northgate
INFORMATION SOLUTIONS

INSTALLATION GUIDE

Reality

External Components Installation & Upgrade Guide

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Overview

This Installation Guide describes the procedure for installing Reality external components.

Terms and Abbreviations

DDA	Distributed Data Access
HTML	HyperText Markup Language
JDBC	Java Database Connectivity
JRE	Java Runtime Environment
ODBC	Open Database Connectivity
PCSNI	PC Standard Network Interface
RSC	Remote Subroutine Call (Remote Basic)
SQL	Standard Query Language
TCP/IP	Transmission Control Protocol/Internet Protocol
WinSNI	The Windows component of PCSNI.
Winsock	Windows Socket Library

Product Overview

Refer to either of the Reality Installation Guides (*Reality on UNIX Installation & Upgrade Guide* or *Reality on Windows Installation & Upgrade Guide*).

Contents of the ISO/DVD Deliverables

The **Reality ISO image/DVD** contains the following external components:

PCSNI (page 10) Standard network interface software for Windows that provides a consistent network and device independent interface to a LAN card. The WinSNI Configuration Editor, a tool for setting up PCSNI connections, must be installed separately.

RealEdit (page 12) A Reality editor running under Windows. Similar in operation to other Windows editors, but also allows you to perform Reality-specific operations such as compiling and cataloging DataBasic programs, and viewing included code.

RealSQL-ODBC Driver (page 15)
Allows ODBC-compliant Windows applications to read and write data to a Reality database using SQL.

RealSQL-JDBC Driver (page 19)
Allows JDBC-compliant applications to read and write data to a Reality database using SQL. Includes a standard API that can be used in Java applications, applets and servlets. Can be installed on both Windows and

UNIX.

JReal (page 13) This provides the Java programmer with the ability to access Remote Basic subroutines (DataBasic subroutines that have been enabled for remote access), and to write custom servlets to access a Reality database via RealWeb.

RealWeb (page 23) Provides the Web developer with access to data held in a Reality database. Consists of a set of Java servlets that run on a web server and a DataBasic API for constructing HTML pages. Can be installed on both Windows and UNIX.

Remote Tape Server (page 27)
Provides the means of saving and restoring Reality data on remote tape drives. Can be installed on both Windows and UNIX.

The **Web Services ISO image/DVD** provides web services that can be used to make programming resources available to remote applications, by exposing subroutines and functions using a web server.

Starting the Installation

Note: If you are installing Reality Web Services, see *Reality Web Services (page 28)*.

Windows

Before installing Reality, you must close down all other applications, including any anti-virus software.

1. Log on to Windows as an administrator.
2. Access the Reality ISO image/DVD and run SETUP.EXE.

   When the introductory screen appears, click **Custom** followed by **Continue**.
3. If you are installing for the first time, the Reality licence agreement is displayed. You must accept this agreement before you can continue.
4. When the main menu appears, select the option you require (see the descriptions of the individual components).

UNIX

You can start the installation when logged on as any user. However, if you are not **root/superuser** you will need to enter the **root/superuser** password.

1. Confirm that the partition (for example, **/realman**) has enough space for the new release. You will need at least 220Mb.
2. Access the Reality ISO image/DVD.
3. Mount the ISO image/DVD as described in *Accessing the ISO/DVD Deliverable (page 32)*.
4. Run the installation procedure by entering:

   ```
   ksh ./setup
   ```

5. If you are installing for the first time, the Reality licence agreement is displayed. Press the space bar to move through the agreement page by page, or **q** to skip to the end. You will then be asked if you accept the licence - you must answer **y** to continue the installation.
6. Select option `b) Install Client Components` from the menu that appears.

Upgrading to a New Version

Note that where an external component is marked on the Installation Menu as Update, this indicates that an earlier version of that component is installed and can be upgraded. If a component is marked as Overwrite, this indicates that the installed version is the same as the version on the ISO image/DVD.

Removing the External Components

On Windows, you can remove a Reality external component via the Control Panel Add/Remove Programs option. The exception to this is PCSNI, which is a 16-bit application; it is recommended that you do not attempt to uninstall PCSNI.

PCSNI

The PC Standard Network Interface software for Windows (PCSNI) provides a consistent network and device independent interface to a LAN card. It is a prerequisite for a number of other external components.

The WinSNI Configuration Editor, a tool for setting up PCSNI connections, must be installed separately.

Prerequisites

- Refer to the Reality *Release Information*for details of which versions of Windows are supported.
- A LAN card.
- TCP/IP networking.
- A way of resolving host name and IP addresses (for example, a hosts file or a domain name service).

Installation

PCSNI

1. Start the installation program as described for Windows in the section *Starting the Installation (page 8)*.
2. Select PCSNI from the Core Reality Software menu.
3. Select one component: SNI Winsock.
4. If you are replacing an earlier revision of PCSNI, you will be asked if you want to overwrite your WINSNI.INI configuration file. You should answer **No** to this question.
5. Similarly, you may be asked if you want to replace the files ROSFS.DLL and BC30RTL.DLL. In both cases answer **Yes**.

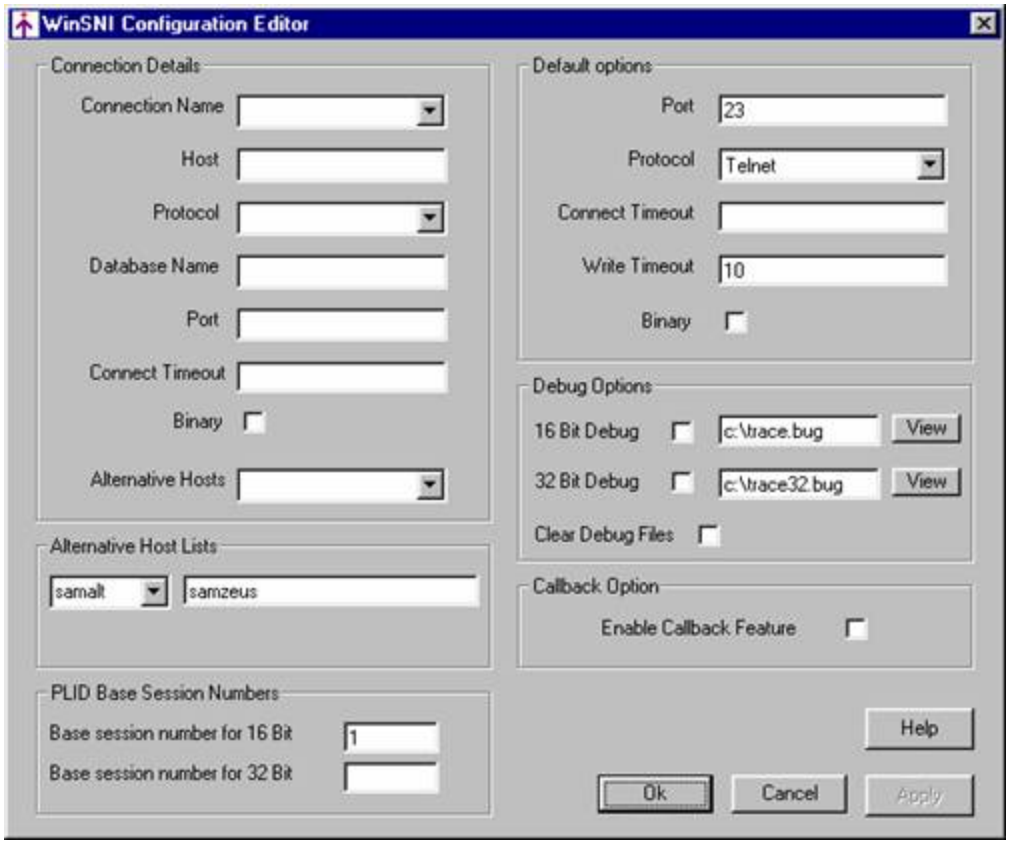
WinSNI Configuration Editor

1. Select WinSNI Configuration Editor from the Core Reality Software menu.
2. The default location is **c:\Program Files\WinSNI Configuration Editor**; you can override this if required.

Set-up After Installation

You configure the SNI software with the WinSNI Configuration Editor (see screen display below).

Note: If you are using a Windows 7 or Server 2008 host that is shared by a number of users, you should always run the WinSNI Configuration Editor as an administrator. If you run it as a normal user, any changes you make will be local to that user.



- For Telnet connections to UNIX and Windows hosts, ensure that your default options are set to the Telnet protocol on port 23. You will then be able to connect to any host that can be resolved by TCP/IP (using, for example, a hosts file or a domain name service), even if that host does not appear in your WinSNI configuration file.
- For direct connection to a Reality database, create a WinSNI entry by using the Connection Details section on the left-hand side, as follows:

Connection Name	This is the name which you will use when making a connection. Use a local alias for the Reality database.
Host	This can be either: • A system name as specified in your TCP/IP hosts file, Domain Name Service or Network Information Service, depending on your TCP/IP configuration. • An IP address of up to twelve digits (plus any separators).
Protocol	Choose DDATCP from the drop-down.
Database name	The name of the required Reality database.
Port	For the DDATCP protocol, this must be set to 1203.

For more information on how to configure PCSNI, refer to the *PCi Standard Network Interface* section of the on-line documentation.

RealEdit

RealEdit is a Reality editor that runs on Windows PCs. It is similar in operation to other Windows editors, but also allows you to perform Reality-specific operations such as compiling and cataloging DataBasic programs, and viewing included code.

Prerequisites

- Refer to the Reality *Release Information*for details of which versions of Windows are supported.
- *PCSNI (page 10)* software V2.2 Rev C or later.

Installing RealEdit

1. Start the installation program as described for Windows in the section *Starting the Installation (page 8)*.
2. Select RealEdit from the Utilities menu.
3. The default location is **c:\Program Files\NorthgateIS\RealEdit**; you can override this if required.

Set-up After Installation

For each database in which you want to edit items using RealEdit:

1. Log on to the SYSMAN account and run **SETUP-ACCOUNT**. Select the accounts on which you want to use RealEdit and, from the Features screen, the **RealEdit** feature. Then enter **.** to install the feature.

   Note: You can enter ? for information about how to use SETUP-ACCOUNT.

2. While logged on to the SYSMAN account, run **SSM**. For each user-id that will be used to access RealEdit, use **SSM** option 2 to set the status (field 13) to 'E' (enabled) and the type (field 14) to 'S' or '*' (so that it can be used as a server).
3. Use **SSM** option 3 to configure the security profiles associated with these user-ids, setting field 8 to specify an alternative security profile to be used when logged in via the RealEdit server, EXPSRVR. You can specify DEFAULT.EXPLORER as this alternative profile, or you can set up a new security profile, based upon DEFAULT.EXPLORER, to be used with RealEdit. For more details, refer to *Setting up Security for External Access*in the Reality on-line documentation.
4. Start RealEdit on the client.
5. Select an existing WinSNI entry from the drop-down list, or use the Edit WINSNI button to create a new WinSNI entry for the required database. The entry must be set up for direct connection to a Reality database (for details, see the description of how to set up PCSNI.

   Note: If are prompted for a password when you try to connect, check that the database is unlocked.

JReal

JReal provides the Java programmer with the ability to access Remote Basic subroutines (DataBasic subroutines that have been enabled for remote access), and to write custom servlets to access a Reality database via RealWeb. It comprises:

- DDA classes within the **com.northgateis.comms.dda** package. These classes allow a Java program to make a connection and access information in a Reality database by sending DDA messages across a TCP/IP network.
- RSC classes within the **com.northgateis.reality.rsc** package. These classes allow a Java program to access a Remote Basic subroutine (a DataBasic subroutine that has been enabled for use via remote access).
- Utility classes - including ItemView, which allows a Reality item to be broken down into attributes, values and subvalues.
- Servlet connection classes, which allow you to write custom servlets to access a Reality database via RealWeb.

Prerequisites

Java Run Time Environment (JRE) version 1.2 or above. If this is not available, it can be downloaded from Sun's Java web site (http://java.sun.com/j2se/).

Installation

Windows

1. Start the installation program as described for Windows in the section *Starting the Installation (page 8)*.
2. Select **JReal** from the Core Reality Software menu.
3. The default location is **C:\Program Files (x86)\NorthgateIS\JReal-3.2** (for 64-bit Windows) or **C:\Program Files\NorthgateIS\JReal-3.2** (for 32-bit Windows); you can override this default if required.
4. You can select up to two components: **Program Files** and **Help Files**. Highlight an item to display a description of that component.

UNIX

1. Start the installation program as described for UNIX in the section *Starting the Installation (page 8)*.
2. Enter the root password when prompted. The following menu is displayed:

```
Reality CD-ROM Component Installation Utility
The following components are available
JDBCdriver   V1.0         RealSQL-JDBC driver interface to Reality
JReal        V3.2         Java interface to Reality (DDA & RSC)
RealWeb      V3.2         Web interface to Reality
Select component to install
           Install JDBC driver  y/n/q [n]:
```

```
  Install JReal  y/n/q [n]:
Install RealWeb  y/n/q [n]:
```

3. Enter **y** to select the required component.
4. Enter the installation directory when prompted. The default location is **/usr/northgateis/Product-Version**, but you can change this if required.

Set-up After Installation

CLASSPATH

1. Add the **jreal.jar** file to CLASSPATH.

   For example, on UNIX:

   ```
   /usr/northgateis/JReal-3.2/jreal.jar
   ```

   or on Windows:

   ```
   C:\Program Files (x86)\NorthgateIS\JReal-3.1\jreal.jar
   ```

2. Add the JReal directory to CLASSPATH.

   On UNIX:

   ```
   /usr/northgateis/JReal-3.2
   ```

   On Windows:

   ```
   C:\Program Files\NorthgateIS (x86)\JReal-3.2
   ```

   This contains the **reality.properties** file.

For information on how to set CLASSPATH, refer to *Setting Environment Variables (page 31)*.

User-ids

To call a Remote Basic subroutine using JReal, you must establish a connection to an account on a Reality database - you will need to use a user-id that has been set up as follows.

Log on to the SYSMAN account and run **SSM**. Then do the following:

1. Use SSM option 3 to create a security profile to be used with the Remote Basic server. It is recommended that this profile should have field 23 (Remote Basic) set to R (restricted); you must also specify a file in which the subroutines that can be called remotely are listed. For more information on security for external access, refer to the Reality Online documentation.
2. Use **SSM** option 2 to set up a user-id that will be used to access your Remote Basic subroutines. Set the status (field 13) to 'E' (enabled) and the type (field 14) to 'S' or '*' (so that it can be used as a server). Note that on a UNIX host a corresponding UNIX user-id must also exist, and it is the password for the UNIX user-id that must be used when establishing a connection.
3. Use **SSM** option 3 to configure the security profile associated with the user-id you have created, setting field 8 (Alt Server Profiles) to specify that the Remote Basic server (RBSRVR) should use the security profile you created in step 1.

RealSQL-ODBC Driver

The RealSQL-ODBC Driver allows ODBC-compliant applications, such as Microsoft Word and Excel, to read and write data to a Reality database using SQL.

Prerequisites

- Refer to the Reality *Release Information* for details of which versions of Windows are supported.
- *PCSNI (page 10)* software V2.2 Rev C or later.
- Any ODBC Level 1 or 2 compliant application.
- If you are connecting to a Reality database on a UNIX host, the host will require UNIX-Connect.

Installation

Note: Before you can install the RealSQL-ODBC Driver, you must install *PCSNI (page 10)*.

Windows

1. If you have not already done so, start the installation program as described for Windows in the section *Starting the Installation (page 8)*.
2. Select **RealSQL-ODBC Driver** from the SQL Software menu.
3. The default location is **c:\Program Files\NorthgateIS\RealSQL-ODBC**; you can override this if required.

UNIX

1. If you have not already done so, start the installation program as described for UNIX in the section *Starting the Installation (page 8)*.
2. Select option g) Install ODBC Driver, and follow the prompts given.

Set-up After Installation

This section describes how to set up a connection to an SQL catalog on a Reality database for testing purposes. For more detailed information on setting up and maintaining a connection to an SQL catalog on a Reality database using ODBC or JDBC, refer to *SQL for Reality* in the online documentation.

On the Host System

SQL User-ids

- For each Reality user-id that will use SQL, use **SSM** option 2 to set the type (field 14) to 'S' or '*' so that it can be used as a server.
- Users that will be permitted to modify SQL catalogs must have this enabled in their security profile (set **SSM** option 3, field 21 to Y).

Setting up the Reality Account

To make an account accessible to client ODBC or JDBC connections, log on to the account and enter **SQLM** at TCL.

Enter **Y** at the following prompt:

```
This Account is not configured or up to date for SQL.

Do you want to set it up or update it (Y/N):
```

Press RETURN at the SQLM prompt to return to TCL.

To confirm that the account has been set up correctly, enter **SQL.DEMO** at TCL. Continue at the first prompt, and all 15 rows of the EMP table should be displayed. Enter **X** at the end of any test, followed by **Y** to retain the sample tables used in the demonstration.

SQL Catalogs

If you are going to be creating your own SQL catalogs, rather than using an NPS-supplied catalog, you create the catalogs using the **SQLM** TCL command. For detailed information on how to set up and maintain an SQL catalog on a Reality database, refer to *SQL for Reality* in the on-line documentation.

On the Client

Configuring the Standard Network Interface

To connect to a Reality database using ODBC, you will need a WinSNI entry for direct connection to a Reality database (for details, see the description of how to set up PCSNI.

Setting up the SQL/ODBC Data Source

An ODBC data source stores information about how to connect to the indicated data provider.

Note: It is assumed throughout this section that you have sufficient system privileges to perform these operations.

To add a data source to an ODBC compliant application:

1. Select the 32-bit ODBC administration icon from the Control Panel. Note that on Windows 2000, Server 2003 and XP, the ODBC icon is in the Control Panel's Administrative Tools group (when in Category view on Windows, Server 2003 or XP, the Administrative Tools group is under Performance and Maintenance).

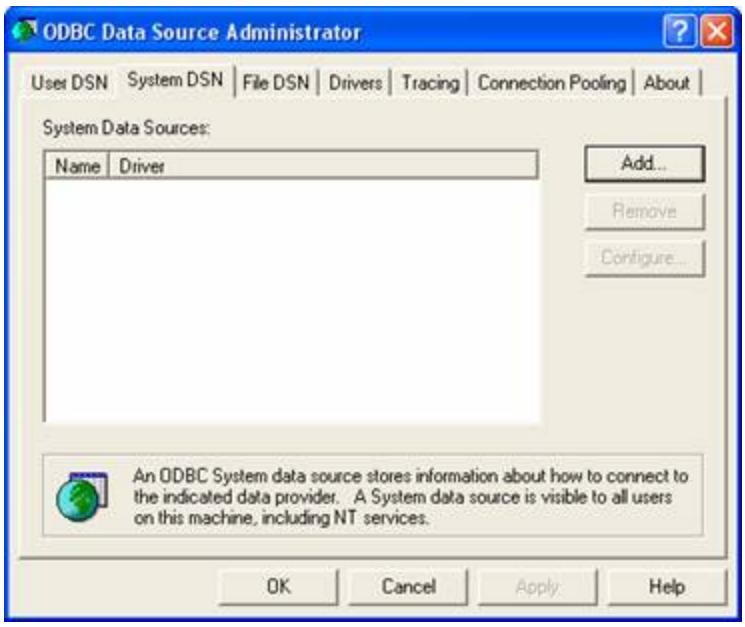
   Notes

   - The ODBC administration icons have different names on different versions of Windows. Check that you have selected the correct icon.
   - On 64-bit versions of Windows, you can use both 32- and 64-bit data sources. To configure Reality ODBC data sources (32-bit) run the utility %windir%\syswow64\odbcad32.exe.

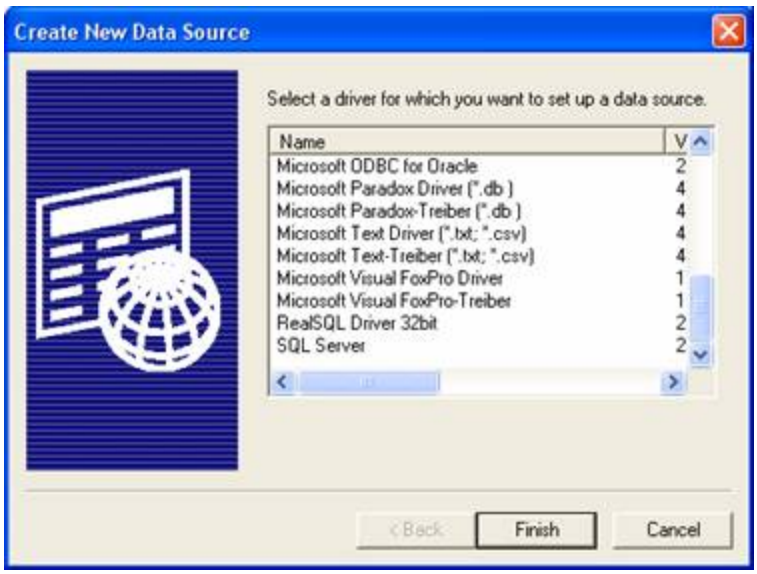
   The dialog that follows assumes that you are using ODBC 3 administration tools (the dialog title is **ODBC Data Source Administrator**). It provides instructions for setting up a System DSN (Data Source Name), but does not include details of User or File DSNs. For information

about using ODBC 2 tools and setting up other types of DSN, refer to *SQL for Reality* in the on-line documentation.

2. Select the **System DSN** tab: (a System DSN is visible to all users of the host)

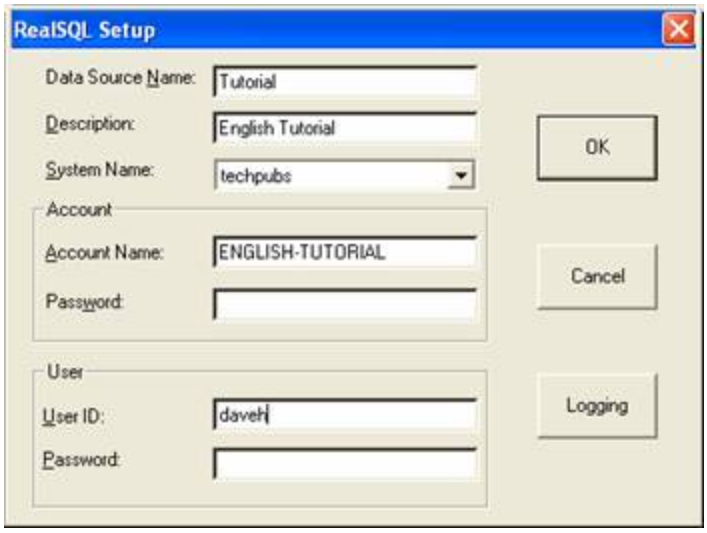


3. Click the **Add** button. This displays the following screen:



4. From the list select **RealSQL Driver 32bit** and click **Finish**.

The following RealSQL Setup dialog box is then displayed.



5. Enter the following information:

Data Source Name The name that is referred to by the application.

Description A free text description of the data source.

System Name The name of the appropriate entry in the PC's PCSNI configuration file.

Account The Reality account or synonym account name that the connection will be made to and which holds the SQLSRVR MD entry and the SQL catalog.

Password The Reality account password.

User ID On UNIX, this must be the UNIX user-id that matches the Reality user-id. On Windows, it must be the Reality user-id.

Password On a UNIX host, this must be the UNIX user-id password. On a Windows host, it must be the Reality user-id password.

When you have finished entering the data source setup parameters, click **OK**. The data source is now ready for use.

Testing a Connection to the Reality ODBC Data Source

A test program, **ODBCTest**, together with its original source file, is supplied as part of the driver installation. This program, stored in **Program Files/NorthgateIS/RealSQL-ODBC/SampleApp**, is a simple program designed to establish a connection to a Reality database, execute a supplied SQL statement and display the results.

To connect to a System DSN called DEMO:

```
odbctest -d"DEMO" -s"SELECT * FROM EMP"
```

RealSQL-JDBC Driver

The RealSQL-JDBC Driver allows JDBC-compliant applications to read and write data to a Reality database using SQL. It includes a standard API that can be used in Java applications, applets and servlets.

Prerequisites

- Java Run Time Environment (JRE) version 1.2 or above. If this is not available, it can be downloaded from http://java.sun.com/j2se/.
- If you are connecting to a Reality database on a UNIX host, the host will require UNIX-Connect.

Installation

Windows

1. Start the installation program as described for Windows in the section *Starting the Installation (page 8)*.
2. Select **RealSQL-JDBC Driver** from the SQL Software menu. Note that JReal is a prerequisite for the JDBC driver; if you have not already installed JReal, this is loaded automatically.
3. The default location is **c:\Program Files\NorthgateIS\RealSQL-JDBC-1.0**; you can override this if required.
4. You can select up to four components: **Program Files**, **Example Files**, **Help Files** and a Test Utility. Highlight an item to display a description of that component.

UNIX

1. Start the installation program as described for UNIX in the section *Starting the Installation (page 8)*.
2. Enter the root password when prompted. The following menu is displayed:

```
Reality CD-ROM Component Installation Utility

Select component to install
           Install JDBC driver  y/n/q [n]:
                 Install JReal  y/n/q [n]:
              Install RealWeb  y/n/q [n]:
```

3. Enter **y** to select the required components. Note that JReal is a prerequisite for the JDBC driver; if you have not already installed JReal, this is loaded automatically.

```
About to install .........   Confirm?
```

   Enter **y** to continue.

4. Enter the installation directory for each component when prompted. For JReal and the JDBC Driver, the default location is **/usr/northgateis/Product-Version**, but you can change this if required.

Set-up After Installation

On the Host System

Setting up the host for use with RealSQL-JDBC is the same as for *On the Host System (page 15)*.

On the Client

Adding Files to CLASSPATH

1. Set up the CLASSPATH environment variable for JReal.
2. Add the **realsql-jdbc.jar** file to the CLASSPATH. For example, on UNIX:

   ```
   /usr/northgateis/RealSQL-JDBC-1.0/realsql-jdbc.jar
   ```

   or on Windows:

   ```
   C:\Program Files\NorthgateIS\RealSQL-JDBC-1.0\realsql-jdbc.jar
   ```

3. If you want to run the Test Utility, you must also add the **RealJTest** file to CLASSPATH. On UNIX:

   ```
   /usr/northgateis/RealSQL-JDBC-1.0/RealJTest
   ```

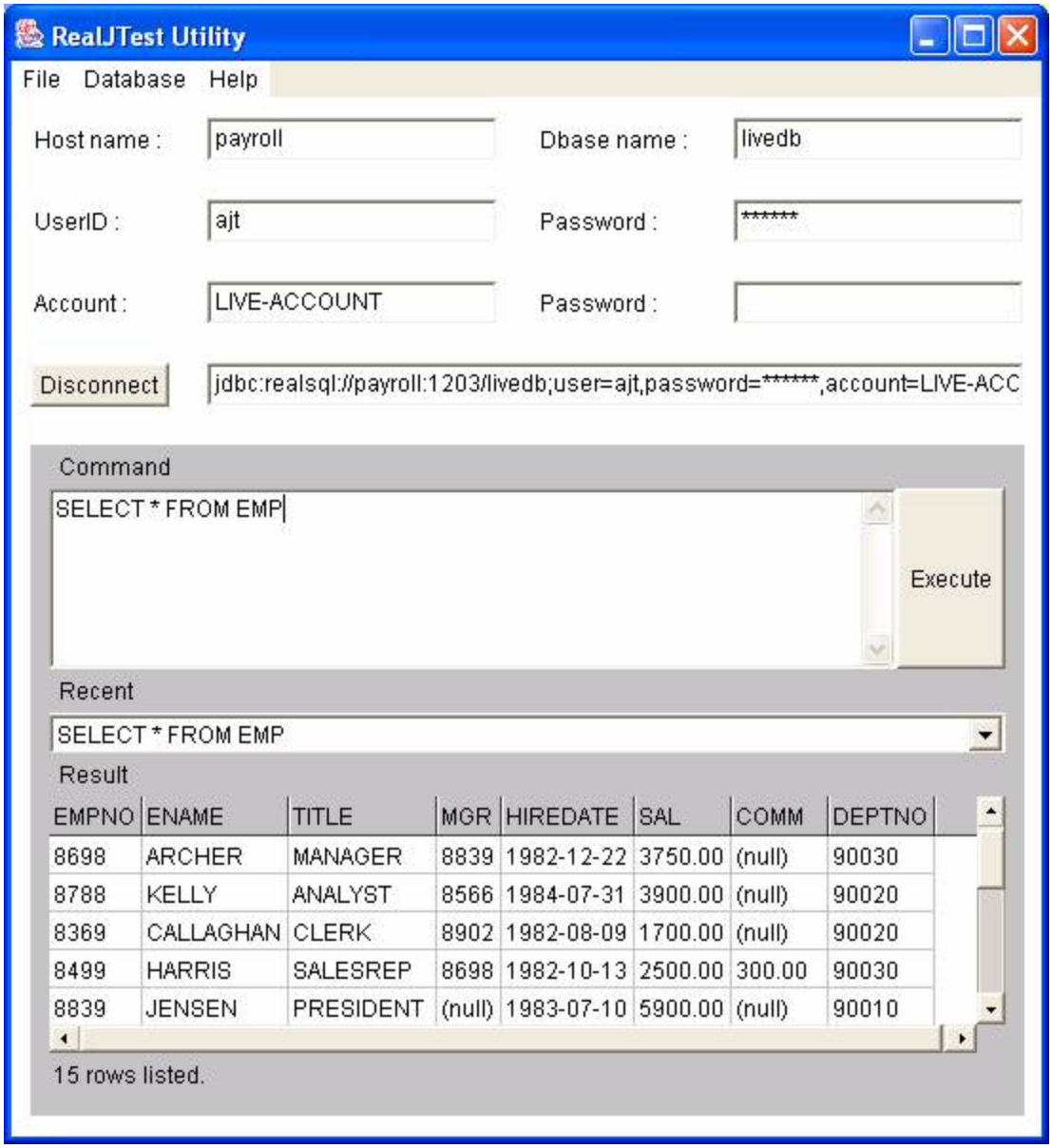
   or on Windows:

   ```
   C:\Program Files\NorthgateIS\RealSQL-JDBC-1.0\RealJTest
   ```

   For information on how to set CLASSPATH, refer to *Setting Environment Variables (page 31)*.

Testing a Connection to a Reality Database

Once you have installed and configured the SQL/JDBC software, you should check that you can connect to a Reality database. On Windows, the installation procedure places a shortcut to a program called RealJTest on your desktop. In UNIX, you can run RealJTest by entering the command java RealJTest.



Enter the following information:

- The network name of the host system containing the Reality database.
- The name of the database (defined in a Reality routing entry on the host).
- The user-id and password of a user on the host system.
- The name of a account on the Reality database. If this account has a password, enter the password.

When you have entered all this information, click the **Connect** button. The title of the **Connect** button should change to **Disconnect** and the connect string should be displayed beside the **Disconnect** button.

Once you are connected, you can enter SQL statements into the **Command** text area. When you click the **Execute** button, these will be executed and the results displayed in the **Results** text area.

If Reality transaction handling is enabled, you can create and populate two small test tables, STAFF and CARS, by selecting the **Create Test Tables** command from the **Database** menu. The **Recent** drop down combo box will be populated with a small number of pre-defined SQL queries for you to try out. The tables may be deleted by selecting the **Delete Test Tables** command.

RealWeb

RealWeb allows the Reality DataBasic programmer to develop Web pages using data held in a Reality database. It consists of a set of Java servlets that run on a web server and a DataBasic API for constructing HTML pages.

The RealWeb API provides a suite of subroutines that the DataBasic programmer can use to interface to the Web browser - that is, to access arguments passed as part of the URL and to construct the HTML page that will be returned to the browser. Routines are provided to do the following:

- Fetch the values of arguments passed to RealWeb by the browser.
- Start and end an HTML page.
- Format text in various ways - for example, as a heading; left, centre or right aligned; fixed-pitch; in a particular font size and colour.
- Insert a horizontal rule.
- Create a hyperlink.
- Create an HTML form containing push buttons, text boxes and drop down lists.
- Create a definition list.
- Fetch and manipulate cookies.

Prerequisites

- A web server with support for Java servlets. (This can be on the same host as the Reality database or on another host.) On web servers that do not support servlets, plug-ins can be used to add servlet support.
- Java Run Time Environment (JRE) version 1.2 or above. If this is not available, it can be downloaded from Sun's Java web site (http://java.sun.com/j2se/).
- If you are connecting to a Reality database on a UNIX host, the host will require UNIX-Connect.

Information You Must Supply

The table below lists the information you will need when installing RealWeb. You can fill in the second column of the table so that you have the information to hand during the installation process (print out this page if you are viewing it on-line).

The location of the directory on your web server or servlet plug-in where servlets are stored (the servlet directory) - refer to your web server or plug-in documentation.	
The location of the document root directory of your web server - refer to your web server	

or plug-in documentation.	
root password if installing on UNIX.	

Set-up Before Installation

Servlet Plugins

If your web server does not support servlets, install a servlet plugin, such as JRun. This can be purchased from Adobe (http://www.adobe.com/products/jrun/).

Netscape Enterprise Server

If you are using the Netscape Enterprise Server, you will need to do the following:

- Create a directory called **servlet** in your web server's document root Directory (the path will be something like **/usr/netscape/server4/docs/servlet** if you use the default installation settings).
- Create a file called **realweb.ini** in the web server's configuration directory. This will be a directory called **https-***ServerName***/config** in the server root directory, where *ServerName* is the name of your web server.

Java 1.2

The servlets require the Java Run Time Environment (JRE) version 1.2 or above. If this is not available, it can be downloaded from Sun's web site (http://java.sun.com/j2se/).

Sun hosts used as web servers may need Solaris patches in order to run JRE 1.2. These patches are listed on, and may be downloaded from the above Web site.

The installation package includes readme.txt files for several of the external components.

Installation

Windows

1. Start the installation program as described for Windows in the section *Starting the Installation (page 8)*.
2. Select **RealWeb Servlets & HTML Install** from the **Web Software** menu.
3. If you have not already installed JReal, this is loaded automatically.
4. The destination for the RealWeb servlets must be your servlet directory (see above).
5. The destination for RealWeb's HTML files must be your web server's document root directory (see above).

UNIX

1. Start the installation program as described for UNIX in the section *Starting the Installation (page 8)*.
2. Enter the root password when prompted. The following menu is displayed:

```
Reality CD-ROM Component Installation Utility

The following components are available
```

```
JDBCdriver   V1.0         RealSQL-JDBC driver interface to Reality
JReal        V3.2         Java interface to Reality (DDA & RSC)
RealWeb      V3.2         Web interface to Reality

Select component to install
           Install JDBC driver  y/n/q [n]:
                Install JReal   y/n/q [n]:
              Install RealWeb   y/n/q [n]:
```

Press RETURN until you are prompted to install RealWeb; then enter **y**.

Note: JReal is a prerequisite for RealWeb. When you select RealWeb, JReal is included automatically.

You are then prompted

```
About to install .........   Confirm?
```

Enter **y** to continue.

3. Enter the installation directory for each component when prompted. For JReal, the default location is **/usr/northgateis/Product-Version**, but you can change this if required. The destination for the RealWeb servlets must be your servlet directory and that for RealWeb's HTML files must be your web server's document root directory (see above).

Set-up After Installation

1. Add the **jreal.jar** file to CLASSPATH. For example, on UNIX:

   ```
   /usr/northgateis/JReal-3.1/class/jreal.jar
   ```

   or on Windows:

   ```
   C:\Program Files\NorthgateIS\JReal-3.1\jreal.jar
   ```

2. Add the class directory to CLASSPATH.

   On UNIX:

   ```
   /usr/northgateis/JReal-3.1/class
   ```

   On Windows:

   ```
   C:\Program Files\NorthgateIS\JReal-3.1\class
   ```

   This contains the **reality.properties** file.

For information on how to set CLASSPATH, refer to *Setting Environment Variables (page 31)*.

RealWeb User-id

Log on to the SYSMAN account and run SSM. Then do the following:

1. Use **SSM** option 2 to set up a user-id that will be used to access RealWeb. Set the status (field 13) to 'E' (enabled) and the type (field 14) to 'S' or '*' (so that it can be used as a server). Note that on a UNIX host a corresponding UNIX user-id must also exist, and it is the password for the UNIX user-id that must be used when running the RealWeb configuration editor (see below).

2. Use **SSM** option 3 to configure the security profiles associated with these user-ids, setting field 8 to specify an alternative security profile to be used when logged in via the RealWeb server, RWSRVR. You can specify DEFAULT.REALWEB as this alternative profile, or you can set up a new security profile, based upon DEFAULT.REALWEB, to be used with the RealWeb user-id. For more information on security for external access, refer to *Setting up Security for External Access* in the Reality on-line documentation.

Setting up the Servlets

1. Start the RealWeb configuration Servlet by typing the following URL into a Web browser:

   http://*ServerName***/servlet/rwconfig**

   where *ServerName* is the DNS name of your Web server. If this fails to generate the configuration editor front screen then it may require the web server (and/or the servlet plug in) to be stopped and re-started to recognise the configuration change.

2. Once the configuration servlet's front screen is displayed, select **New** and click **Submit**.

3. Enter the details of how to connect to the database to be used (you can obtain help by clicking the **Help** button). The section name is the name that will be used in the URL to access the database. Create an entry to use the ENGLISH-TUTORIAL account so that the demonstration can be run.

4. Test the new ENGLISH-TUTORIAL section by typing the following URL.

   http://*ServerName***/servlet/reality/***SectionName***/RW.DEMO**

   where ServerName is the DNS name of your Web server and *SectionName* is the name of the connection you have just created. This should result in the demonstration front page being displayed. If the message

   ```
   RealWeb error: Missing entry in ini file
   ```

   is displayed, either you have typed the section name wrongly, or something is missing from the section's configuration. Refer to *Configuring RealWeb* in the Reality online documentation.

Upgrading to a New Version

When upgrading from RealWeb 2, you must first remove the directory **com/northgateis** (on UNIX), or **com\northgateis** (on Windows) and all its contents from the web server's servlet directory.

Remote Tape Server

The Remote Tape Server provides the means of saving and restoring Reality data on remote tape drives.

Prerequisites

Any UNIX or Windows host that supports Reality.

Installing the Remote Tape Server

The remote tape server provides the means of saving and restoring Reality data on remote tape drives. The server software can be installed on any host (UNIX or Windows) that supports Reality. However, the tape server host does not itself have to have Reality installed.

1. Start the installation program as described in the appropriate section of *Starting the Installation (page 8)*.
2. On a UNIX host, select option e, Install Remote Tape, from the top level Installation Menu.

   On a Windows host, select Remote Tape from the Core Reality Software Menu.
3. On a UNIX host you are prompted for a user-id under which to run the remote tape server.

Caution

Using root is not recommended, because this could allow the remote tape server to overwrite any file on the server (including system files).

Upgrading to a New Version

If you are upgrading from Reality V9.0 to V15.1, you will need to reinstall the Remote Tape server on all hosts that provide this service. This is to ensure that the server uses the correct port.

Reality Web Services

Prerequisites

- A web server with support for Java servlets (Jetty is supplied).

  Note: Reality Web Services have been tested on Jetty 5.1.4 and Tomcat 5.0.

- Java Runtime Environment (JRE) or Java Development Kit (JDK), version 1.4.1_02 or later. For Jetty, you can use either; for Tomcat you must use a JDK.

Set-up Before Installation

Before installing Reality Web Services, you must set the JAVA_HOME environment variable to the path of your JRE or JDK. For information on how to set JAVA_HOME, refer to *Setting Environment Variables (page 31)*.

Installation

Windows

Before installing Reality Web Services, you must close down all other applications, including any anti-virus software.

1. Log on to Windows as an administrator.
2. Mount the Web Services ISO image/DVD deliverable as described in *Accessing the ISO/DVD Deliverable (page 32)*. Run **SETUP.EXE**. Follow the prompts to install Reality Web Services.

   Note: If you deselect the Jetty Container option, you will be prompted to enter the path to your web server.

UNIX

1. Log in using the root/superuser user-id.
2. Confirm that the partition has enough space for the new release. You will need about 100Mb.
3. Access the Web Services ISO image/DVD deliverable.
4. Mount the ISO image/DVD as described in *Accessing the ISO/DVD Deliverable (page 32)*.
5. Change to the unix directory by entering:

   ```
   #cd Unix
   ```

6. Run the installation procedure by entering:

   ```
   ./webservicessetup
   ```

   Follow the prompts to install Reality Web Services.

   Note: If you answer **n** when asked whether to use Jetty as your web server, you will be prompted to enter the path to your web server.

Set-up After Installation

Jetty Web Server

To start and stop the Jetty web server, do the following:

Windows

- To start Jetty, select **Reality Web Services** | **Start Jetty** from the Start menu.
- To stop Jetty, select **Reality Web Services** | **Stop Jetty**.

UNIX

To start Jetty, do the following:

1. Log in using the **root/superuser** user-id.
2. Enter the following:

```
#cd /usr/northgateis/jetty5.1.4
#java -jar start.jar
```

To stop Jetty, enter the following:

```
#cd /usr/northgateis/jetty5.1.4
#java -jar stop.jar
```

DataBase Configuration

Each database that will expose DataBasic subroutines must be set up as described in the topic *Creating a Reality Web Service* in the Reality on-line documentation.

Remote Basic ActiveX Control

The Remote Basic ActiveX Control is a component that can be used in Visual Basic programs running on a PC to run Remote Basic subroutines on a Reality database. For details of how to use the Remote Basic ActiveX Control, refer to *Remote Basic ActiveX Control* in the Reality online documentation.

Prerequisites

- Refer to the Reality Release Information for details of which versions of Windows are supported.
- *PCSNI (page 10)* software V2.2 Rev C or later.

Installation

1. Start the installation program as described for Windows in the section *Starting the Installation (page 8)*.
2. Select **Remote Basic ActiveX Control** from the **Core Reality Software** menu.
3. The default location is **C:\Program Files\NorthgateIS\Reality Remote Basic ActiveX Interface**; you can override this if required.

Set-up After Installation

To call a Remote Basic subroutine, you must establish a connection to an account on a Reality database - you will need to use a user-id that has been set up as follows.

Log on to the SYSMAN account and run **SSM**. Then do the following:

1. Use **SSM** option 3 to create a security profile to be used with the Remote Basic server. It is recommended that this profile should have field 23 (Remote Basic) set to R (restricted); you must also specify a file in which the subroutines that can be called remotely are listed. For more information on security for external access, refer to the Reality Online Documentation.
2. Use **SSM** option 2 to set up a user-id that will be used to access Remote Basic subroutine. Set the status (field 13) to 'E' (enabled) and the type (field 14) to 'S' or '*' (so that it can be used as a server). Note that on a UNIX host a corresponding UNIX user-id must also exist, and it is the password for the UNIX user-id that must be used when establishing a connection.
3. Use **SSM** option 3 to configure the security profile associated with the user-id you have created, setting field 8 (Alt Server Profiles) to specify that the Remote Basic server (RBSRVR) should use the security profile you created in step 1.

Setting Environment Variables

- On Windows 2000, Server 2003 and XP, environment variables can be set by right clicking on **My Computer** and selecting **Properties**. Select the **Advanced** tab and then select **Environment** or **Environment Variables**.

  Note: Quotes (") are not needed even if the path includes spaces.

- On UNIX, an environment variable can be set in .profile using a line like:

  ```
  variableName=path;export variableName
  ```

  For example, to set the variable CLASSPATH:

  ```
  CLASSPATH=.:/usr/northgateis/JReal-3.1/jreal.jar:/usr/northgateis/RealSQL-JDBC-1.0/realsql-jdbc.jar;export CLASSPATH
  ```

  To set multiple paths, separate them with colons as shown above.

  Note: When using RealWeb, the web server/servlet plug-in may have specific mechanisms for adding JReal into its CLASSPATH. The **readme.txt** file supplied with JReal tells you how to do this for JRun.

Accessing the ISO/DVD Deliverable

Accessing the ISO Image

On Windows

Utilities are available that can mount an ISO file as an optical disk drive. The ISO file can then be used as if it were a drive. For example, see Virtual Clone Drive from Elaborate Bytes.

On UNIX

Utilities are available that can make a standard ISO file accessible as a block device, like an optical disk, which can then be mounted and accessed as a file system. See examples below.

Example: Solaris

```
# mkdir /mnt/iso

# lofiadm -a /tmp/rlty-V14.2.BN.10318.iso /dev/lofi/1

# mount -F hsfs -o ro /dev/lofi/1 /mnt/iso

# cd /mnt/iso

# ./setup
```

Example: Linux

```
# mkdir /mnt/disk

# mount -o loop disk1.iso /mnt/disk

# cd /mnt/disk

# ./setup
```

Example: AIX

```
#/usr/sbin/crfs -v jfs -g rootvg -a size=800 -m/cd1iso -Ano -pro -tno -a frag=4096 -a nbpi=4096
-a ag=8

# dd if=image.iso of=/dev/rlv00 bs=10M

# chfs -a vfs=cdrom cd1iso

# mount /cd1iso

# cd /cd1iso

# ./setup
```

When done unmount and remove the file system:

```
# rmfs /cd1iso
```

Mounting the DVD on UNIX

- On Solaris the DVD is normally automatically mounted to the **/cdrom/cdrom0** directory.

  Note: If the DVD is not automatically mounted, it can be mounted manually using:

  ```
  mount -F hsfs -r /dev/sr0 /cdrom
  ```

- On other hosts, create a mount point using:

  ```
  mkdir -p /mnt/cdrom
  ```

  then:

  - On AIX manually mount the device 0 CD using:

    ```
    mount -vcdrfs -oro /dev/cd0 /mnt/cdrom
    ```

  - On Linux, manually mount the DVD using:

    ```
    mount /dev/cdrom /mnt/cdrom
    ```

  Once the DVD is mounted, you can change directory to the mount point:

  ```
  cd /cdrom/cdrom0(Solaris)
  cd /mnt/cdrom(other hosts)
  ```