	The problem has *minimal* business impact: The problem causes little impact on operations or a reasonable circumvention to the problem was implemented.

2. Describe your problem and gather background information, When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Rational Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?

  To determine the exact product name and version, use the option applicable to you:

  - Start the IBM Installation Manager and select **File** > **View Installed Packages**. Expand a package group and select a package to see the package name and version number.
  - Start your product, and click **Help** > **About** to see the offering name and version number.

- What is your operating system and version number (including any service packs or patches)?

- Do you have logs, traces, and messages that are related to the problem symptoms?

- Can you recreate the problem? If so, what steps do you perform to recreate the problem?

- Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, or other system components?
- Are you currently using a workaround for the problem? If so, be prepared to describe the workaround when you report the problem.

3. Submit your problem to IBM Rational Software Support. You can submit your problem to IBM Rational Software Support in the following ways:

- **Online**: Go to the IBM Rational Software Support Web site at https://www.ibm.com/software/rational/support/ and in the Rational support task navigator, click **Open Service Request.** Select the electronic problem reporting tool, and open a Problem Management Record (PMR), describing the problem accurately in your own words.

   For more information about opening a service request, go to http://www.ibm.com/software/support/help.html

   You can also open an online service request using the IBM Support Assistant. For more information, go to http://www.ibm.com/software/support/isa/faq.html.

- **By phone**: For the phone number to call in your country or region, go to the IBM directory of worldwide contacts at http://www.ibm.com/planetwide/ and click the name of your country or geographic region.

- **Through your IBM Representative**: If you cannot access IBM Rational Software Support online or by phone, contact your IBM Representative. If necessary, your IBM Representative can open a service request for you. You can find complete contact information for each country at http://www.ibm.com/planetwide/.

Conventions used in this guide

Typeface	Description
Italic	Used for book titles and terminology.
Bold	Used for items that you can select and menu paths, also used for emphasis.
`Courier`	Used for commands, file names, and directory paths. Represents command syntax to be entered verbatim. Signifies computer output that displays on-screen.
`Courier Italic`	Represents values in a command string that you supply. For example, `(drive:\username\commands)`.

2   *Introduction*

RDS is a single enterprise directory solution designed for user authentication and administration for IBM® Rational® Solutions for Enterprise Lifecycle Management tools. RDS allows the users to log on using the same credentials across Enterprise Lifecycle Management tools for which they have authorized access.

RDS 5.0 is designed to support a wide range of platforms. For more information on the platform support see Operating system requirements (page 13).

The RDS comes with the Graphical User Interface (GUI) based client application IBM® Rational® Directory Administration (RDA), that can be installed separately. For information on installation instruction and procedure, refer to Installing the RDA (page 47).

Obtaining the RDS software

You can download the RDS from the support site or from the zip distribution. After downloading the RDS, make sure you verify the MD5 checksum available under the support site, http://www.ibm.com/software/rational/support/ matches the downloaded installer. This will ensure that the downloaded installer is not corrupted.

Installation sequence

The RDS must be present in the system for the other tools to connect. You can install the RDS prior to or post other tools installation.

Remote installation of RDS

RDS requires graphical X environment for installation. In case of remote installation by X environment, ensure that DISPLAY environment variable should be set appropriately as, `$ export DISPLAY=localhost:0`. For more information, see the platform specific manual for details.

Types of RDS installations

There are two types of RDS installations:

Installation type	Description
Server Installation	Installs RDS on a local machine. The RDS provides user authentication and administration across Enterprise Lifecycle Management tools using the same credentials. The server installation also provides the option to install Web RDA client. However, you can choose to install that separately.
Client Installation	Installs the client (RDA) on a local machine. The client can access the server on the local machine or on a network.

Modes of installations

The RDS supports the following modes of installations:

Installation mode	Description
Stand-Alone	You can use RDS to administer and perform searches for the users and groups that exist locally.

Installation mode	Description
Corporate LDAP Backbone Support	You can configure RDS to integrate with the external corporate LDAP repositories. You can use this option to enable your corporate backbone to serve as the user/group read-only repository for Enterprise Lifecycle Management tools.
OS Authentication	You can configure RDS to grant login using OS logon name. RDS authenticate users against the OS hosting the RDS and enable access to the Enterprise Lifecycle Management tools after successful authentication.
	RDS uses Pluggable Authentication Modules (PAM) for authentication. Refer to *IBM Rational Directory Server Administration Guide* for PAM configuration.

Preparing installation information

Preparing installation information in advance can help you to complete the installation process quickly. Before starting the installation, consider creating a worksheet to record the basic installation information, as described for a typical installation in the following table..

Description	Example
Host name	ExampleServer
Directory server port number	Default LDAP port: 1389. This can be changed to any available free port.
Secure port number	Default LDAP port: 1636. This can be changed to any available free port.
Directory administrator password	It must be the *tdsadmin* user password set at the time of Tivoli installation.

Description	Example
Directory administrator ID	tdsadmin (set by default)
Installation directory	• `/var/IBM/Rational/RDS_5.0` or any other specified path. • Tivoli directory server binary is always installed under `/opt/IBM/ldap/V6.2`

Frequently Asked Questions

1. *Which are the external ldap servers supported by RDS?*

   Sun Java[tm] System Directory Server and Microsoft[r] Active Directory Server.

2. *What is the schema required by RDS in the external corporate server?*

   The user information are extracted from the corporate servers based on the `person/inetOrgPerson` schema class and the primary attributes `cn, sn, email, uid, givenname, telephoneNumber, mail, facsimileTelephoneNumber, description, postalAddress, and sAMAccountName.`

   The group information are extracted based on the `group/groupOfUniqueNames` schema class and the attributes `member/uniqueMember, description.`

3. *Do we need an Administrator privileges to create a partition?*

   You need a corporate LDAP server user with a *Read* access to the search bases specified in the partition.

4. *Is the Apache Server installed as a service?*

   No. This functionality will be added in a future release.

5. *I cannot use RDA on Solaris to create a partition with SSL enabled?*

   This is a known limitation. You need to install RDA on Windows as a workaround.

6. *Why DOORS do not show up a user after changing the name of the user from one ou to another in the corporate LDAP?*

If the name of a user (firstname, lastname, cn etc.) is changed keeping the same UID, or if a user is moved from one OU to another in the corporate LDAP, DOORS may not show up the user. The reason is, the RDS has already created an extended user object with the `uid` as the user logon name (based on the logon attribute selected in the corporate partition) and `tdsCorporateDn` as the corporate DN of the user. If the corporate DN of the user changes in the corporate LDAP server, the RDS will try to recreate the extended user object with the same user logon name (which is not changed in corporate LDAP) and would fail, as the user object with the same logon name already exists in the corporate LDAP. Hence, the particular user would not be shown in DOORS.

To solve this issue, it is recommended to modify the required attributes of the extended user object in RDS. Deleting the extended user object also solves the issue but it may delete the DOORS specific values for that user object, which may lead to information loss.

7. *Is RDS supported on VMWare?*

Currently, the RDS is not supported on a virtual environment.

8. *How do you change the Webserver port from 8080 to any other values for IBM Rational Directory Administration (RDA)?*

To change the default port number:

a. Edit the following lines in the `Server.xml` file located under <RDS_HOME/RDA_HOME>\WebAccessServer\apache-tomcat-6.0.16 (-6.0.24 for 5.1.0.1 and 5.1.0.2)\conf folder:

```
Connector port="8090" protocol="HTTP/1.1"
connectionTimeout="20000"
redirectPort="8443" />
<!-- A "Connector" using the shared thread pool-->
```

b. Restart the RDA for the changes to take effect.

Note The new port number is changed to 8090 in the above example.

3   *Server Installation*

This chapter contains the installation instructions for installing RDS on Solaris, and Linux platforms.

This chapter contains the following sections:

- System requirements
- Before installing RDS
- More information on RDS installation
- Installing the RDS
- Post installation instructions
- Upgrading to a new release

System requirements

The following section describes the system requirements for the RDS.

Industry standards

The RDS is developed based on the following industry standards.

- LDAP v3 operations
- LDAP search filters
- LDAP v3 intelligent referral

Operating system requirements

RDS and RDA are supported on the following platforms:

- Sun Solaris 10 operating system 64 bit (/ SPARC Platform)
- Red Hat Enterprise Linux Server 5 operating system 32 and 64 bit
- Suse Linux 10 operating system 32 and 64 bit

The following table details the list of additional software that must be available in the system.

Operating system	Supported OS versions	Additional required software
Solaris operating system	Solaris 10 operating system for SPARC®	• The Korn shell is required. • `pkgadd` system utility should exist. • 64- bit kernel. • If raw devices are used, patch 125100-07.
Red Hat/Suse Linux	Red Hat Enterprise Server 5 for x86 (32 and 64 bit OS)	The following packages needs to be installed before installing the IBM Rational Directory Server: 1. glibc-devel 2. glibc-headers 3. libaio 4. compat-libstdc++ The rpm names of these packages are: **32 bit Redhat5:** • glibc-2.5-18.i686.rpm • glibc-common-2.5-18.i686.rpm • glibc-common-devel-2.5-18.i686.rpm • glibc-headers-2.5-18.i686.rpm • nscd-2.5-18.i686.rpm The rpm name could end with "i386" based on the hardware details (/ confirm with command "uname -m"). **64 bit Redhat5:** • glibc-2.5-18.ia64.rpm • glibc-common-2.5-18.ia64.rpm • glibc-common-devel-2.5-18.ia64.rpm • glibc-headers-2.5-18.ia64.rpm • nscd-2.5-18.ia64.rpm Libraries libstdc++so.5 and libaio.so.1 should exist. You might need to upgrade to the latest patch level of these packages. For more information on the patches, see the Red Hat support site at http://rhn.redhat.com.

Note For more information on operating system requirements see, http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/ topic/com.ibm.IBMDS.doc/sysreq10.htm#sysreq

Disk space and memory requirements

Minimum system requirements for RDS

Ensure that sufficient disk space is available before installing the RDS. The following table shows the sample disk space requirement for RDS.

# of Entries	Minimum disk space required	Minimum memory required
10,000 - 250,000	5 GB	1-2 GB
250,000 - 1,000,000	6 GB	4 GB
Over 1,000,000	8 GB	4 GB

Note The RDS is not supported on the NFS mounted systems.

The RDS does not support logs and databases installed on NFS-mounted file systems. Sufficient space should be provided for the database on a local file system.

Requirement for RDA

Make sure that sufficient disk space is available before installing the RDA. The following table shows the minimum disk space and memory requirements for RDA.

Minimum disk space required	Minimum memory required
300 MB	512 MB

Before installing RDS

Before you install the RDS, ensure that the system is equipped with the set of configurations recommended in this manual to avoid any installation errors. You need atleast **5 GB** of free disk space and at least **1.5 GB** free space in /tmp folder.

This section also describes the following settings that must be in place.

- Shell requirements
- Kernel settings on Solaris
- Root settings
- Libraries and utilities
- What is not supported

Shell requirements

The following settings are recommended for Solaris and Linux installation.

- On Solaris 10 - Korn shell (KSH) must be installed on the OS.
- Red Hat 5 - Korn shell is not available by default. Install the ksh on the OS or create a soft link from the zsh to ksh.

Kernel settings on Solaris

The Kernel or IPC settings on Solaris platform may need to increase depending on your environment, especially if you are running multiple applications on your system. If the installation fails with errors due to kernel settings, use the db2osconf utility to get the required settings. For more information see, Check for kernel settings on Solaris (page 38).

Root settings

Both Linux, and Solaris requires *root* user login to perform the installation and instance creation. You must have *root* access to start the RDS.

You can also start the server without the *root* user login. For more information on starting the server without *root* user login see, Starting the server without root privilege (page 18).

Libraries and utilities

You must install the recommended libraries and utilities. For more information on the required libraries and utilities see, <u>Operating system requirements (page 13)</u>.

What is not supported

This section describes the modes or systems that are not supported by RDS. You must not use the modes or systems referred in this section to avoid any installation errors.

This section contains the following components:

- Console mode installation
- NFS mounted system

Console mode installation

The RDS does not support non-graphical or console mode installation. Hence, the options such as `-console` is not supported by the RDS installer.

NFS mounted system

The RDS installation is not supported on NFS mounted systems. The `/usr/local/bin`, `/opt` and the installation location should not be NFS mounted.

More information on RDS installation

This section describes certain in built settings and behavior post RDS installations.

This section contains the following components:

- Installation path
- JRE installation
- Local user/group creation

Installation path

The IBM® Tivoli Directory Server® binaries are always installed under the following path.

- On Solaris systems: `/opt/IBM/ldap/V6.2`
- On Linux systems: `/opt/ibm/ldap/V6.2`

The database itself is created under the user specified or default install path: `/var/IBM/Rational/RDS_5.0`

Note The path `/opt` should be present in the system.

JRE installation

The RDS installs the Java Runtime Environment 1.5 (JRE) as part of the server installation. The installer itself embeds the JRE and does not require any platform JRE for install execution.

Local user/group creation

The RDS installer by default, creates the local user *idsldap* and the group *idsldap* on the Operating System (OS). The *root* user is added to the *idsldap* group. The *tdsadmin* user is manually created. For more information on *tdsadmin* user refer to, <u>Creating tdsadmin user (page 25)</u>.

Note The password of *tdsadmin* and *idsldap* users are internally set by the installer and the password cannot expire.

Starting the server without root privilege

Any user who is added to the *idsldap* group (that is created as part of the RDS installation) can start the server. However, this holds true only for **Stand-Alone** and **Corporate** mode.

On **OS Authentication mode**, the server needs to be started with the *root* user login.

IBM Tivoli Directory Server Installation

This section provides instructions on how to install IBM Tivoli Directory Server 6.2.

Before installing RDS, you need to install IBM Tivoli Directory Server 6.2 and IBM DB2 9.5. The Tivoli installation also installs IBM DB2 automatically.

Note   For detailed information on Tivoli installation, refer to *IBM Tivoli Directory Server Installation and Configuration Guide*.

To install Tivoli Directory Server, do the following:

1. Download the Tivoli Directory Server installation package.

    The downloaded package contains platform specific **.tar** files. For example, `C1N9LML.tar` and `C1N9NML.tar` files for Solaris.

2. Extract them to your machine.

    Be sure to extract the files into a path that has no spaces in the name. Extract the **.tar** files in the same directory.

3. Go to `tdsV6.2\tds` folder.

4. Double-click the `install_tds.bin` file.

    The language dialog box is displayed. By default, **English** is selected by the installer.

5. Click **OK**.

6. On the Welcome dialog box, click **Next**.
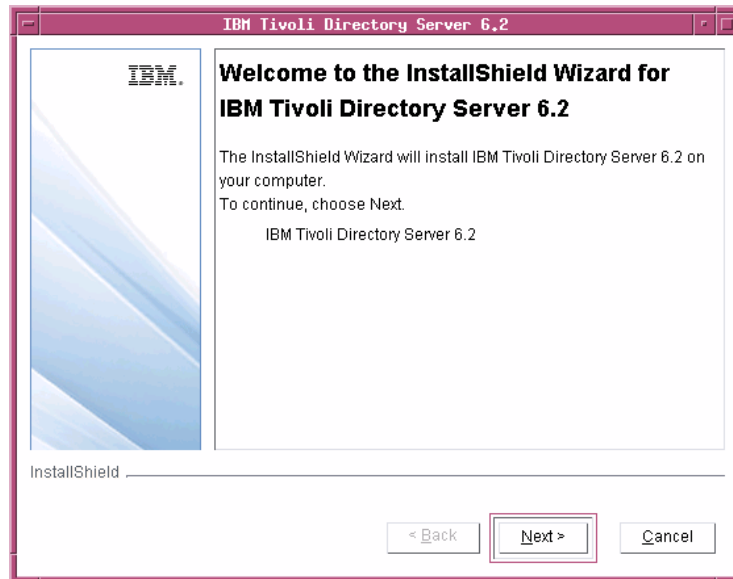
7. Read the Software license agreement and select **I accept both the IBM and the non-IBM terms**.
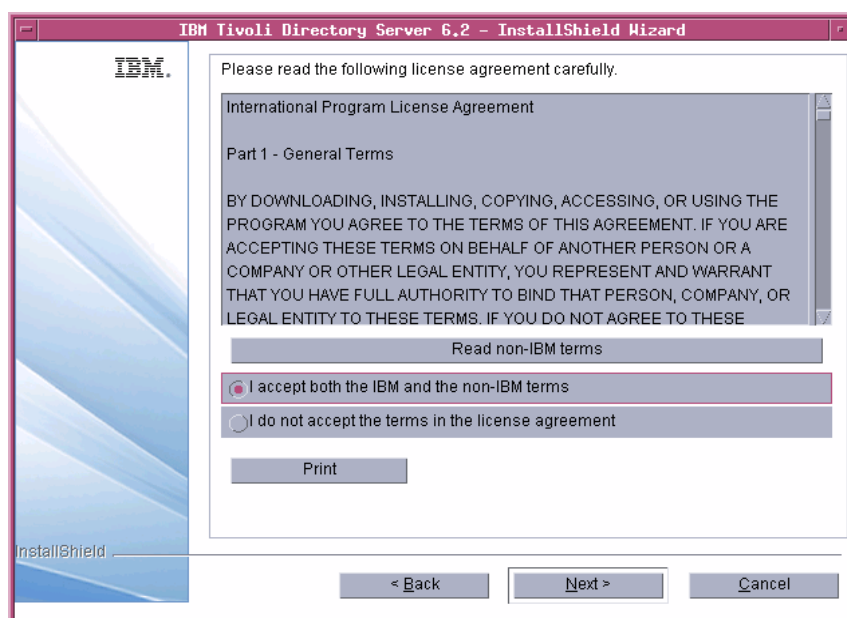
8. Click **Next**.

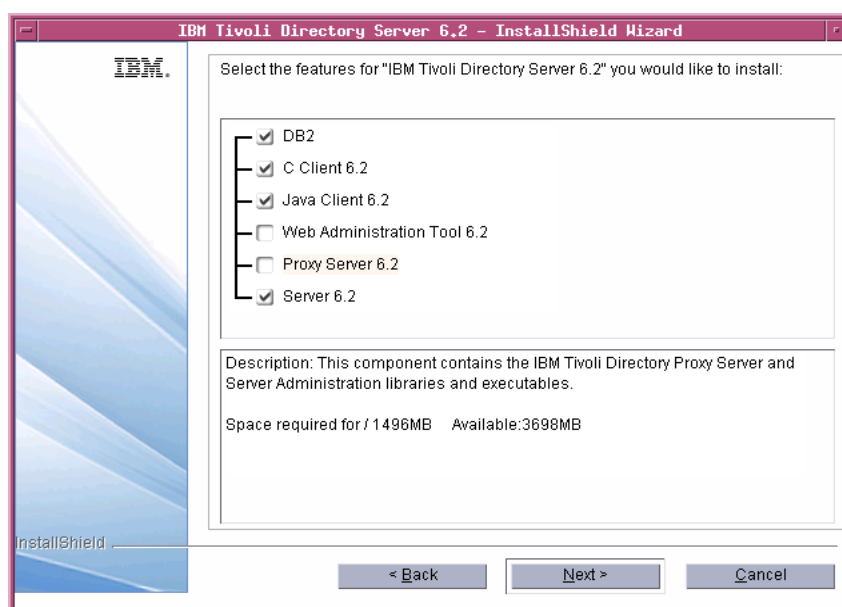9. Click **Custom** as installation type.
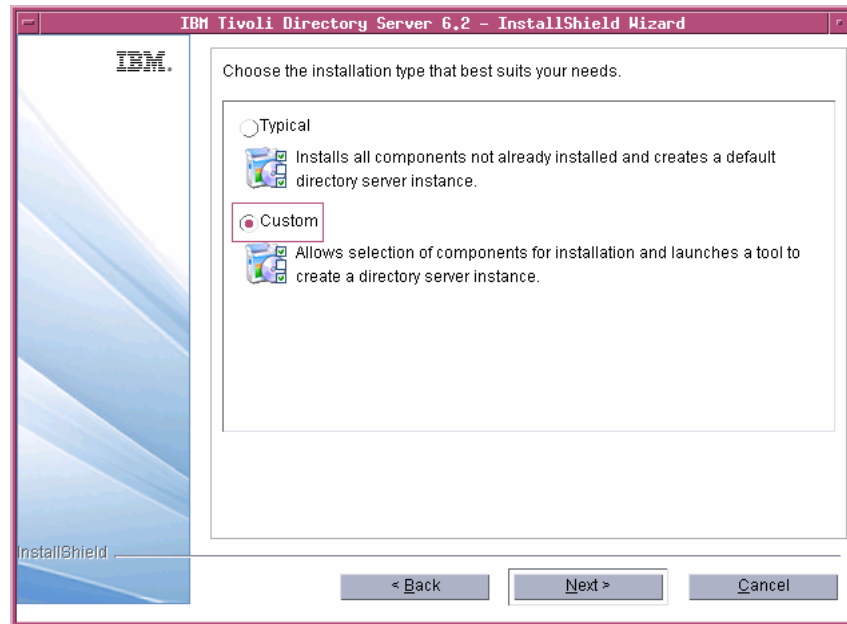
10. Click **Next**.

**11.** Select only the following feature:

- DB2
- C Client 6.2
- Java Client 6.2
- Server 6.2

By default, all feature are selected by the installer. However, you need to select only the features that are listed above. To deselect rest of the features, click the check box against the option.

12. Click **Next**.

13. Click **Next**.

A summary window displays the components that will be installed, the installation locations, and the amount of disk space required.
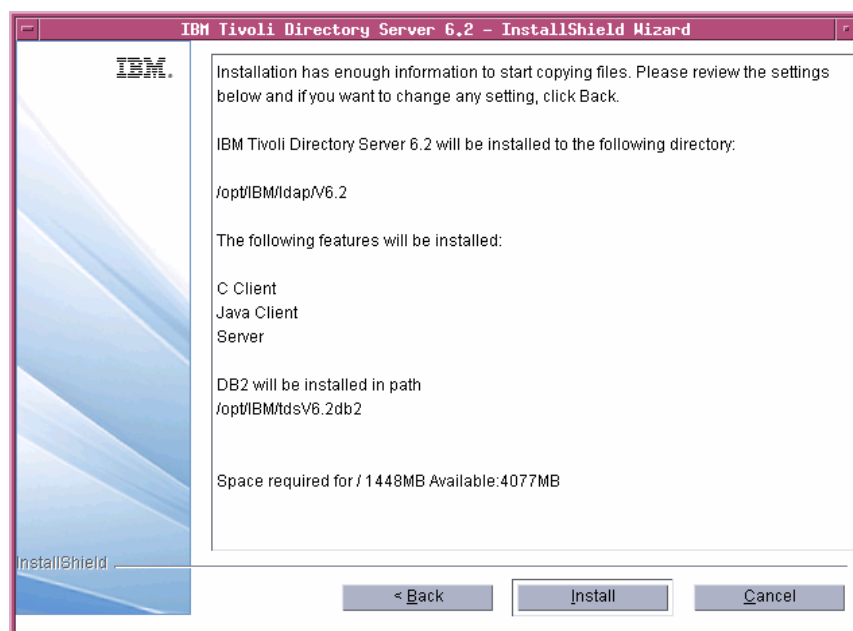
14. Click **Install** to begin the installation.

Once the installation is successful, the **IBM Tivoli Directory Server Instance Administration Tool** dialog box is displayed.

15. Click **Close** and then click **Yes** on the message box.
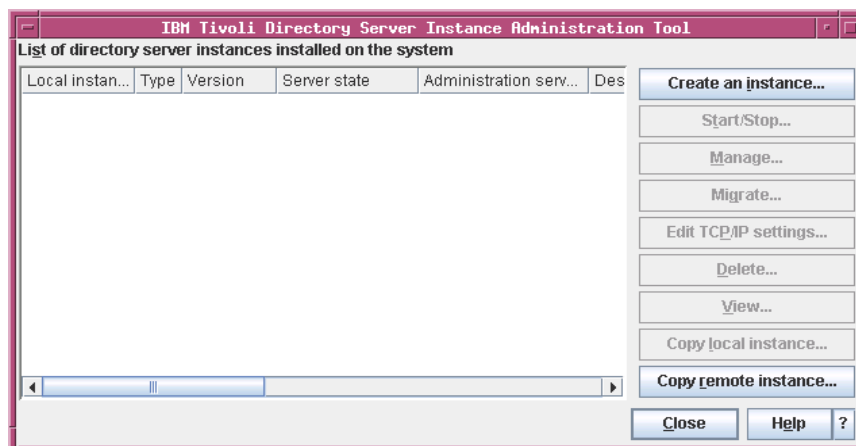
16. Click **Finish** on the **IBM Tivoli Directory Server 6.2** dialog box.

Creating tdsadmin user

Once you complete the Tivoli Directory Server installation, you must create a *tdsadmin* user with a valid password. This must be done, before installing RDS.

You can create a user and set a password using the following commands:

- `$ useradd -c "tdsadmin" -d <RDS Install location>/ Instance -g idsldap -u 501 tdsadmin`

- `$ passwd tdsadmin`

  It will prompt you for the password. Type a valid password for the *tdsadmin* user.

  Remember the password you have entered for *tdsadmin* user. The same password needs to be given at the time of RDS installation.

Note You must provide the home directory `<RDS Install location>/Instance` for the *tdsadmin* user otherwise the back up and restore will fail.

Installing the RDS

Install the server as a *root* user.

To Install RDS, do the following:

1. Unzip the RDS installer in a folder (use unzip or gunzip utilities).

2. Go to the **install** directory and set the execute permission to **RDS.bin**

   ```
   chmod +x RDS.bin
   ```

   Skip this step for CD and DVD installation.

3. The *root* user should have write permission to the below directories:

   ```
   $ /usr/local/bin
   ```
   ```
   $ /opt
   ```

   The directories should not be NFS enabled.

4. Path settings:

   • Ensure that the utilities: `unzip, gunzip, dos2unix, userdel` and `groupdel` are in the system path.

5. The `DISPLAY` environment variable should be appropriately set for the remote installation.

6. In the **install** directory, type `./RDS.bin` and press **Enter.** The **Introduction** dialog box is displayed.
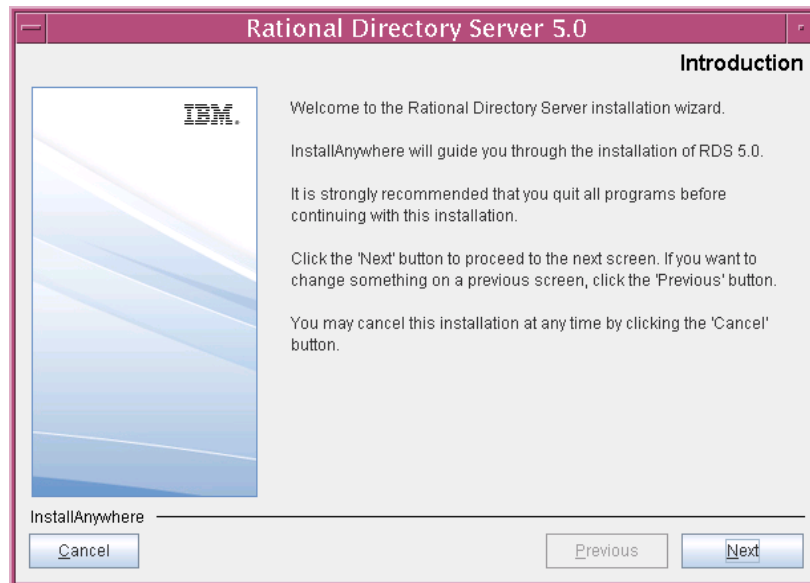
7. Click **Next**. The **License Agreement** dialog box is displayed.

8. You can save the licence details in a document.

   To copy the license information:

   • Right-click the license window and click **Select All,** and then click **Copy**.
   • Open any file, paste the license information and save the file.

9. Review and click **I accept the terms of the license agreement**.
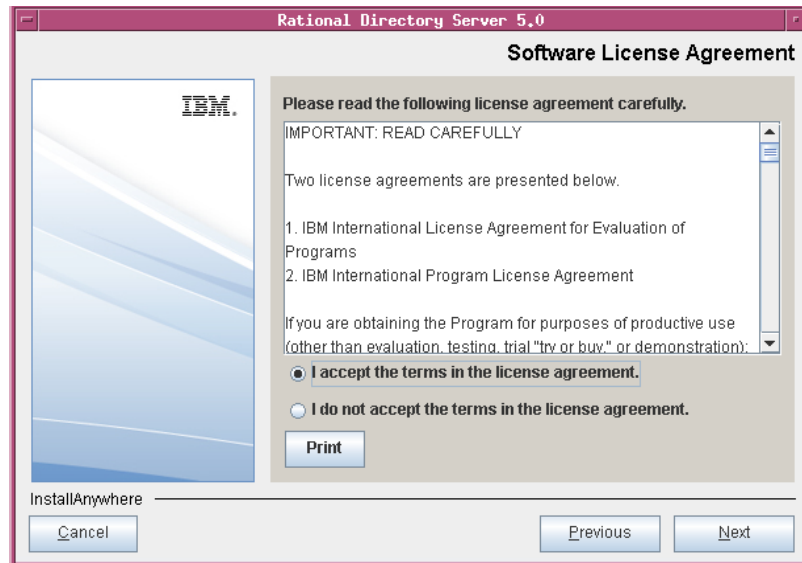
10. Click **Next.** The **Choose Install Folder** dialog box is displayed.

You can use the default location provided by the installer or click **Choose** to specify a different location. You can also edit the path manually by clicking anywhere in the text box. To use the default location, click the **Restore Default Folder.** This restores the default location provided by the installer.
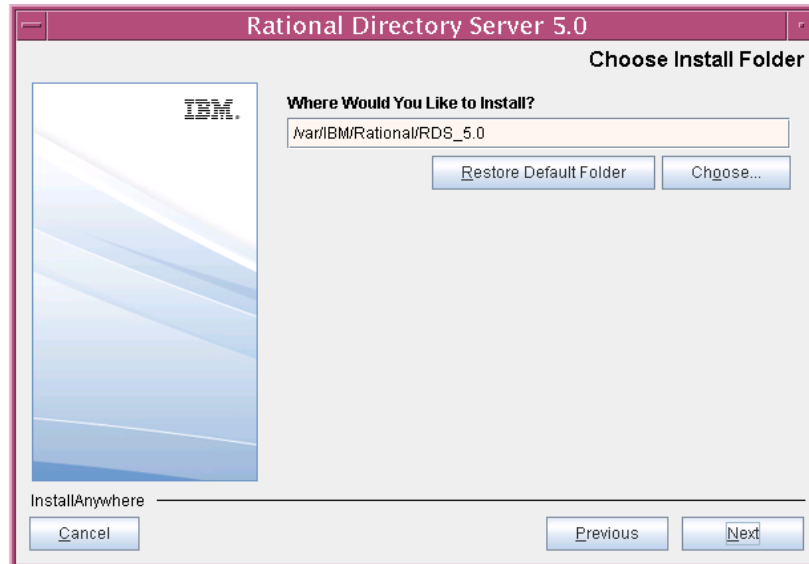
Note The IBM Tivoli Directory Server folder like/`opt`/`IBM` etc. are created outside the installation path.

11. Click **Next.** The **Installation Mode** dialog box is displayed.
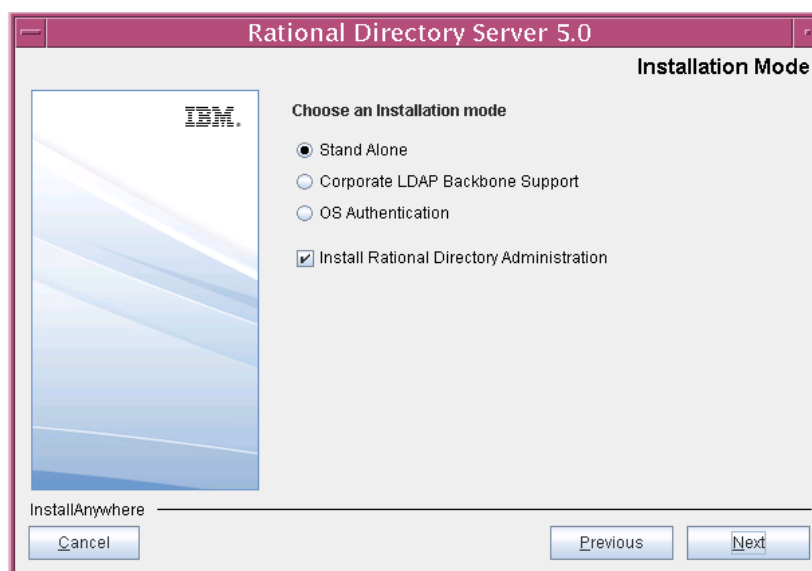
12. RDS provides the following modes of installations:

- Stand-Alone
- Corporate LDAP Backbone Support
- OS Authentication

13. Select the install mode. By default, the **Stand Alone** mode is selected by the installer. For more information on these modes, refer to <u>Modes of installations (page 8)</u>.

14. Click **Next**.

The **Tivoli Home Folder** dialog box is displayed.

15. Click **Choose** to specify the directory path where you have installed Tivoli. You can also type the path manually by clicking anywhere in the text box.
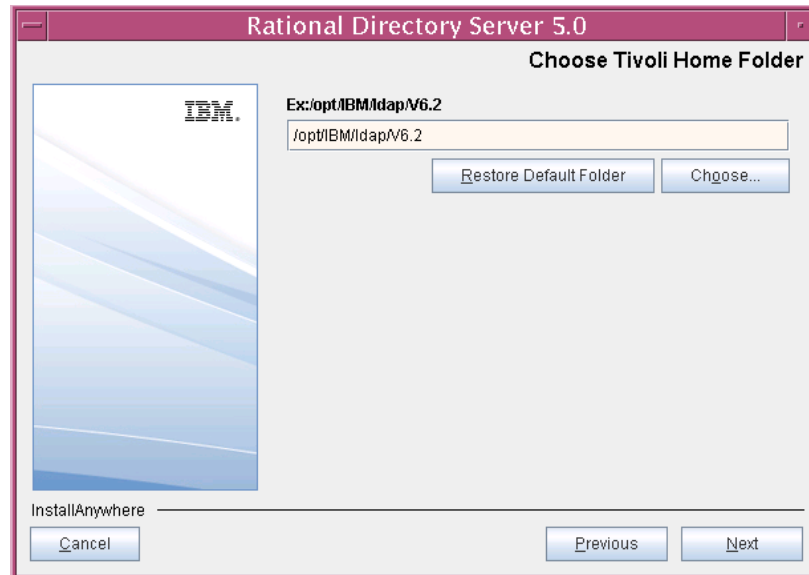
16. Click **Next.** The **Rational Directory Server Configuration** dialog box is displayed. This defines the configuration settings for the RDS.

17. Type the directory server configuration properties.
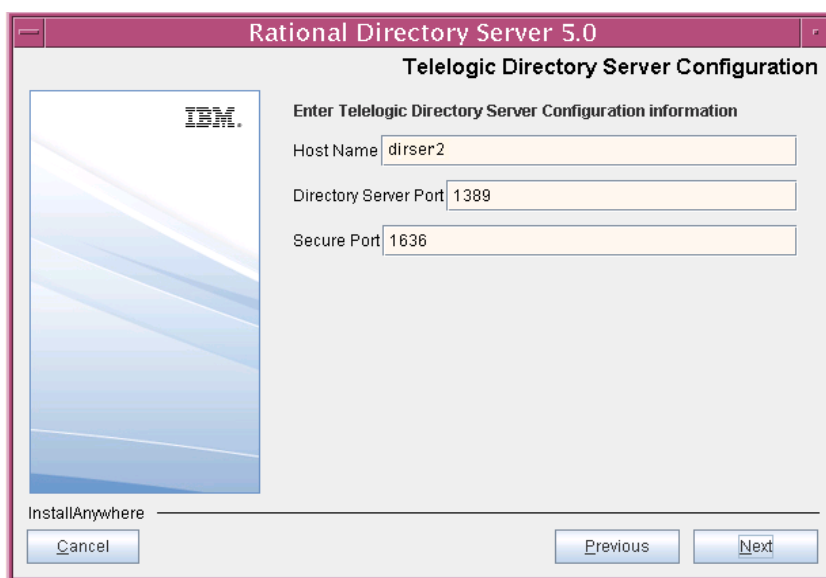
The field descriptions and the values to be entered in each field are explained in the following table.

Field name	Description	Values
Host Name	The host name of the computer.	By default, the installer uses the valid computer name. Use the default value provided by the installer or enter the valid computer name in this field.
Directory Server Port	The port number of the directory server.	By default, the installer uses the LDAP server port number. Use the default value provided by the installer or enter the valid port number for the computer in this field.

| Field name	Description	Values
Secure Port	The LDAP Secure Socket Layer (SSL) port number. The SSL is enabled by default by the installer using the secure port number provided during the installation.	By default, the installer uses the secure LDAP port number to enable the SSL. Use the default value provided by the installer or enter the valid secure port number in this field.

18. Click **Next.** Type the **Directory Administrator User** password.

The field description and the value to be entered in each field is explained in the following table.

Field name	Description	Values
RDS Administrator User ID	The user id for RDS administrator.	The RDS administrator ID is set by default. The administrator ID cannot be modified.

Field name	Description	Values
RDS Administrator User Password	The password for the RDS administrator user.	Type the *tdsadmin* user password that was set at the time of Tivoli installation.
Confirm Password	The password authentication for RDS administrator user.	Re-enter the password in the Confirm Password field. Both passwords should match for the installation to continue.

19. Click **Next**. The **Pre-Installation Summary** dialog box is displayed. This dialog box shows the installation summary.

20. Review the information, and then click **Install.** The **Install Complete** dialog box is displayed if the installation is successful.
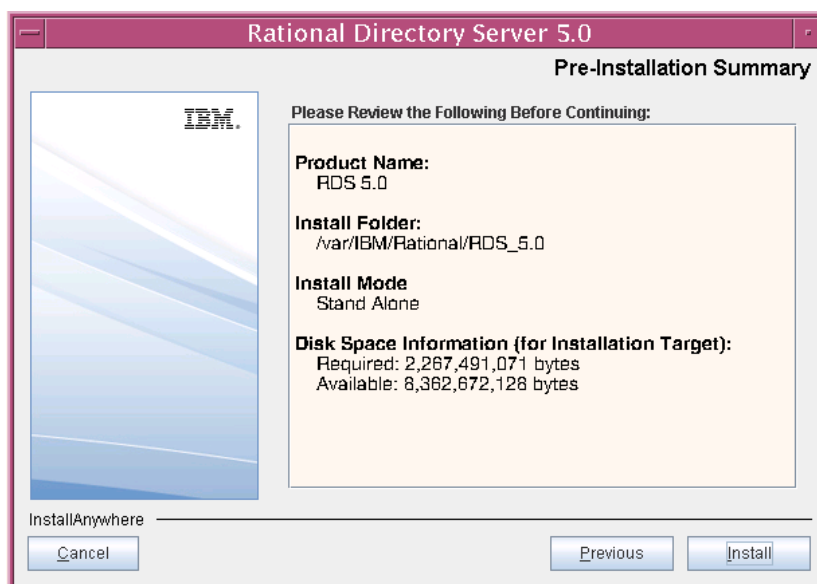
21. Click **Done** to exit the installer.
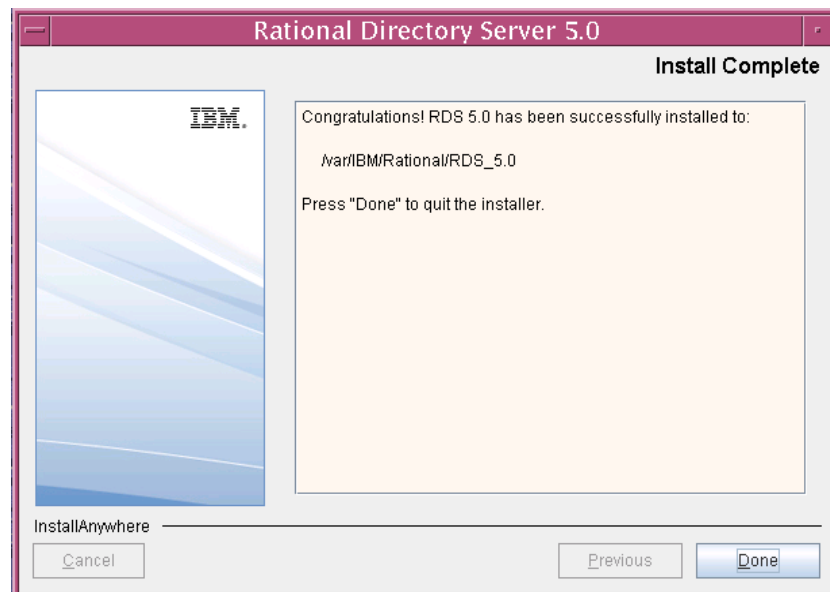
Note Ignore the error messages similar to the one given below, that appear on console post installation:

```
Error redirecting stderr. Output will be placed
into 'err.txt' instead.
## ZGGfxUtil.loadImage: image loading failed for:
    com/zerog/ia/installer/images/introImage.png
java.lang.Throwable
  at java.lang.Thread.dumpStack(Thread.java:454)
  at ZeroGah.a(DashoA8113)
  at com.zerog.ia.installer.AAMgr.b(DashoA8113)
  at com.zerog.ia.installer.AAMgr.a(DashoA8113)
```

Post installation instructions

This section details the basic checks that you can perform to ensure that the installation has went through fine.

This section contains the following components:

- Server startup
- Review log files
- Check for kernel settings on Solaris
- Check for NFS related errors

Server startup

Ensure that the server is started after the installation. In case the **server is not started automatically**, start the server manually using the following commands:

On Solaris:

```
$> cd <RDS_Home>/RDSUtility
$> ./start_rds_server.sh
```

On Linux:

```
$> cd <RDS_Home>/RDSUtility
$> ./start_rds_server.sh
```

Note While starting the server manually, ignore the errors that appear similar to the one given below.

```
Error opening slapd.cat
GLPCTL113I Largest core file size creation limit for
the process (in bytes): '-1'(Soft limit) and '-
1'(Hard limit).
```

The server can be started without the *root* user login on **Stand-Alone** and **Corporate** mode. For more information on starting the server without the *root* privilege see, Starting the server without root privilege (page 18). However, on OS authenticate mode, you must start the server with the *root* user login.

Review log files

1. If the installation is corrupted and the server is not started, review the following log files carefully for any errors.

    - `<RDS_InstallHome>/logs`
    - `<RDS_InstallHome>/RDS_5.0_InstallLog.log`
    - `<RDS_InstallHome>/Instance/sqllib/db2dump`
    - `<RDS_InstallHome>/Instance/idsslapd-tdsadmin/logs`
    - `<RDS_InstallHome>/Instance/sqllib/log`

2. If the log files specify the installation has failed with Tivoli or DB2 errors, look for the server startup errors in `ibmslapd.log`.

Note Ignore the following error messages that appear in `db2setup.log` file. These messages appear only during the re-installation of RDS.

```
Command to be run: "/bin/rpm -ivh '/tds/4.3/
tdsV6.1/db2/db2/linuxamd64/FILES/gsk7bas64-7.0-
3.18'.x86_64.rpm".

ERROR:Preparing...
##################################################
ERROR:package gsk7bas64-7.0-3.30 (which is newer
than gsk7bas64-7.0-3.18) is already installed
```

The above listed log files must be sent along with the other relevant information to the support specialist while reporting the errors. For more information on reporting the errors, see Contacting IBM Rational Software Support (page 2).

Check for kernel settings on Solaris

It is highly recommended to change the kernel settings before RDS installation and post Tivoli Directory Server installation, using the following steps.

1. Run the `db2osconf` utility located under:

    `<db2installlocation>/bin`

2. Update the `/etc/system` file with the values recommended by the utility.

3. Restart the UNIX system, for the kernel settings to take effect.

If you have not changed the kernel settings, and the installation fails, do the following:

1. Uninstall RDS using the `./UninstallRDS5.0` uninstaller.

2. Change the kernel settings as mentioned in the previous section.

3. Re-install RDS.

Note The server must be uninstalled and reinstalled properly in such scenario. Also, refer to [Kernel settings on Solaris (page 16)](#) section for details.

Check for NFS related errors

If you encounter the error such as `"create /usr/local/bin/db2ls: Permission denied"` in the `db2setup.log` file, it means that the `/usr/local/bin` is NFS mounted and the installation is not supported in such a scenario. For more information on NFS, see [NFS mounted system (page 17)](#).

Space issues

In case of space issues, you can delete the log files that are created under `/tmp` folder post installation to gain space. However, this is optional.

Upgrading to a new release

To upgrade the IBM Rational Directory Server to a new release, download the latest RDS installer from http://www.ibm.com/support/fixcentral/, install the newer version of RDS on your computer. For more information on installing the RDS see, Installing the RDS (page 26).

After installing the RDS, perform an online data migration between the Tivoli instances using the RDA tool. For more information on migration see, *Rational Directory Server Product Manual* or the online help.

Note The previous RDS installation cannot co-exist in the same machine.

4

Server Removal

Removing the RDS

This chapter describes the steps to remove RDS and Tivoli on all platforms. Remove the server with the same user account that was used for installation.

To remove RDS, do the following:

1. Go to the `<RDS_Install_Dir>/UninstallRDS5.0` folder.

2. Type `./UninstallRDS5.0` and press **Enter**. The **Uninstall RDS 5.0** dialog box is displayed.

3. Click **Uninstall** to remove the RDS.
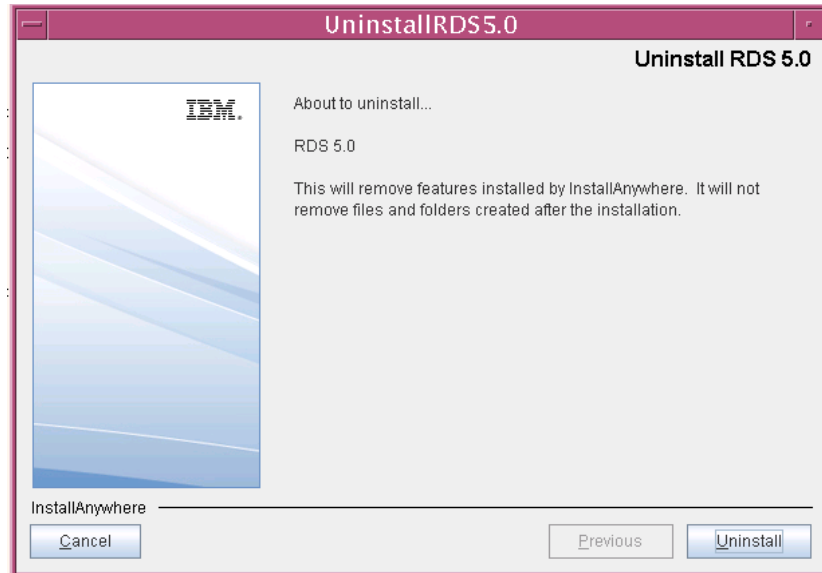
4. The **Uninstaller** removes the components one by one.

5. After removing all the components successfully, the **Uninstall Complete** dialog box is displayed.

6. Click **Done** exit the installer.
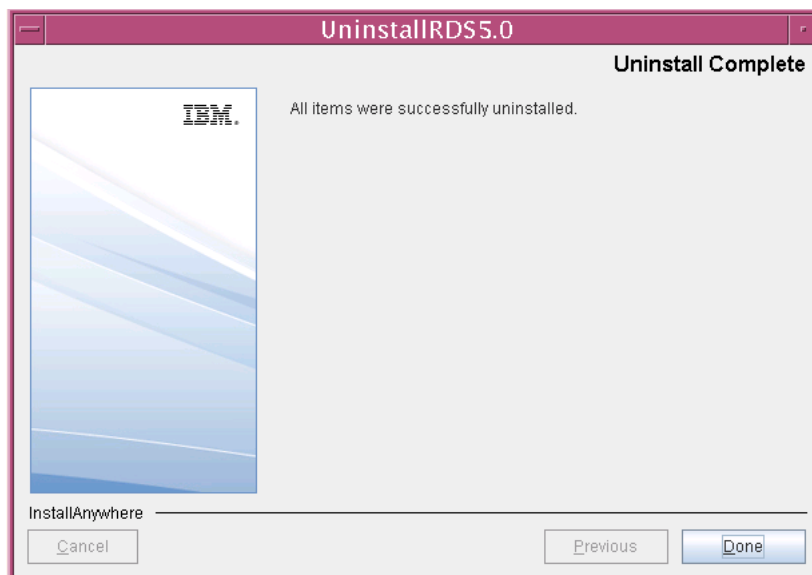
Note Follow the same procedure for uninstalling the RDS on Linux
platform.

To remove **Tivoli Directory Server**, do the following:

1. Go to the following path:

   `$ /opt/IBM/ldap/V6.2/_uninst` folder.

2. Type `./Uninstall_rds.bin` and press **Enter**.

3. On the Wizard, click **Next** to continue uninstallation.

   By default, all the components are selected.
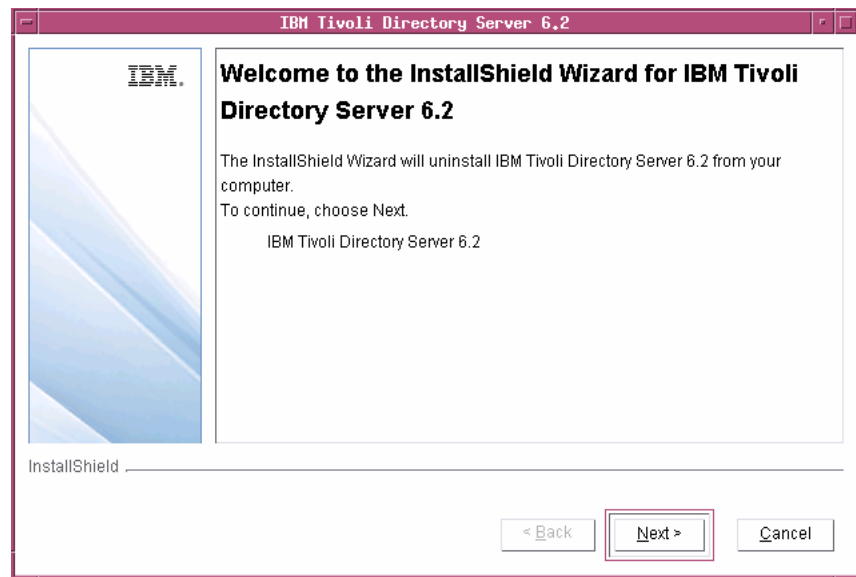
4. Click **Next**.

   The selected components for uninstallation is listed.

5. Click **Next**.

   The uninstallation is started.

6. The **Uninstaller** removes the components one by one.

7. Click **Finish** to exit the installer after successful uninstallation.
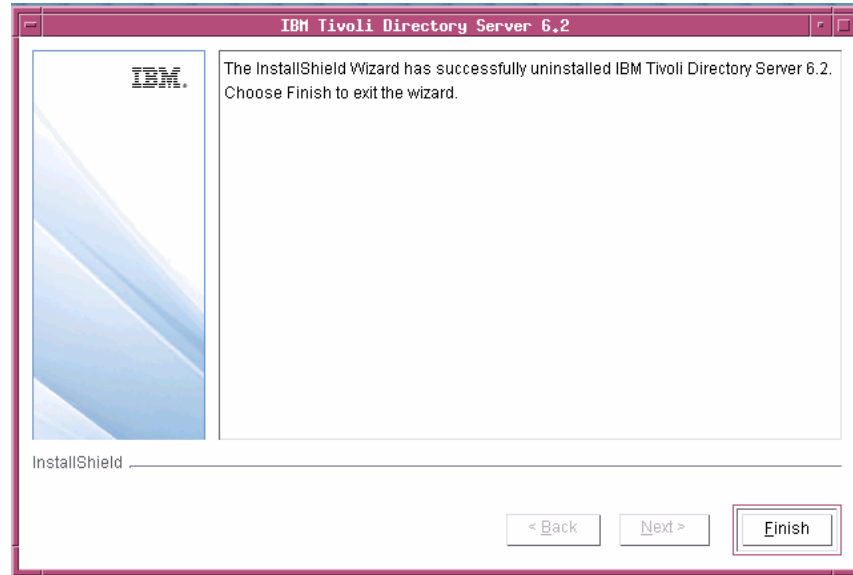
Settings for automatic restart on system reboot

The following section describes the scripts you can use to start and stop the directory server process on Solaris platform. Run the scripts to automate the system startup process.

The automatic system startup procedures vary for each platform and operating system (different UNIX flavors). If you want to run these scripts on other systems, you must change the scripts and the startup files from which they are called.

Note The examples shown here apply to the Sun SPARC platform running on Solaris 10.

To start the directory server automatically after a system reboot, create the following scripts in `/etc/init.d`

1. Script **startRDS**.

   ```
   cd "/opt/IBM/ldap/V6.2/sbin"
   ./ibmslapd -I tdsadmin -n
   ```

   The above script starts the directory server.

2. Script **stopRDS**.

   ```
   cd "/opt/IBM/ldap/V6.2/sbin"
   ./ibmslapd -I tdsadmin -k
   ```

   The above script stops the directory server.

Start process automatically

The following example shows how to set up an `/etc/rc2.d` script.

Set up a symbolic link in `/etc/rc2.d`:

`/etc/rc2.d/S##startRDS --> /etc/init.d/startRDS`

The file names in `rc2.d` directories are of the form `[SK]nn<init.d filename>` where `S` means start this job. `rc2.d` represents the run level of the operation. Level 2 startup is the standard. The pound signs (##) reflect the order in which operations are performed. This value should be high so that everything else (e.g., NFS) is started before the server is started. `S##` does not have to be different from `K##`.

Stop process automatically

The following example shows how to set up an `/etc/rc0.d` script.

Set up a symbolic link in `/etc/rc0.d`:

`/etc/rc0.d/K##stopRDS--> /etc/init.d/stopRDS`

The value `K` means kill this job. `rc0.d` represents the run level of the operation. Level 0 shutdown is the standard. The pound signs (##) reflect the order in which operations are performed. This value should be low. `K##` does not have to be different from `S##`.

5 *Client Installation*

Rational® Directory® Administration (RDA) is a GUI based client application helps the user to perform day-to-day administration tasks such as creating users, groups, roles, performing searches, migrating data, etc.

Installing the RDA

This section describes the RDA installation on Solaris, and Linux platforms. To start the installation, follow the instructions given below.

To install RDA, do the following:

You first need to set the execute permission for **RDA.bin** inorder to start the installation.

1. Unzip the RDA installer in a folder (use unzip or gunzip utilities).

1. Go to the **install** directory and set the execute permission to **RDA.bin**.

   ```
   chmod +x RDA.bin
   ```

   Skip this step for CD and DVD installation.

2. In the **install** directory, type `./RDA.bin` and press **Enter** to start the
   installation. The **Introduction** dialog box is displayed.
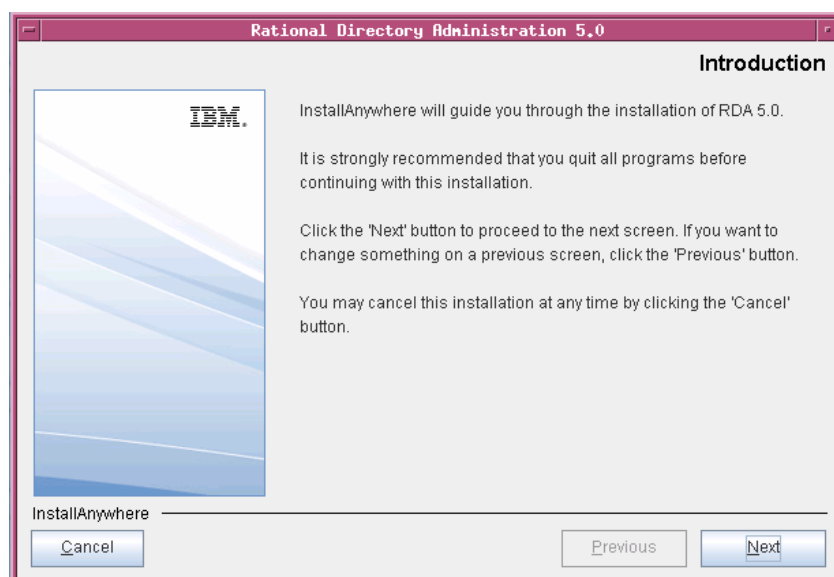
3. Click **Next**. The **License Agreement** dialog box is displayed.

4. You can also save the licence details in a document.

   To copy the license information:

   • Right-click the license window and click **Select All,** and then click **Copy**.
   • Open any file, paste the license information and save the file.

5. Review and click **I accept the terms of the license agreement**.

6. Click **Next.** The **Choose Install Folder** dialog box is displayed.

You can use the default location provided by the installer or click **Choose** to specify a different location. You can also edit the path manually by clicking anywhere in the text box. To use the default location, click the **Restore Default Folder.** This restores the default location provided by the installer.

.
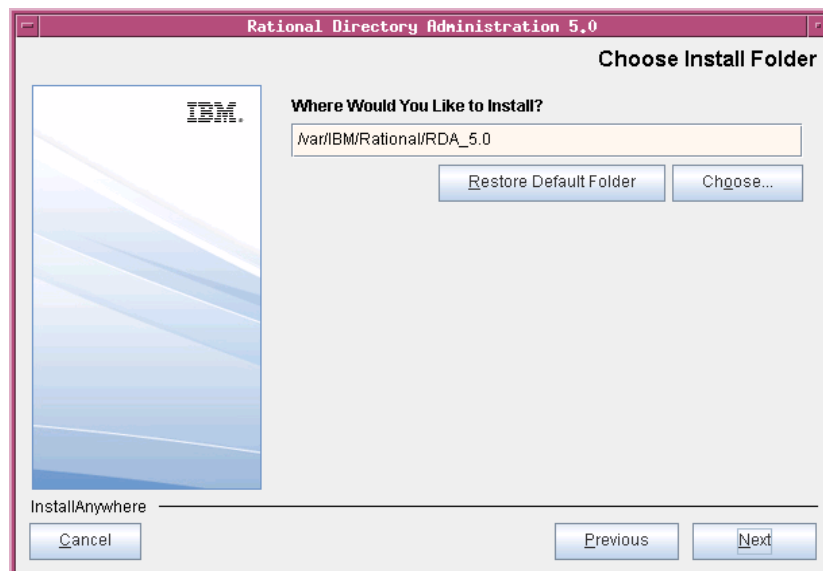
7. Click **Next**. The **Pre-Installation Summary** dialog box is displayed. This dialog box shows the installation summary.

8. Review the information, and then click **Install.** The **Install Complete** dialog box is displayed if the installation is successful.

9. Click **Done** to exit the installer.
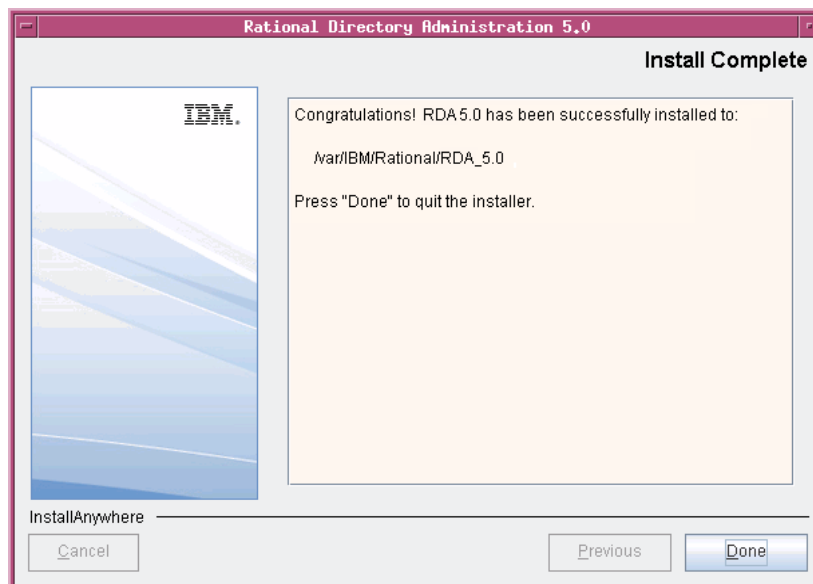
Note The Web Access Server is automatically started as a background process when the web access server is installed. After installation, verify the server is running using the following command:

```
ps -ef | grep tomcat
```

If the tomcat process is not running, see the Troubleshooting RDS (page 57) section for details on starting the server.

6   *Client Removal*

Removing the RDA

This chapter describes the steps required to remove RDA on all platforms.

To remove RDA, do the following:

1. Go to the `<RDA_Install_Dir>/UninstallRDA5.0` folder.

2. Type `./Uninstall_RDA_5.0` and press **Enter**. The **Uninstall RDA 5.0** dialog box is displayed.

3. Click **Uninstall.** The **Uninstaller** removes the components one by one. The **Uninstall Complete** dialog box is displayed if the uninstallation is successful.
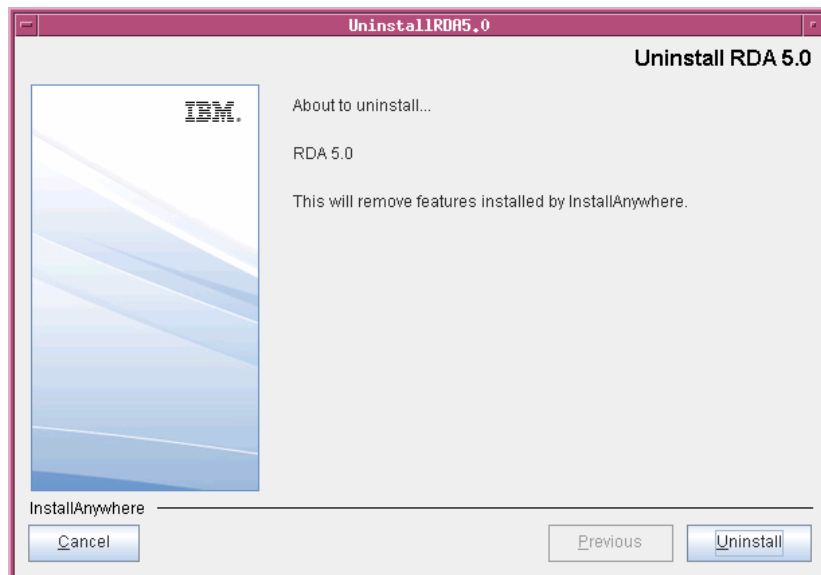
4. Click **Done** to exit the installer.
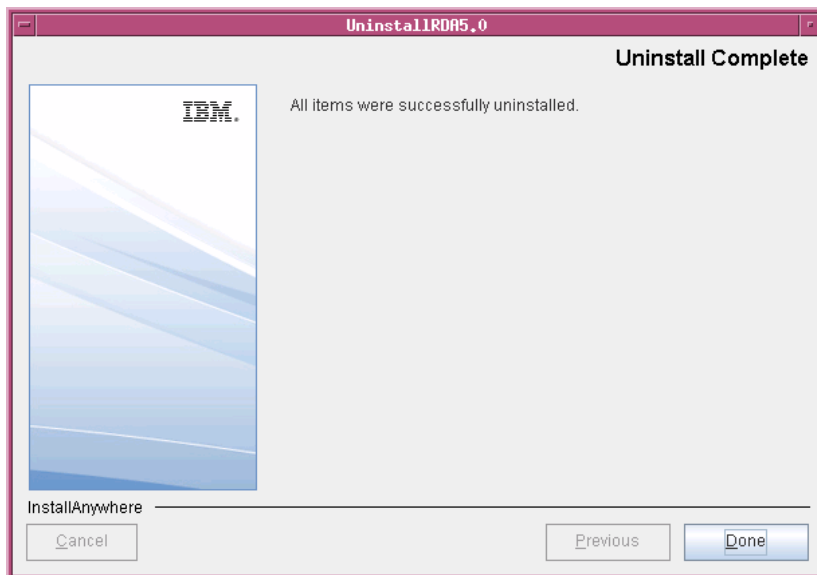
7 *Launching RDA*

This chapter describes how to launch the RDA application.

You can launch the desktop RDA that is installed on a client machine or the Web RDA from any machine by providing the appropriate URL. The Web RDA is supported on Mozilla browser.

Note The RDA web server starts automatically during installation.

To start the RDA, do the following:

1. If the RDA web server is not started, run the following command to **start** the web server.

   ```
   <RDA_Home>/WebAccessServer/Start_RDAWebServer.sh
   ```

   For example:

   ```
   $> /var/IBM/Rational/RDA_5.0/WebAccessServer/
   Start_RDAWebServer.sh
   ```

2. Open the browser and type the URL for the RDS:
   `http://<hostname>:8080/webrda/rda`.

   For example:

   ```
   http://rdsserver:8080/webrda/rda
   ```

Note The `<hostname>` refers to the name of the server where the RDS is installed.

3. The **RDS Login** dialog box is displayed.

4. On the **Login** dialog box, type the details as:

Field name	Description
URL	The LDAP URL should include a valid server name and a port number that was given at the time of RDS installation.
	For example: ldap://dirserv:1636.
	To open the RDS in secure mode, you can include the letter "s" in the ldap URL (where the "s" refers to the secure port), followed by a valid server name and a port number.
RDS Admin	The admin user name for RDS. The admin user *tdsadmin* is set by the RDS installer.
Password	The admin password set at the time of RDS installation.

5. Click **Login**.

Note To stop the server, use the following command:

```
$> <RDS_Install_Dir>\WebAccessServer\apache-tomcat-
6.0.16\bin\catalina.sh shutdown
```

8 *Troubleshooting RDS*

This chapter describes the possible problems and solutions for RDS users.

Problem	Solution
Client cannot locate the server.	Use the host name, such as *rdsserver*. Make sure the server is listed in the name service you are using, such as DNS, and try the fully qualified domain name (for example, rdsserver.example.com). Use the IP address for the host (for example, 192.168.2.60).
The port is in use.	Examine which ports are in use with an appropriate utility, such as the **netstat with the -a** option, to determine which ports are available.
Server installation fails. Cannot find the error log.	If the server installation fails, check for the below log files. • `<RDS_InstallHome>/logs` • `<RDS_InstallHome>/RDS_5.0_InstallLog.log` • `<RDS_InstallHome>/Instance/sqllib/db2dump` • `<RDS_InstallHome>/Instance/idsslapd-tdsadmin/logs` • `<RDS_InstallHome>/Instance/sqllib/log`

Problem	Solution
The below errors are observed when starting the directory server manually: ./start_tds_server.sh: cd: /opt/ibm/ldap/ V6.1/sbin: No such file or directory Error opening slapd.cat GLPSRV041I Server starting. Error opening toollibs.cat GLPCTL113I Largest core file size creation limit for the process (in bytes): '-3 '(Soft limit) and '-3'(Hard limit). GLPCTL119I Maximum Data Segment(Kbytes) soft ulimit for the process is -1 and the prescribed minimum is 262144. GLPCTL119I Maximum File Size(512 bytes block) soft ulimit for the process is -1 and the prescribed minimum is 2097152. GLPCTL122I Maximum Open Files soft ulimit for the process is 65536 and the prescribed minimum is 256. GLPCTL122I Maximum Stack Size(Kbytes) soft ulimit for the process is 8192 and the prescribed minimum is 8192. GLPCTL119I Maximum Virtual Memory(Kbytes) soft ulimit for the process is -1 and the prescribed minimum is 1048576.	Ignore these errors.
Web-RDA login page does not launch.	Do the following: 1. Shutdown the Tomcat server by running the following command: `<RDS_Install_Dir>\WebAccessServer\apache-tomcat-6.0.16\bin\catalina.sh shutdown` 2. Delete the work folder from the following path: `<RDS_Install_Dir>\WebAccessServer\apache-tomcat-6.0.16\work` 3. Start the server again by running the following command: `<RDS_Install_Dir>\WebAccessServer\Start_RDAWebServer.sh` 4. Launch RDA.

Problem	Solution

A bind exception is thrown on the command prompt when starting the Web Access Server.	1. After installing the **RDS Web Access Server**, verify if the Web Access Server has started using the following command:
	`ps -ef | grep tomcat`
	2. If there is no `tomcat` running, execute the following command to **start** the server.
	`<RDS_Home>/WebAccessServer/Start_RDAWebServer.sh`
	3. If you get a bind exception error when starting the web access server, do the following:
	4. Open the `Server.xml` file from the following location:
	`<RDS_Install_Dir>/WebAccessServer/apache-tomcat-6.0.16/conf`
	5. Search for the following line:
	`<Connector executor="tomcatThreadPool" port="8080" protocol="HTTP/1.1" connectionTimeout="20000" redirectPort="8443" />`
	6. Change the `port="8080"` attribute to a port that is free.
	7. Search for the following line:
	`<Server port="8005" shutdown="SHUTDOWN">`
	8. Change the `port="8005"` to a free port that is available.
	9. Save the `Server.xml` file.
	10. Run the following command to **start** the web server.
	`<RDS_Home>/WebAccessServer/Start_RDAWebServer.sh`

Not able to launch the online help.	Help for RDA can be launched by setting Netscape 7.0 or Mozilla as the default browser. For more information on setting up the Netscape browser, see the "Setting the Netscape browser" section of the *IBM Rational Directory Server Administration Guide*.
A kernel parameter error found in DB2 log file. The log files have these error messages: "set the kernel parameter MSGMAX should be set to 65535". "memory failover".	The log files have names beginning with `db2` (eg: `db2.icrt.878.log`). Refer to the following link http://publib.boulder.ibm.com/infocenter/db2luw/v9r5/index.jsp?topic=/com.ibm.db2.luw.qb.server.doc/doc/t0006476.html for details on using `db2osconf` utility for setting kernel parameter values.

Terms and Concepts

Term	Definition
LDAP	Lightweight Directory Access Protocol. directory service protocol designed to run over TCP/IP and across multiple platforms.
OS authentication	Operating system authentication is the process of proving the identity of the client user to the directory server based on the operating system log on name.
PAM	A pluggable authentication modules (PAM) is set of libraries and services used for authentication.
SSL	A Secure Sockets Layer. (SSL) is a software library that establishes a secure connection between a client and server.
RDS Client	A RDS client is a interface that requests services or information from a server.

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Index

Stand Alone 8
starting server without root privilege 18
supported operating systems 13
symbolic link 45
system reboot 45
system requirements 13

T

tivoli installation 19
Types of TDS Installation 8

U

unzip 26
user creation 18
userdel 26
utilities 26