Before using this information, be sure to read the general information under Appendix, “Notices” on page 49.

This edition applies to VERSION 4.3, Telelogic Directory Server and to all subsequent releases and modifications until otherwise indicated in new editions.

© Copyright IBM Corporation 2006, 2008

US Government Users Restricted Rights—Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
# Table of contents

**About this manual**

- Contacting IBM Rational Software Support ................................................................. 2
- Conventions used in this guide ......................................................................................... 3

**Introduction**

- Obtaining the TDS software ......................................................................................... 5
- Installation sequence ...................................................................................................... 5
- Remote installation of TDS ............................................................................................. 5
- Types of TDS installations ............................................................................................. 6
- Modes of installations ..................................................................................................... 6
- Preparing installation information .................................................................................. 7

**Server Installation**

- System requirements ..................................................................................................... 9
  - Industry standards ....................................................................................................... 9
  - Operating system requirements .................................................................................. 9
  - Disk space and memory requirements ....................................................................... 11
- Before installing TDS ..................................................................................................... 12
  - Shell requirements ..................................................................................................... 12
  - Kernel settings on Solaris ......................................................................................... 12
  - Root settings .............................................................................................................. 12
  - Libraries and utilities .............................................................................................. 13
  - What is not supported ............................................................................................... 13
    - Console mode installation ..................................................................................... 13
    - NFS mounted system ......................................................................................... 13
- More information on TDS installation .......................................................................... 13
  - Installation path ........................................................................................................ 14
  - JRE installation ......................................................................................................... 14
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local user/group creation</td>
<td>14</td>
</tr>
<tr>
<td>Starting the server without root privilege</td>
<td>14</td>
</tr>
<tr>
<td>Tivoli installation</td>
<td>14</td>
</tr>
<tr>
<td>Installing the TDS</td>
<td>15</td>
</tr>
<tr>
<td>Post installation instructions</td>
<td>24</td>
</tr>
<tr>
<td>Server startup</td>
<td>24</td>
</tr>
<tr>
<td>Review log files</td>
<td>25</td>
</tr>
<tr>
<td>Check for kernel settings on Solaris</td>
<td>26</td>
</tr>
<tr>
<td>Check for NFS related errors</td>
<td>26</td>
</tr>
<tr>
<td>Space issues</td>
<td>26</td>
</tr>
<tr>
<td><strong>Server Removal</strong></td>
<td>27</td>
</tr>
<tr>
<td>Removing the TDS</td>
<td>27</td>
</tr>
<tr>
<td>Settings for automatic restart on system reboot</td>
<td>29</td>
</tr>
<tr>
<td>Start process automatically</td>
<td>29</td>
</tr>
<tr>
<td>Stop process automatically</td>
<td>30</td>
</tr>
<tr>
<td><strong>Client Installation</strong></td>
<td>31</td>
</tr>
<tr>
<td>Installing the TDA</td>
<td>31</td>
</tr>
<tr>
<td><strong>Client Removal</strong></td>
<td>39</td>
</tr>
<tr>
<td>Removing the TDA</td>
<td>39</td>
</tr>
<tr>
<td><strong>Launching TDA</strong></td>
<td>41</td>
</tr>
<tr>
<td><strong>Troubleshooting TDS</strong></td>
<td>43</td>
</tr>
<tr>
<td><strong>Terms and Concepts</strong></td>
<td>47</td>
</tr>
<tr>
<td><strong>Appendix A: Notices</strong></td>
<td>49</td>
</tr>
<tr>
<td>Trademarks</td>
<td>52</td>
</tr>
<tr>
<td><strong>Index</strong></td>
<td>53</td>
</tr>
</tbody>
</table>
1 About this manual

This manual guides you through the Telelogic® Directory Server™ (TDS) installation and uninstallation. It contains the following sections:

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

TDS documentation

This section provides the information on the related documents available for TDS. The following TDS documents are available on the Product Support Website, [https://support.telelogic.com](https://support.telelogic.com)

<table>
<thead>
<tr>
<th>Document name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telelogic Directory Server Installation Guide</td>
<td>Provides information about how installing TDS.</td>
</tr>
<tr>
<td>Telelogic Directory Server Product Manual</td>
<td>Provides detailed information about TDS features supported in this release.</td>
</tr>
<tr>
<td>Telelogic Directory Server Administration Manual</td>
<td>Provides information about TDS administration.</td>
</tr>
</tbody>
</table>
Chapter 1: About this manual

Contacting IBM Rational Software Support

Support and information for Telelogic products is currently being transitioned from the Telelogic Support site to the IBM Rational Software Support site. During this transition phase, your product support location depends on your customer history.

**Product support**

- If you are a heritage customer, meaning you were a Telelogic customer prior to November 1, 2008, please visit the [http://support.telelogic.com](http://support.telelogic.com). Telelogic customers will be redirected automatically to the IBM Rational Software Support site after the product information has been migrated.
- If you are a new Rational customer, meaning you did not have Telelogic-licensed products prior to November 1, 2008, please visit the [IBM Rational Software Support site](http).

Before you contact Support, gather the background information that you will need to describe your problem. When describing a problem to an IBM software support specialist, be as specific as possible and include all relevant background information so that the specialist 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?
- Do you have logs, traces, or messages that are related to the problem?
- Can you reproduce the problem? If so, what steps do you take to reproduce it?
- Is there a workaround for the problem? If so, be prepared to describe the workaround.

**Other information**

For Rational software product news, events, and other information, visit the [IBM Rational Software Web site](http).
## Conventions used in this guide

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

---

*Telelogic Directory Server Installation Guide*
TDS is a single enterprise directory solution designed for user authentication and administration for Telelogic® Lifecycle Solution™ (TLS) tools. The TDS allows the TLS users to log on using the same credentials across TLS tools for which they have authorized access.

TDS 4.3 is designed to support a wide range of platforms. For more information on the platform support see Operating system requirements (page 9).

The TDS comes with the Graphical User Interface (GUI) based client application Telelogic® Directory Administration™ (TDA), that can be installed separately. For information on installation instruction and procedure, refer to Installing the TDA (page 31).

**Obtaining the TDS software**

You can download the TDS from the support site or from the zip distribution. After downloading the TDS, make sure you verify the MD5 checksum available under the support site, https://support.telelogic.com matches the downloaded installer. This will ensure that the downloaded installer is not corrupted.

**Installation sequence**

It is recommended that you install TDS before installing other products, as it will ensure that the TDS has access to the required network port prior to the other product installations.

**Remote installation of TDS**

TDS 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 manual for details.
Types of TDS installations

There are two types of TDS installations:

<table>
<thead>
<tr>
<th>Installation type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Installation</td>
<td>Installs TDS on a local machine. The TDS provides user authentication and administration across TLS tools using the same credentials. The server installation also provides the option to install TDA and Web TDA client. However, you can choose to install that separately.</td>
</tr>
<tr>
<td>Client Installation</td>
<td>Installs the client (TDA) on a local machine. The client can access the server on the local machine or on a network.</td>
</tr>
</tbody>
</table>

Modes of installations

The TDS supports the following modes of installations:

<table>
<thead>
<tr>
<th>Installation mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand-Alone</td>
<td>Enables you to administer and perform searches for the users and groups that exist locally.</td>
</tr>
<tr>
<td>Corporate LDAP Backbone Support</td>
<td>Enables you to configure the TDS 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 TLS tools.</td>
</tr>
<tr>
<td>OS Authentication</td>
<td>Enables you to configure TDS to allow login using OS logon name. TDS authenticate users against the OS hosting the TDS and enable access to the TLS tools after successful authentication. TDS uses Pluggable Authentication Modules (PAM) for authentication. Refer to Telelogic Directory Server Administration Guide for PAM configuration.</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host name</td>
<td>ExampleServer</td>
</tr>
<tr>
<td>Directory server port number</td>
<td>Default LDAP port: 1389. This can be changed to any available free port.</td>
</tr>
<tr>
<td>Secure port number</td>
<td>Default LDAP port: 1636. This can be changed to any available free port.</td>
</tr>
<tr>
<td>Directory administrator password</td>
<td>Password must contain the following:</td>
</tr>
<tr>
<td></td>
<td>• Password must be of minimum 8 characters in length.</td>
</tr>
<tr>
<td></td>
<td>• Password must contain 1 uppercase character and 3 special characters.</td>
</tr>
<tr>
<td>Directory administrator ID</td>
<td>tdsadmin (set by default)</td>
</tr>
<tr>
<td>Installation directory</td>
<td>• /var/TDS_4.3 or any other specified path</td>
</tr>
<tr>
<td></td>
<td>• Tivoli directory server binary is always installed under /opt/IBM/ldap/V6.1</td>
</tr>
</tbody>
</table>
3 Server Installation

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

This chapter contains the following sections:
• System requirements
• Before installing TDS
• More information on TDS installation
• Installing the TDS
• Post installation instructions

System requirements

The following section describes the system requirements for the TDS.

Industry standards

The TDS is developed based on the following industry standards.
• LDAP v3 operations
• LDAP search filters
• LDAP v3 intelligent referral

Operating system requirements

TDS and TDA are supported on the following platforms:
• Sun Solaris 9, 10 operating system 64 bit ( / SPARC Platform)
• Red Hat Enterprise Linux Server 4, 5 operating system 32 and 64 bit
The following table details the list of additional software that must be available in the system.

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Supported OS versions</th>
<th>Additional required software</th>
</tr>
</thead>
</table>
| 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. |
| Solaris 9 operating system for SPARC | Solaris 9 operating system for SPARC | • The Korn shell is required.  
• `pkgadd` system utility should exist.  
• 64-bit kernel  
Patches:  
• 11711-12, 111712-12 and 111711-08  
• If raw devices are used, patch 122300-11  
• 64-bit Fujitsu PRIMEPOWER and Solaris 9 Kernel Update Patch 112233-01 or later to get the fix for patch 912041-01 |
| Red Hat Linux                     | Red Hat Enterprise Server 4, 5 for x86 (32 and 64 bit OS) | The following packages needs to be installed before installing the Telelogic Directory Server:  
1. glibc-devel  
2. glibc-headers  
The rpm names of these packages are:  
32 bit Redhat:  
• 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"`).  
The above rpm's on Redhat4 will be of version 2.3.4 or higher( E.g. glibc-2.3.4-2.36.i686.rpm).  
64 bit Redhat:  
• glibc-2.5-18.i64.rpm  
• glibc-common-2.5-18.i64.rpm  
• glibc-common-devel-2.5-18.i64.rpm  
• glibc-headers-2.5-18.i64.rpm  
• nscd-2.5-18.i64.rpm  
The above rpm's on Redhat4 will be of version 2.3.4 or higher( E.g. glibc-2.3.4-2.36.i64.rpm).  
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](http://rhn.redhat.com). |
System requirements

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 TDS

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

<table>
<thead>
<tr>
<th># of Entries</th>
<th>Minimum disk space required</th>
<th>Minimum memory required</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 - 250,000</td>
<td>5 GB</td>
<td>1-2 GB</td>
</tr>
<tr>
<td>250,000 - 1,000,000</td>
<td>6 GB</td>
<td>4 GB</td>
</tr>
<tr>
<td>Over 1,000,000</td>
<td>8 GB</td>
<td>4 GB</td>
</tr>
</tbody>
</table>

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

The TDS 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 TDA

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

<table>
<thead>
<tr>
<th>Minimum disk space required</th>
<th>Minimum memory required</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 MB</td>
<td>512 MB</td>
</tr>
</tbody>
</table>
Before installing TDS

Before you install the TDS, ensure that the system is equipped with the set of configurations recommended in this manual to avoid any installation errors. You need at least 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 9,10 - Korn shell (KSH) must be installed on the OS.
- Red Hat 4 - Korn shell is available by default.
- 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 26).

Root settings

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

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 14).
Libraries and utilities

You must install the recommended libraries and utilities. For more information on the required libraries and utilities see, Operating system requirements (page 9).

What is not supported

This section describes the modes or systems that are not supported by TDS. 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 TDS does not support non-graphical or console mode installation. Hence, the options such as `-console` is not supported by the TDS installer.

NFS mounted system

The TDS 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 TDS installation

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

This section contains the following components:

- Installation path
- JRE installation
- Local user/group creation
- Tivoli installation
Chapter 3: Server Installation

Installation path

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

- On Solaris systems: /opt/IBM/ldap/V6.1
- On Linux systems: /opt/ibm/ldap/V6.1

The database itself is created under the user specified or default install path: /var/TDS_4.3/

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

JRE installation

The TDS 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 TDS installer by default, creates the local user tdsinst and idsldap and the group idsldap on the Operating System (OS). The root user is added to the idsldap group.

Note The password of tdsinst and idsldap users are internally set by the installer and the password cannot expired.

Starting the server without root privilege

Any user who is added to the idsldap group (that is created as part of the TDS 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.

Tivoli installation

TDS Installer internally installs the following:

- IBM Tivoli Directory Server 6.1
- IBM DB2 9.1
Installing the TDS

Install the server as a root user.

To Install TDS, do the following:

1. Unzip the TDS installer in a folder (use unzip or gunzip utilities).
2. Go to the install directory and set the execute permission to TDS.bin
   ```
   chmod +x TDS.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 `./TDS.bin` and press **Enter**. The **Introduction** dialog box appears.

7. Click **Next**. The **License Agreement** dialog box appears.

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 appears.

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.

![Choose Install Folder Dialog Box](image)

**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 appears.

12. TDS 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 **Modes of installations (page 6)**.

14. Click Next. The **Telelogic Directory Server Configuration** dialog box appears. This defines the configuration settings for the TDS.
15. Type the directory server configuration properties.

The field descriptions and the values to be entered in each field are explained in the following table.

<table>
<thead>
<tr>
<th>Field name</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name</td>
<td>The host name of the computer.</td>
<td>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.</td>
</tr>
<tr>
<td>Directory Server Port</td>
<td>The port number of the directory server.</td>
<td>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.</td>
</tr>
</tbody>
</table>
16. 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.

<table>
<thead>
<tr>
<th>Field name</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure Port</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>TDS Administrator User ID</td>
<td>The user id for TDS administrator.</td>
<td>The TDS administrator ID is set by default. The administrator ID cannot be modified.</td>
</tr>
</tbody>
</table>
17. Click Next. The Pre-Installation Summary dialog box appears. This dialog box shows the installation summary.

18. Review the information, and then click Install. The Install Complete dialog box appears if the installation is successful.
19. 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.

## ZG3fxUtil.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)
```
Chapter 3: Server Installation

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 /opt/IBM/ldap/V6.1/sbin
$> ./start_tds_server.sh
```

On Linux:

```
$> cd /opt/ibm/ldap/V6.1/sbin
$> ./start_tds_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 14).

However, on OS authenticate mode, you must start the server with the root user login.
Post installation instructions

Review log files

1. If the installation is corrupted and the server is not started, review the following log files carefully for any errors.
   - /var/TDS_4.3/TDS_4.3_InstallLog.log
   - /var/TDS_4.3/logs/db2setup.log
   - /var/TDS_4.3/IBM/Instance/idsslapd-tdsinst/sqlib/db2dumps/
   - /var/TDS_4.3/IBM/Instance/idsslapd-tdsinst/sqlib/db2dumps/db2diag.log
   - /var/TDS_4.3/logs/tivoli_install.log
   - /var/TDS_4.3/IBM/Instance/idsslapd-tdsinst/logs/ibmslapd.log
   - /tmp/idsicrt*.log
   - /tmp/idcfgdb*.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 TDS.

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...

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).
Chapter 3: Server Installation

Check for kernel settings on Solaris

If you encounter the system configuration or kernel settings issues post installation, do the following:

1. Run the db2osconf utility located under:
   /var/TDS_4.3/IBM/Instance/db2/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.

Note  The server must be uninstalled and reinstalled properly in such scenario. Also, refer to Kernel settings on Solaris (page 12) 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 13).

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.
4

Server Removal

Removing the TDS

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

To remove TDS, do the following:

1. Go to the `<TDS_Install_Dir>/UninstallTDS4.3` folder.
2. Type `./UninstallTDS4.3` and press Enter. The **Uninstall TDS 4.3** dialog box appears.
3. Click **Uninstall** to remove the TDS.

   ![Uninstall TDS 4.3](image)

4. The **Uninstaller** removes the components one by one.
5. After removing all the components successfully, the **Uninstall Complete** dialog box appears.
6. Click **Done** exit the installer.

![Uninstall Complete](image)

**Note** Follow the same procedure for uninstalling the TDS on Linux platform.
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 9, 10.

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

1. Script startTDS.
   cd "/opt/IBM/ldap/V6.1/sbin"
   ./ibmslapd -I tdsinst -n
   The above script starts the directory server.

2. Script stopTDS.
   cd "/opt/IBM/ldap/V6.1/sbin"
   ./ibmslapd -I tdsinst -k
   The above script stop 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##startTDS --> /etc/init.d/startTDS

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##stopTDS --> /etc/init.d/stopTDS
```

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

Telelogic® Directory Administration™ (TDA) is a GUI based client application used to perform day-to-day administration tasks such as creating users, groups, roles, performing searches, migrating data, etc.

The TDA is available as desktop TDA and Web TDA. The Web TDA enables you to access the TDS using a browser.

Installing the TDA

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

To install TDA, do the following:

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

1. Unzip the TDA installer in a folder (use unzip or gunzip utilities).
1. Go to the install directory and set the execute permission to TDA.bin.
   
   chmod +x TDA.bin

Skip this step for CD and DVD installation.
2. In the `install` directory, type `./TDA.bin` and press **Enter** to start the installation. The **Introduction** dialog box appears.

3. Click **Next**. The **License Agreement** dialog box appears.

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 appears.

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 **Choose Installation Mode** dialog box appears. The following modes of installation are supported by TDS.

- Install Telelogic Directory Administration
- Install Telelogic Web Access Server

By default, both the modes are selected by the installer. You can deselect the mode if you want by clicking the check box provided against the mode.
8. Click Next. The Pre-Installation Summary dialog box appears. This dialog box shows the installation summary.

9. Review the information, and then click Install. The Install Complete dialog box appears if the installation is successful.
10. Click **Done** to exit the installer.

![Install Complete](image.png)

**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, TDS (page 45)** section for details on starting the server.
6

Client Removal

Removing the TDA

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

To remove TDA, do the following:

1. Go to the `<TDA_Install_Dir>/UninstallTDA4.3` folder.

2. Type `./Uninstall_TDA_4.3` and press Enter. The Uninstall TDA 4.3 dialog box appears.

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

Launching TDA

This chapter describes how to launch the TDA application.

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

**Note** The TDA web server starts automatically during installation.

After installing TDS, you can start the TDA application by providing the following details.

To start the desktop TDA, do one of the following:

1. Go to the `<TDS_Home>/TDA` folder.
   - Example: `/var/TDS_4.3/TDA`
2. Type `./TDA` and press **Enter**. The **TDS Login** dialog box appears.
3. On the **Login** dialog box, type the following details.

<table>
<thead>
<tr>
<th>Field name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>URL</td>
<td>The LDAP URL should include a valid server name and a port number that was given at the time of TDS installation. For example: <code>ldap://dirserv:1636</code>. To open the TDS in secure mode, you can include the letter &quot;s&quot; in the ldap URL (where the &quot;s&quot; refers to the secure port), followed by a valid server name and a port number.</td>
</tr>
<tr>
<td>TDS Admin</td>
<td>The admin user name for TDS. The admin user <code>tdsadmin</code> is set by the TDS installer.</td>
</tr>
<tr>
<td>Password</td>
<td>The admin password set at the time of TDS installation.</td>
</tr>
</tbody>
</table>

4. Click **Login**.
To start the TDA on a Web browser, do the following:

1. If the TDA web server is not started, run the following command to start the web server.
   
   `<TDS_Home>/WebAccessServer/Start_TDAWebServer.sh`
   
   For example:
   
   `$> /var/TDS/TDS_4.3/WebAccessServer/Start_TDAWebServer.sh`

2. Open the browser and type the URL for the TDS:
   
   `http://<hostname>:8080/webtda/tda`
   
   For example:
   
   `http://tdsserver:8080/webtda/tda`

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

3. The **TDS Login** dialog box appears.

4. On the **Login** dialog box, type the details as mentioned under step 3 of desktop TDA.

5. Click **Login**.
# Troubleshooting TDS

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

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client cannot locate the server</td>
<td>Use the host name, such as <code>tdsserver</code>.</td>
</tr>
<tr>
<td></td>
<td>Make sure the server is listed in the name service you are using, such as DNS, and try the</td>
</tr>
<tr>
<td></td>
<td>fully qualified domain name (for example, <code>tdsserver.example.com</code>).</td>
</tr>
<tr>
<td></td>
<td>Use the IP address for the host (for example, <code>192.168.2.60</code>).</td>
</tr>
<tr>
<td>The port is in use</td>
<td>Examine which ports are in use with an appropriate utility, such as the `netstat with the</td>
</tr>
<tr>
<td></td>
<td><code>a</code> option, to determine which ports are available.</td>
</tr>
<tr>
<td>Re-installation of TDS fails with the error message &quot;Instance already</td>
<td>Do the following:</td>
</tr>
<tr>
<td>present.&quot;</td>
<td>Delete Users: <code>tdsinst</code> and <code>idsldap</code></td>
</tr>
<tr>
<td></td>
<td>Delete Group: <code>idsldap</code></td>
</tr>
<tr>
<td>Server installation fails. Cannot find the error log.</td>
<td>The IBM Tivoli Directory Server log files can be found in the following location:</td>
</tr>
<tr>
<td></td>
<td><code>&lt;Install Directory&gt;/IBM/Instance/idsldap-tdsinst/logs</code></td>
</tr>
<tr>
<td></td>
<td>The TDS log file <code>TDS_4.3_InstallLog.log</code> can be found at the root level of the installation</td>
</tr>
<tr>
<td></td>
<td>folder: <code>e.g. /var/TDS_4.3/TDS_4.3_InstallLog.log</code></td>
</tr>
<tr>
<td></td>
<td>Refer to additional log files under <code>/tmp</code> and installation folder.</td>
</tr>
<tr>
<td></td>
<td><code>e.g. /var/TDS_4.3/logs/</code></td>
</tr>
</tbody>
</table>
# Chapter 8: Troubleshooting TDS

The below errors are observed when starting the directory server manually:

```bash
./start_tds_server.sh: cd: /opt/ibm/ldap/V6.1/sbin: No such file or directory
GLPSRV041I Server starting.
Error opening slapd.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-TDA login page does not launch. Do the following:

1. Shutdown the Tomcat server by running the following command:
   ```bash
   <TDS_Install_Dir>\WebAccessServer\apache-tomcat-6.0.16\bin\shutdown.bat
   ```
2. Delete the work folder from the following path:
   ```bash
   <TDS_Install_Dir>\WebAccessServer\apache-tomcat-6.0.16\work
   ```
3. Start the server again by running the following command:
   ```bash
   <TDS_Install_Dir>\WebAccessServer\Start_TDAWebServer.bat
   ```
4. Launch the Web-TDA using the web browser.
<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not able to launch the online help</td>
<td>Help for TDA 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 &quot;Setting the Netscape browser&quot; section of the <em>Telelogic Directory Server Administration Guide</em>.</td>
</tr>
</tbody>
</table>

The error messages similar to the one given below, 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 ZeroGah.a (DashoA8113)
at com.zerog.ia.installer.AAMgr.b (DashoA8113)
at com.zerog.ia.installer.AAMgr.a (DashoA8113)
```

Ignore these errors.
### Problem

A bind exception is thrown on the command prompt when starting the Web Access Server.

### Solution

1. After installing the **TDS 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.
   ```
   <TDS_Home>/WebAccessServer/Start_TDAWebServer.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:
   ```
   <TDS_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.


10. Run the following command to **start** the web server.
    ```
    <TDS_Home>/WebAccessServer/Start_TDAWebServer.sh
    ```

### Problem

A kernel parameter error found in DB2 log file.

### Solution

The DB2 log files located at `/tmp` display error messages like "set the kernel parameter MSGMAX should be set to 65535". The log files at `/tmp` have names beginning with `db2` (e.g., `db2.icrt.878.log`).

## Terms and Concepts

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDAP</td>
<td>Lightweight Directory Access Protocol. directory service protocol designed to run over TCP/IP and across multiple platforms.</td>
</tr>
<tr>
<td>OS authentication</td>
<td>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.</td>
</tr>
<tr>
<td>PAM</td>
<td>A pluggable authentication modules (PAM) is set of libraries and services used for authentication.</td>
</tr>
<tr>
<td>SSL</td>
<td>A Secure Sockets Layer. (SSL) is a software library that establishes a secure connection between a client and server.</td>
</tr>
<tr>
<td>TDS Client</td>
<td>A TDS client is a interface that requests services or information from a server.</td>
</tr>
</tbody>
</table>
Appendix: Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user’s responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send written license inquiries to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send written inquiries to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106-0032, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions. Therefore, this statement may not apply to you.
This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

Intellectual Property Dept. for Rational Software
IBM Corporation
1 Rogers Street
Cambridge, Massachusetts 02142
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of
performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.
Chapter 10: Appendix

Trademarks

IBM, the IBM logo, ibm.com, IBM Tivoli Directory Server, Telelogic, Telelogic Synergy, Telelogic Change, Telelogic DOORS, and Telelogic System Architect are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. These and other IBM trademarked terms are marked on their first occurrence in this information with the appropriate symbol (® or ™), indicating US registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at www.ibm.com/legal/copytrade.html.

Netscape and Netscape Enterprise Server are registered trademarks of Netscape Communications Corporation in the United States and other countries.
Solaris, Java and all Java-based are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries.
UNIX is a registered trademark of The Open Group in the United States and other countries.
Linux is a trademark of Linus Torvalds in the United States, other countries, or both.
Other company, product or service names may be trademarks or service marks of others.
Index

A
additional softwares 10
automatic restart 29

B
bind exception 46

C
corporate LDAP backbone support 6

D
default LDAP port 7
disk space 11
display variable 15
document conventions 3
dos2unix 15

E
error log 43

G
group creation 14
groupdel 15
gunzip 15

I
IBM customer support 2
installation path 14
installing TDA 31

J
jre installation 14

K
kernel settings 12

L
launching help 45
launching TDA 41
LDAP 47
libraries 13
log files 25

M
memory requirements 11
modes 6

N
NFS 11
NFS mounted system 13

O
operating system requirement 9
os Authentication 6
os authentication 47
os versions 10

P
PAM 47
path settings 15

R
rc2.d script 29
Red Hat Linux 10
root settings 12

S
secure port number 7
server port number 7
server startup 24
shell requirement 12
Solaris 10
SSL 47
stand alone 6
starting server without root privilege 14
supported operating systems 9
symbolic link 29
system reboot 29
system requirements 9

T
TDS client 47
TDS documentation 1
tds logs 43
tivoli installation 14
tivoli logs 43
types of TDS installation 6

U
unzip 15
user creation 14
userdel 15
utilities 15