

# Oracle® Rdb

Oracle SQL/Services Release 7.1.5 Installation Guide

Release 7.1 for OpenVMS Alpha

June 2001

Part No. A90406-01

This document contains installation information specific to Oracle SQL/Services release 7.1.5 for OpenVMS Alpha. This release is shipping in conjunction with Oracle Rdb release 7.1 for OpenVMS Alpha.

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**Oracle Rdb Oracle SQL/Services Release 7.1.5 Installation Guide, Release 7.1 for OpenVMS Alpha**

**Part No. A90406-01**

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# Preface

Oracle SQL/Services, a client/server component of Oracle Rdb, allows you to develop client application programs on a variety of desktop and mainframe systems so that you can access Oracle Rdb databases as well as other databases supported by the SQL interface to Oracle Rdb.

## Purpose of This Manual

This manual describes how to install and configure Oracle SQL/Services release 7.1 for OpenVMS Alpha systems. This installation guide and the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* are the only manuals that you need to install the Oracle SQL/Services server and OpenVMS client API software. Refer to the readme text files on the Oracle Rdb Client CD-ROM for installing all other client application programming interface (API) software.

Oracle SQL/Services software is installed separately from the SQL and Oracle Rdb software. There is a separate installation guide for installing SQL and Oracle Rdb. Oracle SQL/Services is a client/server product in which client application programs usually (but not necessarily) run on different systems than the server. [Appendix A](#) presents the installation for the Oracle SQL/Services OpenVMS Alpha client application programming interface (API) software.

You do not have to install a previous version of Oracle SQL/Services before installing Oracle SQL/Services release 7.1.

Keep this guide with your distribution kit. You will need it to install maintenance updates or to reinstall Oracle SQL/Services for any other reason.

## Intended Audience

Read this manual if you are responsible for:

- Planning the installation of Oracle SQL/Services and preparing your system (see [Chapter 1](#))
- Installing and running multiple versions of Oracle SQL/Services (see [Chapter 2](#))
- Changing your system by adjusting parameters, startup and shutdown files, and privileges required for running Oracle SQL/Services (see [Chapter 3](#))
- Determining the transports supported, transport error code information, and guidelines for using each transport (see [Chapter 4](#))

To install the software, you must:

- Be familiar with VMSINSTAL, the command procedure used to install software products in the OpenVMS environment. To locate the description of VMSINSTAL, see the OpenVMS documentation set.
- Have access to the SYSTEM account on your system or to an account with the user privilege, SETPRV.

## Operating System Information

You can find information about the versions of the operating system and optional software that are compatible with this release of Oracle Rdb and Oracle SQL/Services in the *Oracle Rdb Release 7.1 Installation and Configuration Guide*, in the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes*, and at the Oracle Rdb product website [http://www.oracle.com/rdb/product\\_info/index.html](http://www.oracle.com/rdb/product_info/index.html).

Contact your Oracle Corporation support representative if you have other questions about product requirements or compatibility.

## Structure

This manual has the following chapters and appendixes:

- |                           |  |
|---------------------------|--|
| <a href="#">Chapter 1</a> | Explains how to plan the installation and prepare your system.   |
| <a href="#">Chapter 2</a> | Explains how to install and run multiple versions of Oracle SQL/Services (including SQL*Net for Rdb) and how to run the Installation Verification Procedure (IVP). |

|                            |  |
|----------------------------|--|
| <a href="#">Chapter 3</a>  | Explains procedures to follow after the installation of Oracle SQL/Services completes successfully.            |
| <a href="#">Chapter 4</a>  | Describes the transports supported, transport error code information, and guidelines for using each transport. |
| <a href="#">Appendix A</a> | Shows how to install the OpenVMS Alpha client APIs for Oracle SQL/Services.                                    |
| <a href="#">Appendix B</a> | Shows a sample server kit installation for Oracle SQL/Services.  |

## Related Documents

The Oracle SQL/Services documentation set contains detailed information and guidelines for installing software on your OpenVMS Alpha systems and for becoming familiar with related system management tasks.

The *Oracle SQL/Services Server Configuration Guide* contains information on configuring and managing the Oracle SQL/Services server on your OpenVMS Alpha systems.

The *Guide to Using the Oracle SQL/Services Client API* provides reference material and a complete description of API routines, data structures, and supported data types in addition to a description of the tools for API application development for the experienced programmer.

The *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* may contain information needed to install Oracle SQL/Services and SQL\*Net for Rdb. In addition, these release notes may contain configuration information for SQL\*Net for Rdb. Read that document before starting the Oracle SQL/Services installation.

The *Oracle Rdb Guide to SQL\*Net for Rdb7* contains configuration information for SQL\*Net for Rdb. The installation information in this manual is superseded by the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Installation Guide*.

## Conventions

In this manual, Oracle Rdb refers to Oracle Rdb for OpenVMS Alpha software. Release 7.1 of Oracle Rdb software is often referred to as release 7.1.

The SQL interface to Oracle Rdb is referred to as SQL. This interface is the Oracle Rdb implementation of the SQL standard adopted in 1999, in general referred to as the ANSI/ISO SQL standard or SQL:1999. See the *Oracle Rdb Release Notes, Release 7.1.0 for OpenVMS Alpha* for addition information about this SQL standard.

Oracle ODBC Driver for Rdb software is referred to as the ODBC driver.

File names and names of utilities are variant for a multiversion installation. That is, the file name or utility may have a two-digit version number appended to the last two characters of its name. For example, the management client is SQLSRV\_MANAGE71 and log files are \*71.log, and so forth, if Oracle SQL/Services release 7.1.5 is installed on the same node as a previous version of Oracle SQL/Services.

OpenVMS refers to the OpenVMS Alpha operating system.

In examples, an implied carriage return occurs at the end of each line. You must press the Return key at the end of a line of input.

The following conventions are also used in this manual:

---

| <b>Convention</b>    | <b>Meaning</b>   |
|----------------------|--|
| .                    | Vertical ellipsis points in an example mean that information not directly related to the example has been omitted.   |
| ...                  | Horizontal ellipsis points in statements or commands mean that parts of the statement or command not directly related to the example have been omitted.  |
| <b>boldface text</b> | Boldface type in text indicates a term defined in the text.  |
| < >                  | Angle brackets enclose user-supplied names.  |
| [ ]                  | In text, brackets enclose optional information from which you can choose one or none. In a prompt, brackets indicate that the enclosed item is the default response. For example, [y] means the default response is Yes. |
| \$                   | The dollar sign represents the DIGITAL Command Language prompt. This symbol indicates that the DCL interpreter is ready for input.   |
| Ctrl/C               | This symbol indicates that you must press the Ctrl key while you simultaneously press another key (in this case, C).   |
| NCP>                 | The NCP> sign represents the Network Control Program (NCP) or Network Control Language (NCL) prompt.   |

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# Preparing to Install Oracle SQL/Services for OpenVMS

This chapter discusses the preparations and requirements necessary for installing Oracle SQL/Services and, subsequently, SQL\*Net for Rdb.

## 1.1 Overview of Oracle SQL/Services

Oracle SQL/Services is a client/server component of Oracle Rdb in which the server runs on computers that use OpenVMS and the clients represent various types of remote computers.

Before installing Oracle SQL/Services, you must ensure that at least one version of Oracle Rdb or SQL is installed on your server system.

Oracle SQL/Services release 7.1.5 provides a multiversion kit only. You must specify a multiversion variant of the software kit when you invoke VMSINSTAL.

You do not need to match the Oracle SQL/Services install type with Oracle Rdb and SQL.

Installing the Oracle SQL/Services multiversion kit allows you to have multiple Oracle SQL/Services servers on a single node. Note that the OpenVMS client is installed on the server node as nonvariainted. The OpenVMS client files overwrite any previously existing files.

The Oracle SQL/Services server kit for OpenVMS provides the server software that allows clients running on various types of remote computers to access databases supported by SQL on an OpenVMS server system. The Oracle SQL/Services server kit also includes software for running Oracle SQL/Services OpenVMS client applications.

[Appendix A](#) provides instructions on installing Oracle SQL/Services client application programming interface (API) software on OpenVMS Alpha systems other than the server node.

Oracle SQL/Services provides online release notes. Oracle Corporation recommends that you read the release notes before proceeding with the installation.

## 1.2 Overview of SQL\*Net for Rdb

SQL\*Net for Rdb provides an environment in which you can run existing Oracle SQL\*Net applications to access data in Oracle Rdb databases. The Oracle SQL\*Net applications can use the Oracle Call Interface (OCI) or software such as the PL/SQL interface or Developer/2000 to access and manage data in an Oracle Rdb database.

SQL\*Net for Rdb connects Oracle SQL\*Net clients to Oracle Rdb servers. The unique advantage offered by SQL\*Net for Rdb is the ability to use Oracle SQL semantics to access data in Oracle Rdb databases.

SQL\*Net for Rdb:

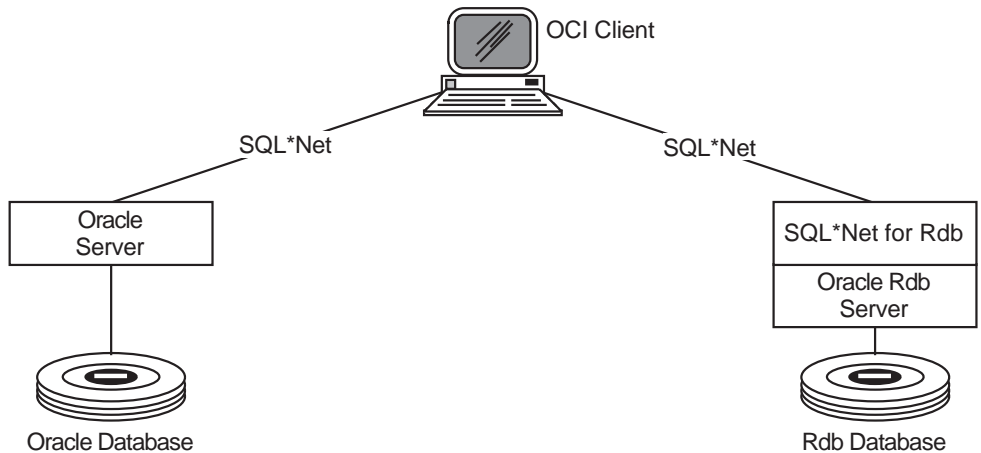
- Identifies itself to the client applications as an Oracle database server
- Emulates many of the Oracle SQL semantics
- Uses Oracle SQL\*Net for network communications

SQL\*Net for Rdb broadens the range of your client applications by letting you build a single source code stream that runs against either an Oracle Rdb database instance or an Oracle database instance.

For example, you can substitute the Oracle Rdb server for the Oracle server when your application requires functions supplied by an Oracle Rdb database. If you use only the Oracle Rdb server, SQL\*Net for Rdb provides many of the capabilities of the OCI architecture to your Oracle Rdb applications.

[Figure 1-1](#) shows the client/server relationships in a SQL\*Net for Rdb environment.



**Figure 1-1 Client/Server Processing**

You install SQL\*Net for Rdb as a part of the Oracle SQL/Services installation procedure. During installation, the procedure also installs the Oracle SQL/Services version of the Oracle SQL\*Net network transport, so that OCI clients can communicate with SQL\*Net for Rdb.

## 1.3 Required Operating System Classes and Subclasses

The OpenVMS operating system arranges all files into classes and subclasses. This allows customers to remove and add parts of OpenVMS by function, rather than by file. To provide full capability, each layered product requires certain OpenVMS classes or subclasses.

Oracle SQL/Services requires a minimum of the following OpenVMS classes:

- Files required for OpenVMS to boot on all systems (BASE)
- Network Support (NET)
- Programming Support (PROG)
- Secure User's Environment (USER)
- Utilities (UTIL)

## 1.4 Prerequisite and Optional Software

This section discusses the software that you must have installed on your system before installing Oracle SQL/Services. This section also includes information about software that you can use with Oracle SQL/Services. Refer to the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* for a complete list of compatible products and their required version numbers.

### 1.4.1 Prerequisite Software

To run the Oracle SQL/Services server on the OpenVMS Alpha operating system, you also need the Oracle Rdb database component. In addition, one or both of the following transport software options is required:

- DECnet for OpenVMS Alpha systems
- DEC TCP/IP Services for OpenVMS Alpha

For SQL\*Net, Oracle SQL\*Net runtime software is required for OpenVMS systems.

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**Note:** In this release of Oracle SQL/Services, this software is provided.

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### 1.4.2 Optional Software

Refer to the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* or the *Guide to Using the Oracle SQL/Services Client API* for a description of which network transports can be used with the Oracle SQL/Services API on each client system.

For a complete list of compatible products, refer to the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes*.

## 1.5 Prerequisite Hardware

You can install Oracle SQL/Services only when your system meets or exceeds the minimum hardware and disk space requirements. The hardware requirements are listed in the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes*, and the disk space requirements are listed in [Table 1-1](#). The required system disk storage is not system dependent, but does depend on the Oracle SQL/Services kit that you are installing.

## 1.6 Installation Requirements

The following sections discuss the steps you must take and the requirements you must meet before you install Oracle SQL/Services release 7.1. Read the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* for the most up-to-date information about installing Oracle SQL/Services release 7.1.

### 1.6.1 Disk Space

Installing the Oracle SQL/Services server requires 43,000 blocks of available disk storage space during the installation. Once the Oracle SQL/Services server is installed, less storage space is required. Installing Oracle SQL/Services and SQL\*Net for Rdb requires 120,000 blocks of available disk storage space.

To determine the number of available disk blocks on the current system disk, enter the following command at the DCL prompt:

```
$ SHOW DEVICE SYSS$SYSDEVICE
```

### 1.6.2 Shut Down Oracle SQL/Services

For a multiversion installation, the Oracle SQL/Services server for a previous version can be running; the same version cannot be running.

### 1.6.3 Replacing OpenVMS Client Files

The Oracle SQL/Services server installation also installs the OpenVMS client on the server node. Even though the server is installed as multiversion, the OpenVMS client software is installed as nonvarianted. Any previously existing OpenVMS client files on this node are replaced. The following files and images are replaced:

- SYSSLIBRARY:SQLSRV.H
- SYSSLIBRARY:SQLSRVCA.H
- SYSSLIBRARY:SQLSRVDA.H
- SYSSLIBRARY:SQLSRV\$API.OPT
- SYSSLIBRARY:SQLSRV\$API.EXE

### 1.6.4 Oracle SQL/Services Now Preserves Configuration Files

Beginning with release 7.1.5, a new Oracle SQL/Services installation no longer deletes existing configurations. If you install the kit and a configuration file

already exists for the installation, the existing configuration file is preserved. In this case, installing a new kit does not result in the creation of a default configuration. Thus, the following questions are *not* displayed as a part of the installation procedure:

```
What version of SQL should the GENERIC service specify?  
Do you want to use the default Oracle SQL/Services network ports [NO]
```

## 1.6.5 Required OpenVMS Privileges

VMSINSTAL is located in SYSS\$UPDATE, which is a restricted directory. To install Oracle SQL/Services, you must use an account that has the SETPRV privilege authorized. As one of its first actions, the VMSINSTAL command procedure grants all privileges except BYPASS to the process that invokes it. The VMSINSTAL command succeeds only if the account has the SETPRV privilege.

To check the default privileges of the installing account, log in and enter the following DCL command:

```
$ SHOW PROCESS/PRIVILEGES
```

If the account lacks the SETPRV privilege, you cannot install Oracle SQL/Services. You have two options:

- Ask your system manager to use the OpenVMS Authorize utility (AUTHORIZE) to modify the default privileges of your account to include the SETPRV privilege.
- Run AUTHORIZE and make the changes yourself, if the installing account has the SYSPRV privilege. For example:

```
$ SET DEFAULT SYS$SYSTEM  
$ RUN AUTHORIZE  
UAF> MODIFY account-name/DEFPRIVILEGES=(SETPRV)  
UAF> EXIT
```

To activate the change in privileges, you must log out and then log in again.

## 1.6.6 Required User Limits and SYSGEN Parameters

[Table 1-1](#) provides the minimum user process parameters and SYSGEN parameters required to install Oracle SQL/Services kit. These values are checked only during the installation procedure.

**Table 1–1 Minimum User Process Parameters and SYSGEN Parameters Required for Oracle SQL/Services Installation**

| User Limit or SYSGEN Parameter | Value   | Comment                  |
|--------------------------------|---|--------------------------|
| BYTLM                          | 20480   | User process quota limit |
| FILLM                          | 50  | User process quota limit |
| ENQLM                          | 100   | User process quota limit |
| ASTLM                          | 24  | User process quota limit |
| BIOLM                          | 18  | User process quota limit |
| DIOLM                          | 18  | User process quota limit |
| GBLSECTIONS                    | 7   | SYSGEN parameter         |
| CLISYMTBL                      | 250   | SYSGEN parameter         |
| MAXBUF                         | 5120  | SYSGEN parameter         |
| PGFLQUOTA                      | 5000  | SYSGEN parameter         |
| VIRTUALPAGECNT                 | 20480   | SYSGEN parameter         |
| WSMAX                          | 2048  | SYSGEN parameter         |
| GBLPAGES                       | $4000 + (150 * \text{MAXPROCESSCNT}) / 512 + 3$ | SYSGEN parameter         |
| GBLPAGFIL                      | $4000 + (150 * \text{MAXPROCESSCNT}) / 512 + 3$ | SYSGEN parameter         |

### 1.6.7 Installing Process Account Password Must Not Be Locked

If the SQLSRV\$DEFLT and RMU\$SRV accounts do not exist, the Oracle SQL/Services installation procedure creates them. In order for the installation procedure to create these accounts and generate passwords for them, you must install Oracle SQL/Services from an account that does not have a locked password.

If the installing account has a locked password, the installation procedure cannot automatically generate a password for the created accounts and aborts with the following message:

\*\*\*\*\*

Error generating password for the <xxx> account.  
Please refer to the "Preinstallation Checklist" in the  
Oracle SQL/Services Installation Guide for directions.

\*\*\*\*\*

To modify an account with a locked password, use the Authorize utility.

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> MODIFY account-name/FLAGS=NOLOCKPWD
UAF> EXIT
```

## 1.6.8 Back Up Your System Disk

At the beginning of the installation, the VMSINSTAL command procedure asks if you have backed up your system disk. Oracle Corporation recommends that you back up your system disk before installing any software layered on top of the operating system.

This precaution protects your system software. A system failure at a critical point in the installation procedure could leave unusable files.

Use the backup procedures that have been established at your site. For details on backing up your system disk, see the section on the OpenVMS Backup utility in the OpenVMS documentation set.

## 1.6.9 Avoid Giving Users Access to Help

When the installation inserts the Oracle SQL/Services Help modules into the OpenVMS Help Library, it must have sole access to the OpenVMS Help Library. If anyone uses the HELP command when the installation tries to insert the Oracle Rdb Help module, the installation stalls. You can prevent other users from using Help during the installation by:

- Running the installation when no one else is logged in.
- Limiting access to the Help Library SYS\$HELP:HELPLIB.HLB to the SYSTEM account. Remember to note the original protection on the library, which you can determine with the following command:

```
$ DIR/PROTECTION SYS$HELP:HELPLIB.HLB
```

You can limit Help Library access with the following command:

```
$ SET PROTECTION = (S:RWED, O, G, W) SYS$HELP:HELPLIB.HLB
```

After the installation, return the protection on the Help Library to the original setting. Instructions are provided in [Section 3.1](#).

### 1.6.10 Prevent Interactive Users from Gaining Access to the System

If the installation fails for an indeterminable reason, Oracle Corporation recommends that you install Oracle SQL/Services again, keeping all interactive users off the system during the installation procedure. You might also choose to keep interactive users off the system if you will be changing any system parameter values with the AUTOGEN command procedure. Use the DCL REPLY command to inform users of the schedule for the installation. Prevent other users from logging in by issuing the DCL SET LOGIN command:

```
$ REPLY/USER "Installation of Oracle SQL/Services starting in 20 minutes. Please log out."
$ SET LOGIN/INTERACTIVE=0
```

Both of these commands require the OPER privilege.

If any batch or device jobs are running, you have two options:

- Wait until the last one finishes.
- Use the DCL DELETE/ENTRY command to stop any job still running.

### 1.6.11 Ensure the Oracle SQL/Services Configuration File Is Not Locked

During the Oracle SQL/Services installation, the installation procedure deletes any configuration files it finds in the following locations:

- SYS\$SPECIFIC:[SYSMGR]SQLSRV\_CONFIG\_FILE71.DAT
- SYS\$COMMON:[SYSMGR]SQLSRV\_CONFIG\_FILE71.DAT
- The file to which the SQLSRV\_CONFIG\_FILE71 logical points, if any

If any of these configuration files exist, they must be unlocked at the time of the installation.

If the configuration file is locked at the time of the Oracle SQL/Services installation, the installation fails, as the following example shows:

```
%COPY-E-OPENIN, error opening VMI$SPECIFIC:[SYSMGR]SQLSRV_CONFIG_FILE71.DAT;1 as
input
-RMS-E-FLK, file currently locked by another user
```

```
*****  
  
Unable to save a copy of VMI$SPECIFIC:[SYSMGR]SQLSRV_CONFIG_FILE71.DAT.  
  
Please correct the problem and retry the installation.  
  
*****  
%VMSINSTAL-E-INSFAIL, The installation of SQLSRVAM V7.1 has failed.
```

The configuration file is locked if anyone is running the SQLSRV\_MANAGE utility at the time of the installation. To determine if the configuration file is opened, show open files on the device on which the configuration file is located. For example:

```
$ SHOW DEVICE/FILES SYS$SYSROOT: /OUTPUT=DEVICE.LIS  
$ SEARCH DEVICE.LIS SQLSRV_CONFIG_FILE  
USERNAME          000009B7 [SYS0.SYSMGR]SQLSRV_CONFIG_FILE71.DAT;1
```

If the configuration file is open, the user name and process ID (PID) of the process that has opened the file is displayed, as the previous example shows.

Note that the Oracle SQL/Services installation will shut down the running Oracle SQL/Services server if you elect to have it do so, but the configuration file or files may be locked by an SQLSRV\_MANAGE session. All SQLSRV\_MANAGE sessions must be exited before you can start the Oracle SQL/Services installation.

### 1.6.12 Time Required to Install Oracle SQL/Services

The installation takes approximately 5 minutes on an OpenVMS Alpha system. This time may vary depending on your type of media, your system configuration, and whether or not you need to reboot your system.

### 1.6.13 UICs for the SQLSRV\$DEFLT and RMU\$SRV Accounts and Instructions on How to Find a Free UIC

The Oracle SQL/Services installation asks for user identification codes (UICs) for the SQLSRV\$DEFLT and RMU\$SRV accounts if these accounts do not exist.

To find a free UIC, decide what UIC group to use, and then run the Authorize utility (AUTHORIZE). For example, to find a free UIC in the 300 group, perform the following:

```
$ AUTHORIZE ::= $AUTHORIZE  
$ AUTHORIZE
```



```
UAF> SHOW/BRIEF [300,*]
```

A list of the used UICs in the 300 group displays. Choose free UICs from those not listed.

## 1.7 Preinstallation Checklist

[Table 1–2](#) summarizes the tasks that you must perform before installing Oracle SQL/Services. Check to make sure that you have performed all these tasks before proceeding with the installation.

**Table 1–2 Preinstallation Checklist**

| Task  | For More Information  |
|---|---|
| Confirm required OpenVMS components.  | See <a href="#">Section 1.3</a> .   |
| Confirm required database components.                                       | See <a href="#">Section 1.4.1</a> and the <i>Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes</i> . |
| Confirm required network transport software.                                | See <a href="#">Section 1.4.1</a> and the <i>Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes</i> . |
| Confirm required hardware.  | See the <i>Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes</i> .                                   |
| Confirm adequate disk space.  | See <a href="#">Section 1.6.1</a> .   |
| Shut down Oracle SQL/Services if you are reinstalling the same version.     | See <a href="#">Section 1.6.2</a> .   |
| Resolve file replacement considerations.                                    | See <a href="#">Section 1.6.3</a> and <a href="#">Section 1.6.4</a> .   |
| Confirm adequate account privileges.  | See <a href="#">Section 1.6.5</a> .   |
| Define sufficient values for user limits and SYSGEN parameters.             | See <a href="#">Section 1.6.6</a> .   |
| Confirm installing account does not have locked password.                   | See <a href="#">Section 1.6.7</a> .   |
| Back up your system disk.   | See <a href="#">Section 1.6.8</a> .   |
| Set help file protection and logins.  | See <a href="#">Section 1.6.9</a> and <a href="#">Section 1.6.10</a> .  |
| Ensure the Oracle SQL/Services configuration file is not locked.            | See <a href="#">Section 1.6.11</a> .  |
| Choose free UICs for the SQLSRV\$DEFLT and RMU\$SRV accounts, if necessary. | See <a href="#">Section 1.6.13</a> .  |



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# Installing Oracle SQL/Services for OpenVMS

This chapter describes how to install Oracle SQL/Services.

## 2.1 Accessing the Online Release Notes

The Oracle SQL/Services installation procedure copies the latest release notes to the SYSSHELP directory. The installation provides both text and PostScript formats of the release notes.

- The file specification for the text format is SYSSHELP:SQLSRV071.RELEASE\_NOTES. You can specify `OPTIONS N` when you invoke the `VMSINSTAL` command procedure to see the release notes before continuing the installation (see [Section 2.3.1](#)).
- The file specification for the PostScript format is SYSSHELP:SQLSRV071\_RELEASE\_NOTES.PS.

Hardcopy release notes are not included with the documentation for Oracle SQL/Services.

You should review the release notes in case they contain any information about changes in the installation procedure. If you are starting the installation over again and have already reviewed the release notes, you do not need to specify `OPTIONS N`.

Online help also directs you to the release notes file. After the installation you can enter the following command to find the location of the release notes:

```
$ HELP SQL_SERVICES GENERAL_INFORMATION RELEASE_NOTES
```

## 2.2 Multiversioning

Beginning with release 7.1.5 of Oracle SQL/Services, you can only install the multiversion format of the software.

Oracle Rdb, the SQL interface to Oracle Rdb, and Oracle SQL/Services enable you to install and run multiple versions of Oracle Rdb, SQL, and Oracle SQL/Services software on a single system. They do this by segregating multiversion images and files by a file name variant or by a directory name variant (for example, SQLSRV\$STARTUP71.COM). Note that even though the multiversion kit is installed, the OpenVMS client is installed on the server node as nonvariated. The OpenVMS client files overwrite any previously existing files.

During installation, most new Oracle SQL/Services images and directories are installed as variated. Oracle SQL/Services ensures that the new variated images work in a multiversion environment with older supported versions of Oracle Rdb and Oracle SQL/Services client software and that the images and directories for previous versions are not replaced. The exception is the Oracle SQL/Services OpenVMS client, which is always installed as standard. The following OpenVMS client files are replaced:

- SYSSLIBRARY:SQLSRV.H
- SYSSLIBRARY:SQLSRVCA.H
- SYSSLIBRARY:SQLSRVDA.H
- SYSSLIBRARY:SQLSRV\$API.OPT
- SYSSLIBRARY:SQLSRV\$API.EXE

The Oracle SQL/Services V7.1.5 installation kit contains the following files:

- SQLSRVAMVE071.A – Oracle SQL/Services for OpenVMS Alpha
- SQLSRVAMVE071.B – SQL\*Net for Rdb for OpenVMS Alpha
- SQSCLIA071.A – Oracle SQL/Services client kit for OpenVMS Alpha

The minimum supported version of Oracle Rdb and Oracle SQL/Services client software is V6.1.

The following sections describe the multiversion support available with Oracle SQL/Services.

### 2.2.1 Overview of Multiversion Support in Oracle SQL/Services

The following are files that you may need to use:

- SYSS\$STARTUP:SQLSRV\$STARTUP71.COM - to start the multiversion variant
- SYSS\$MANAGER:SQLSRV\$SHUTDOWN71.COM - to stop the multiversion variant
- SYSS\$SYSTEM:SQLSRV\_MANAGE71.EXE - to manage the multiversion variant
- SYSS\$STARTUP:SQLSRV\_CREATE71.COM - command procedure that invokes the SQLSRV\_CREATE71.SQS script to create a default configuration on a cluster node other than the one on which the installation was performed, and then starts Oracle SQL/Services on that node
- SYSS\$STARTUP:SQLSRV\_CREATE71.SQS - script to create the Oracle SQL/Services dispatcher and the GENERIC service, and the Oracle RMU dispatcher and Oracle RMU service
- SYSS\$SYSROOT:[SYSHLP.EXAMPLES.SQLSRV71] - sample scripts and applications
- SYSS\$COMMON:[SYSTEST.SQLSRV71] - the version 7.1 IVP files
- SYSS\$MANAGER:SQLSRV\_CONFIG\_FILE71.DAT - contains the definitions for the server and the server components, which include the dispatcher and service definitions. See the *Oracle Rdb Oracle SQL/Services Server Release 7.1.5 Configuration Guide* for a detailed description of the server and component definitions.

During installation, you are prompted to specify alternate network ports for the Oracle SQL/Services clients and management service.

To run multiple versions of Oracle SQL/Services on the same system simultaneously, each version must be using unique network ports for the Oracle SQL/Services dispatcher and management service to listen on. You may use the default network ports if you wish. However, if you do, other versions of Oracle SQL/Services must use nondefault network ports or only one version of Oracle SQL/Services can run at a time.

Oracle SQL/Services V7.1 clients and the Oracle ODBC Driver for Rdb V2.1 and higher clients can use alternate network ports.

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**Note:** Oracle SQL/Services clients prior to release 7.0 and Oracle ODBC Driver for Rdb clients prior to release 2.1 cannot connect to the server using alternate ports. These older clients will not work with the release 7.0 and higher version of the Oracle SQL/Services server if you use alternate dispatcher ports.

---

---

By default, the Oracle SQL/Services dispatcher listens on the following network ports:

- DECnet object 81
- TCP/IP port 118

Oracle SQL/Services clients connect to these ports by default.

The Oracle SQL/Services management service listens on the following network ports:

- DECNET object SQLSRV\_SERVER
- TCP/IP port 2199

Because versions of Oracle SQL/Services prior to release 7.0 did not use these management ports, you do not need to specify alternate management ports.

## 2.2.2 Using Oracle SQL/Services with Multiple Versions of Oracle Rdb

To use Oracle SQL/Services with multiple versions of Oracle Rdb, you must specify the version of SQL to use in the service definition to match that of the version of Oracle Rdb that you want to access. For example, specify 7.1 to access a release 7.1 Oracle Rdb database, 7.0 to access a release 7.0 Oracle Rdb database, and so forth. Define a separate service for each version of Oracle Rdb to which you want to provide access for clients. See the `CREATE SERVICE` or `ALTER SERVICE` command in the *Oracle Rdb Oracle SQL/Services Server Release 7.1.5 Configuration Guide*. For example, to define a universal service named V70, which accesses Oracle Rdb release 7.0, whose owner is `SQLSRV$DEFLT`, enter the following command:

```
SQLSRV> CREATE SERVICE V70 SQL_VERSION 7.0 OWNER SQLSRV$DEFLT
_SQLSRV> MIN_EXECUTORS 2 MAX_EXECUTORS 10;
```

## 2.2.3 How to Run Multiple Versions of Oracle SQL/Services

[Section 2.2.3.1](#) and [Section 2.2.3.2](#) describe what you must do to be able to run multiple versions of Oracle SQL/Services.

### 2.2.3.1 Managing the Server

To manage a multiversion server on a single node or in a cluster, you must be able to do the following:

- Start and stop the server

---

You must be able to start up and shut down the server by using the `SYSSSTARTUP:SQLSRV$$STARTUP71.COM` and `SYSSMANAGER:SQLSRV$$SHUTDOWN71.COM` procedures.

- Run the Oracle SQL/Services server management utility

To use the Oracle SQL/Services management utility, you must invoke its varied form, `SQLSRV_MANAGE71`. When you have Oracle SQL/Services installed and the server is defined to use alternate ports, use the `SQLSRV_MANAGE71` utility to connect to the server using the `CONNECT TO SERVER` command. Because the alternate network port and object are already defined in the configuration file following the installation, the alternate network port or object is used by default when you specify the `CONNECT TO SERVER` command from a node with access to the configuration file. However, you can also explicitly specify an alternate network port or object to use in the `CONNECT TO SERVER` command.

- Run the Oracle SQL/Services Manager GUI

When you have Oracle SQL/Services installed multiversion and the server is defined to use alternate network ports, use the Oracle SQL/Services Manager GUI to connect to the server and specify an alternate network port or object in the Connect to Server screen.

All the guidelines described in [Chapter 3](#) apply. Be sure to follow these, particularly if you are using Oracle SQL/Services in a cluster.

### 2.2.3.2 Directing Clients to the New Server

When you install the multiversion kit and you choose to specify alternate network ports to run more than one version of Oracle SQL/Services on the same system, you must configure clients to allow them to communicate to the new Oracle SQL/Services server.

---

---

**Note:** Only V7.0 and higher versions of Oracle SQL/Services and V2.1 and higher versions of the Oracle ODBC Driver for Rdb clients can communicate using alternate ports.

---

---

Clients can direct `SQLSRV_ASSOCIATE` requests to alternate ports. This can be done as follows:

### OpenVMS Client Systems

To specify an alternate DECnet object, define the `SQLSRV$DECNET_OBJECT` logical name using the following syntax where the DECnet object can be either a number or a name:

```
$ DEFINE SQLSRV$DECNET_OBJECT "<number> | <name>"
```

For example:

```
$ DEFINE SQLSRV$DECNET_OBJECT "142"
```

or

```
$ DEFINE SQLSRV$DECNET_OBJECT "SQLSRV71"
```

To specify an alternate TCP/IP port number, define the `SQLSRV$TCPIP_PORT` logical name using the following syntax where the `TCPIP_PORT` number must be a number:

```
$ DEFINE SQLSRV$TCPIP_PORT "<number>"
```

For example:

```
$ DEFINE SQLSRV$TCPIP_PORT "10042"
```

The definition for alternate network ports is made on a per-client-process basis.

### Tru64 UNIX Client System

Alternate network ports on Tru64 UNIX systems can be defined for DECnet and TCP/IP.

To specify an alternate DECnet object, define the `SQLSRV_DECNET_OBJECT` environment variable, where the DECnet object can be either a number or a name:

```
csh> setenv SQLSRV_DECNET_OBJECT decnet10
```

To specify an alternate TCP/IP port number, define the `SQLSRV_TCPIP_PORT` environment variable, where the port number must be a number:

```
csh> setenv SQLSRV_TCPIP_PORT 1234
```

The definition for alternate network ports is made on a per-client-process basis.

### Windows Client Systems

On Windows systems, use an initialization (.ini) file to specify alternate server network ports. On 32-bit versions of Windows, use the `sqsap32.ini` file. To use an



alternate network port on server node A, define an alternate network port in the section of the .ini file for server node A. The alternate network port parameters in the .ini file are TCPIPPortNumber and DECnetObject. These parameters are defined under the nodename subsection.

To specify an alternate DECnet object, define the DECnet\_Object parameter, where the DECnet object can be either a number or a name:

```
;
; Use server DECnet object decnet11 when connecting to RDBSRV
;
[RDBSRV]
DECnetObject=decnet11
```

To specify an alternate TCP/IP port number, define the TCPIPPortNumber parameter, where the port number must be a number:

```
;
; Use server TCP/IP port number 1040 when connecting to RDBSRV
;
[RDBSRV]
TCPIPPortNumber=1040
```

## 2.3 Installation Procedure

The Oracle SQL/Services installation process consists of a series of questions and informational messages.

### 2.3.1 Invoking VMSINSTAL

To start the installation, invoke the VMSINSTAL command procedure from a privileged account, such as the SYSTEM account. The VMSINSTAL procedure is in the SYSSUPDATE directory. You can use the following syntax to invoke VMSINSTAL:

```
@SYSSUPDATE:VMSINSTAL saveset-name device-name OPTIONS N
```

Alternatively, you can type @SYSSUPDATE:VMSINSTAL at the system prompt. VMSINSTAL prompts you for the saveset name, device name, and options parameters. The remainder of this section describes these parameters.

## Parameters

### **saveset-name**

The saveset name of Oracle SQL/Services that you want to install. For example, SQLSRVAMVE071.

### **device-name**

The name of the device upon which you plan to mount the media. It is not necessary to use the console drive for this installation. However, if you do use the console drive, you should replace any media that you removed once the installation is complete.

### **OPTIONS N**

An optional parameter that indicates you want to review the release notes. If you include the OPTIONS N parameter, VMSINSTAL displays a menu that allows you to choose between printing the release notes or displaying them on your terminal. You should always review the release notes before proceeding, in case they contain new information about the installation. If you do not include the OPTIONS N parameter, VMSINSTAL does not ask you about the release notes. The release notes are automatically copied to the SYS\$HELP directory whether or not you use the OPTIONS N parameter.

Note that there are several other options that you can select when you invoke VMSINSTAL. See the OpenVMS documentation set on software installation for information on these options.

The following example displays the command to invoke VMSINSTAL to install the multiversion variant of Oracle SQL/Services for Oracle Rdb for OpenVMS Alpha from CDROM DUB4: and shows the system response. This example uses the OPTIONS N release note parameter.

```
$ @SYS$UPDATE:VMSINSTAL SQLSRVAMVE071 DUB4:  
OpenVMS AXP Software Product Installation Procedure V7.1
```

```
It is 15-MAY-2001 at 15:22.
```

```
Enter a question mark (?) at any time for help.
```

## 2.3.2 Steps of the Installation Procedure

This section discusses the installation process itself, presenting all the questions that appear during the installation. This section presumes that you entered the product name, device name, and options parameters on the VMSINSTAL command line. Refer to [Appendix B](#) for a sample installation log.

Each question in the installation procedure is marked with an asterisk (\*) at the beginning of the line. Some questions that appear when you run the installation program show the default response in brackets, for example [YES]. If you want to use the default response, press the Return key.

### 1. Backing up your system disk

The VMSINSTAL procedure asks if you are satisfied with your system backup. You should always back up your system disk before performing an installation. If you are satisfied with the backup of your system disk, press the Return key. Otherwise, enter NO to discontinue the installation. After you back up your system disk, you can start the installation again.

```
* Are you satisfied with the backup of your system disk [YES]?
```

### 2. Mounting the media

Mount the distribution media on the device that you specified. VMSINSTAL then confirms the name of the product that you are installing.

```
* Where will the distribution volumes be mounted: DKA300
```

```
Enter the products to be processed from the first distribution volume set.
```

```
* Products: SQLSRVAMVE071
```

```
* Enter installation options you wish to use (none):
```

```
The following products will be processed:
```

```
SQLSRVAMVE V7.1
```

```
Beginning installation of SQLSRVAMVE V7.1 at 15:22
```

```
%VMSINSTAL-I-RESTORE, Restoring product save set A ...
```

### 3. Reviewing the release notes

If you specified the OPTIONS N parameter, you are now asked to choose one of the four options for reviewing the release notes, and then asked whether or not you want to continue.

```
Release notes included with this kit are always copied to SYS$HELP.
```

Additional Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above

\* Select option [2]: 2

\* Do you want to continue the installation [NO]? YES

%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYSS\$HELP.

The *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* are about 80 pages; you may want to print them by selecting option 2.

The installation procedure automatically copies the release notes to SYSS\$HELP:SQLSRV071.RELEASE\_NOTES no matter which option you choose, and whether or not you specified OPTIONS N. The release notes are also copied to the SYSS\$HELP directory if you answer NO to abort the installation.

---

---

**Note:** The name of the release notes file installed by VMSINSTAL consists of the current product name and version number. Oracle Corporation recommends that you keep the release notes for previous versions of Oracle Rdb and Oracle SQL/Services.

---

---

#### 4. Printing the installation guide

The installation procedure now asks if you want to print the text format of this installation guide, which it copies to SYSS\$HELP:SQLSRV071.INSTALL\_GUIDE.

The Oracle SQL/Services installation guide has been provided in SYSS\$HELP. Please review the installation guide before continuing with this installation.

\* Would you like to print the installation guide ? [NO]:

#### 5. Providing only the server and local OpenVMS client on the server kit

The installation kit provides the Oracle SQL/Services server and the local OpenVMS Alpha client on Alpha systems. All other clients are provided on a separate Oracle Rdb Clients CD-ROM.

Installation procedure for: "Oracle SQL/Services V7.1-5"

This installation kit provides the Oracle SQL/Services server

and the local OpenVMS Alpha client. OpenVMS remote client kits are provided on the Oracle Rdb OpenVMS CD-ROM. All other remote client kits are provided on a separate Oracle Rdb Clients CD-ROM.

## 6. Confirming the kit type for multiversion installation

**VMSINSTAL confirms that this is a multiversion installation and asks if you want to continue.**

```
You are about to install a multiversion Oracle SQL/Services
OpenVMS Alpha kit.
```

```
Even though this is a multiversion kit, all client files will
be installed nonvariated. Any existing Oracle SQL/Services
OpenVMS Alpha client will be replaced by this installation.
```

```
* Do you want to proceed [YES]: y
```

```
Checking system requirements ...
```

## 7. Entering a UIC and device for the Oracle SQL/Services SQLSRV\$DEFLT account

**The installation procedure prints a message about choosing a user identification code (UIC) for the SQLSRV\$DEFLT account if the account does not already exist.**

The installation procedure will not proceed until you enter a valid user identification code (UIC) for the SQLSRV\$DEFLT account.

To find a free UIC in the 300 group (or another group if you wish), run the authorize utility and issue the 'SHOW/BRIEF [300,\*]' command. This will display all the used UICs in the 300 group.

**Oracle SQL/Services creates the account to run the default universal services' executors, which handle API requests for the OpenVMS server system. During the installation, the account is used to run the IVP. You must choose a unique UIC for the SQLSRV\$DEFLT account at the following prompt:**

```
* Enter UIC to be used for the SQLSRV$DEFLT account (e.g. [300,2]): [300,1]
```

**A subsequent message prompts you for the device upon which to place the SQLSRV\$DEFLT account. You must choose a device or accept the SYSSYSDEVICE default. Enter the device at the following prompt:**

\* Enter the default device for the SQLSRV\$DEFAULT account [SYSSYSDEVICE]:

## 8. Entering a UIC and device for the Oracle SQL/Services RMU\$SRV account

The installation procedure prints a message about choosing a user identification code (UIC) for the RMU\$SRV account if the account does not already exist.

The installation procedure will not proceed until you enter a valid user identification code (UIC) for the RMU\$SRV account.

To find a free UIC in the 300 group (or another group if you wish), run the authorize utility and issue the 'SHOW/BRIEF [300,\*]' command. This will display all the used UICs in the 300 group.

Oracle SQL/Services creates the account in order to run the RMU services' executors, which handle API requests for the OpenVMS server system. During the installation, the account is used to run the RMU IVP. You must choose a unique UIC for the RMU\$SRV account at the following prompt:

\* Enter UIC to be used for the RMU\$SRV account (e.g. [300,2]): [300,3]

A subsequent message prompts you for the device upon which to place the RMU\$SRV account. You must choose a device or accept the SYSSYSDEVICE default. Enter the device at the following prompt:

\* Enter the default device for the RMU\$SRV account [SYSSYSDEVICE]:

## 9. Providing the version of SQL that the universal service named GENERIC should specify

The installation procedure defines a universal service named GENERIC in the default configuration file. You are requested to enter the version of SQL to which you want the GENERIC service set. You must specify a version that is currently installed on your system.

This installation procedure will define a universal Oracle SQL/Services service named GENERIC in the default configuration file. Please specify the version of SQL you would like the GENERIC service to set to (STANDARD or x.y).

\* What version of SQL should the GENERIC service specify?: 7.1

## 10. Configuring transports

The installation checks to see what transports are configured and running.

The Oracle SQL/Services dispatcher listens on one or more of

DECnet, TCP/IP, or IPX/SPX ports. The Oracle SQL/Services management service listens on DECnet or TCP/IP. If a transport type is configured into the server but is not running when the server is started messages will be logged in the dispatcher or monitor log files and the server will continue with the transports that exist. The following transport(s) are not currently running:

- IPX/SPX

If you do not plan on running these transports in the future you may choose to eliminate them from the configuration and avoid the log messages.

\* IPX/SPX is not running. Do you want to configure it anyway [NO]? y

## 11. Installing an Oracle SQL/Services multiversion kit

The installation now does the following:

- Requests you enter alternate network ports on which the dispatcher and Oracle SQL/Services management service listen other than the default network ports that a previously installed earlier version of Oracle SQL/Services may be using.
- If you choose to use alternate ports for this multiversion installation, each client will also need to be configured to use alternate ports.
- Most files are installed variant with the Oracle SQL/Services multiversion kit. The following are files you need to use:
  - \* SQLSRV\$STARTUP71.COM - to start the multiversed variant
  - \* SQLSRV\$SHUTDOWN71.COM - to stop the multiversed variant
  - \* SQLSRV\_MANAGE71 - to manage the multiversed variant
  - \* SQLSRV\$ALTERNATE\_PORTS71.COM - a command procedure that defines symbols for the alternate ports used by the Oracle SQL/Services dispatcher and management service. This procedure is used by SQLSRV\$STARTUP71.COM and SQLSRV\$IVP.COM
  - \* SYSS\$COMMON:[SYSTEST.SQLSRV71] - the V7.1.5 IVP files
  - \* SYSS\$COMMON:[SYSHLP.EXAMPLES.SQLSRV71] - the V7.1.5 example directory
- Note that the OpenVMS client is installed on the server node as nonvariant and replaces any previously existing OpenVMS client files.

## 12. Using default Oracle SQL/Services network ports

---

---

**Warning:** Oracle SQL/Services clients before release 7.0, and Oracle ODBC Driver for Rdb clients before release 2.1, do not have the ability to connect to the server using alternate ports. Older clients will not work with the release 7.1.5 and higher versions of the server if you choose not to use default ports.

---

---

The installation asks if you want to use the default Oracle SQL/Services network ports. You must use alternate network ports on which the dispatcher and Oracle SQL/Services management service listen if you want to run an older version of Oracle SQL/Services concurrently. Therefore, accept the default No and enter alternate network ports. If you choose to use the default network ports and enter Yes, and another installed version of SQL/Services uses the default ports, only one version of Oracle SQL/Services can run at a time in your multiversion environment.

You have chosen to install a multiversed Oracle SQL/Services.

By default, the Oracle SQL/Services dispatcher listens on the following network ports:

- DECnet object 81
- TCP/IP port 118
- IPX/SPX port 33969 (%0x84b1)

Oracle SQL/Services clients connect to the above ports by default.

The Oracle SQL/Services management service listens on the following network ports:

- DECNET object SQLSRV\_SERVER
- TCP/IP port 2199

Oracle SQL/Services management clients connect to the above ports by default.

You may have only one version of Oracle SQL/Services running at a time using the default network ports. If you have another version of Oracle SQL/Services running now, or if you will in the future, you must choose alternate network ports for this multiversion installation.

Note that clients by default will connect to Oracle SQL/Services via default ports. Oracle SQL/Services 7.0 and higher clients



and Oracle ODBC Driver for Rdb 2.1 and higher clients can use alternate ports. Each client must be configured to use alternate ports if you choose not to use default ports for this installation. See the Oracle SQL/Services Installation Guide for information on using alternate ports.

```
*****
*                               W A R N I N G                               *
*                               *                                           *
* Oracle SQL/Services clients before V7.0 and *
* Oracle ODBC Driver for Oracle Rdb clients *
* before V2.1 cannot connect to the server *
* via alternate ports. Older clients will not*
* work with this server if you choose not to *
* use default ports. *
*****
```

```
* Do you want to use the default Oracle SQL/Services network ports [NO]:
* Enter alternate DECnet object for Oracle SQL/Services clients: 91
* Enter alternate TCP/IP port number for Oracle SQL/Services clients: 119
* Enter alternate DECnet object for Oracle SQL/Services management: dbs_server
* Enter alternate TCP/IP port number for Oracle SQL/Services management: 2199
```

**Versions of Oracle SQL/Services prior to release 7.0 did not use separate management ports, so you need not choose alternate ports for Oracle SQL/Services management.**

### 13. Using SQL\*Net for Rdb

The installation asks if you want to also install SQL\*Net for Rdb (provided as part of the Oracle SQL/Services kit).

SQL\*Net for Rdb connects Oracle SQL\*Net clients to Rdb servers. SQL\*Net for Rdb gives you the ability to use Oracle SQL semantics to access data in Rdb databases. SQL\*Net for Rdb is a server-side solution, it will not in any way impact your existing Oracle installation.

Oracle SQL\*Net for Rdb requires that you have Open/VMS version V7.1 or higher already installed on your system.

```
* Do you want to install SQL*Net for Rdb [YES]?
```

### 14. Specifying the root directory

If you answer Yes and install SQL\*Net for Rdb, the Oracle SQL/Services release 7.1 installation procedure asks for the root directory of your Oracle installation, if any. This step is skipped if you do not install SQL\*Net for Rdb. Provide the location by taking the actions described in the following table:

|   |   |
|---|---|
| If you have an existing Oracle Server installation on this system | Enter the root directory of your Oracle installation.   |
| If you have not installed Oracle Server on this system            | Enter a carriage return.<br>The Oracle SQL/Services installation procedure creates the following directory: |
| SYS\$COMMON:[SQLSRV71.SQLNET.NETWORK.ADMIN]                       |   |

The Oracle SQL/Services dispatcher looks for the Oracle SQL\*Net configuration information and message files in the appropriate directory (as described in the previous table). See the *Guide to SQL\*Net for Rdb7* for information about distributing the configuration files after installation.

If you have an existing Oracle installation on this system please enter the root directory of your Oracle installation at the following prompt

If you have not installed Oracle on this system, please hit carriage return. The SQL\*Net for Rdb configuration files will be placed in:

SYS\$COMMON:[SQLSRV' 'SQLSRV\_VARIANT'.SQLNET...].

See the SQL\*Net for Rdb documentation for information on how to change the location of SQL\*Net for Rdb configuration files after installation.

\*\*\*\*\*

\* Enter root directory of your Oracle installation (if any):

## 15. Choosing to run the IVP

The Installation Verification Procedure (IVP) for Oracle SQL/Services and Oracle RMU verifies the installation. You are asked if you want to run the IVP as part of the installation procedure. If you respond YES, VMSINSTAL runs both the Oracle SQL/Services and Oracle RMU IVPs following the installation

(see step 15). Oracle Corporation recommends that you run the IVP to be sure that Oracle SQL/Services is installed correctly.

---

---

**Note:** There is no installation verification procedure for SQL\*Net for Rdb.

---

---

The Oracle SQL/Services for OpenVMS IVP verifies the installation as follows:

- Selects the DECnet transport (if it is available) and performs the IVP and then selects the TCP/IP transport (if it is available) and performs the IVP again.
- Automatically uses the GENERIC service.
- Performs an associate.
- Creates a database if the Oracle Rdb monitor is running.
- Performs updates on the database and then drops the database.
- Performs a release.

\* Do you want to run the IVP after the installation [YES]?

After Oracle SQL/Services is installed, you can run the Oracle SQL/Services IVP independently to verify that the software is available on your system. You might also want to run the IVP after a system failure to be sure that users can access Oracle SQL/Services. Online help contains instructions for running the IVP independently. You can also find instructions in [Section 3.9](#). The Oracle RMU IVP is run using the following command:

```
RMU/EXECUTE/COMMAND "RMU/SHOW/VERSION"
```

## 16. Prompting for user name and password to run the installation verification procedure

If you have chosen to run the IVP, the installation procedure prompts you for a valid user name and password to run the installation verification procedure.

The installation verification procedure requires a valid username and password in order to run.

Enter the username under which to run the IVP: SYSTEM

Enter the password for the SYSTEM account:

### 17. Choosing to purge files

You have the option to purge previous copies of files installed by Oracle SQL/Services that are superseded by this installation. Purging is recommended; however, if you need to keep the previous versions of files, enter NO in response to the question.

```
* Do you want to purge files replaced by this installation [YES]?
```

### 18. Displaying informational messages

At this point, the installation procedure displays a number of informational messages that report on the progress of the installation. There are no further questions. If the installation procedure has been successful up to this point, VMSINSTAL moves the new or modified files to their target directories and updates help files. If you asked for files to be purged, that work is done now. The following messages are displayed:

```
There are no further questions. The installation takes
approximately 5 minutes
```

```
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
```

```
Beginning installation ...
```

```
Installing under VMS V7.1      - 15-MAY-2001 15:32
```

```
.
```

```
.
```

```
.
```

```
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target
directories...
```

```
.
```

```
.
```

```
.
```

### 19. Creating and starting Oracle SQL/Services server, and creating and starting Oracle RMU and Oracle SQL/Services dispatchers and services

The installation procedure runs the `sqlsrv_create.sqs` script, which creates the Oracle SQL/Services server, Oracle SQL/Services and Oracle RMU dispatchers and services, and SQL\*Net for Rdb (OCI), then grants access to these services to PUBLIC. Then the Oracle SQL/Services server is started.

### 20. Running the IVPs

If you chose to run the IVPs, VMSINSTAL runs them now. When the IVPs run successfully, you see the following display:

```
.
.
.
**** Oracle SQL/Services IVP succeeded ****
.
.
.
Oracle SQL/Services client tests completed successfully.
.
.
.
  *** Oracle RMU IVP completed successfully. ***
.
.
.
```

### 2.3.3 Completing the Installation Procedure

The following messages indicate that the entire installation procedure is complete for a multiversion variant of Oracle SQL/Services for Oracle Rdb for OpenVMS Alpha:

```
Installation of SQLSRVAMVE V7.1 completed at 15:44

Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY

Creating installation data file: VMI$ROOT:[SYSUPD]SQLSRVAMVE071.VMI_DATA

Enter the products to be processed from the next distribution volume set.
* Products:
VMSINSTAL procedure done at 15:44
```

You can now log out of the privileged account:

```
$ LOGOUT
SYSTEM      logged out at 15-MAY-2001 15:44:15.50
```

Note that VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you are going to continue using the system manager's account and you want to restore these symbols, you should log out and then log in again or run SYSSLOGIN:LOGIN.

## 2.4 Errors That Cause the Installation to Fail

If errors occur during the installation procedure or when the IVP is running, VMSINSTAL displays failure messages. If the installation fails, you see the following message:

```
%VMSINSTAL-E-INSFAIL, The installation of SQLSRVAMVE V7.1 has failed.
```

If the IVP fails, you see these messages:

```
The SQLSRVAMVE V7.1 Installation Verification Procedure failed.
```

```
%VMSINSTAL-E-IVPFAIL, The IVP for SQLSRVAMVE V7.1 has failed.
```

Errors can occur during the installation procedure if any of the following conditions exist:

- **Incorrect operating system version**

The installation will fail unless you are using OpenVMS Alpha Version 7.1 or higher operating system if you want to install SQL\*Net for Rdb.
- **Incorrect optional software version**

The Oracle SQL/Services IVP fails when neither DECnet nor TCP/IP network software is running at installation time.
- **Insufficient privileges**

The account you use to install Oracle SQL/Services must have the SETPRV authorized privilege. See [Section 1.6.5](#) for information about privileges.
- **Insufficient disk space on system disk**

If the system disk does not have enough blocks available to install Oracle SQL/Services, purge or delete unnecessary files according to the policies at your site. When you have enough disk space, you are ready to continue the installation procedure. See [Section 1.6.1](#) for disk space requirements.
- **Insufficient quotas and parameters for successful installation**

You must have the necessary minimum SYSGEN parameters and account quotas set. See [Table 1-1](#) for minimum user process account quotas and SYSGEN parameters required.
- **OpenVMS Help Library is currently in use**

The installation must have sole access to the OpenVMS Help Library when it tries to insert the Oracle Rdb Help module into the library. Note that the installation does not fail under these circumstances; the installation broadcasts

messages to all users until the help file is exited. See [Section 1.6.9](#) for more information about the OpenVMS Help Library.

- Process startup failures due to unhandled errors in systemwide OpenVMS login procedure

All processes in the Oracle SQL/Services server environment are created by running the SYSSYSTEM:LOGINOUT image with a process-specific command procedure named SYSSINPUT. Because LOGINOUT is used to create the process, the systemwide login procedure is executed by LOGINOUT during process creation. If this procedure fails, then the Oracle SQL/Services process will fail to start. By default, any DCL command or image that completes with a failure status with a severity level of either error or fatal can cause the procedure to fail unless it is handled using the DCL ON or SET NOON commands.

All Oracle SQL/Services processes start by executing the following DCL commands during process creation:

```
$ DELETE /SYMBOL/ALL
$ VRFY_SAVE = F$VERIFY(1)
$ DELETE <disk>:[directory]SQS_<node>_<component>.COM;
$ DEFINE SQS$DBSERVER TRUE
$ DEFINE SYS$LOGIN "<disk>:[directory]"
$ SET DEFAULT SYS$LOGIN
$ DEFINE SYS$SCRATCH "<disk>:[directory]"
```

If an Oracle SQL/Services process fails before executing these commands, review the systemwide login procedure to determine the reason for the failure.

- Oracle SQL/Services executor startup failures

The following problems can cause Oracle SQL/Services executor process startup failures:

- Service owner user name disk or directory does not exist
- Service owner user name disk or directory not readable or writeable
- Systemwide sylogin (SYSSYLOGIN.COM) fails
- Service customization file fails

For descriptions of error messages generated by these conditions, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exist, you should take

the appropriate action. (You might have to change a system parameter or increase an authorized quota value.)

## 2.5 Oracle SQL/Services Troubleshooting Suggestions

This section describes Oracle SQL/Services installation failures most commonly observed during Oracle SQL/Services installations. Errors resulting from these failures, however, are not exclusively installation errors, but general Oracle SQL/Services errors that can arise under a variety of circumstances.

During the execution of the installation IVP, a number of log files are produced by different Oracle SQL/Services components. If the IVP fails, you can review the Oracle SQL/Services server component log files and the Oracle SQL/Services OpenVMS client log files.

### 2.5.1 Examining the Oracle SQL/Services Server Component Log Files

Oracle SQL/Services uses the following conventions to generate log file names for server components, where `nodename` is the node name, `component-id` is the server component, and `version` is the version number:

- If the `SCSNODE SYSGEN` parameter is set  
`QSQ_<nodename>_<component-id><instance><version>.LOG`
- If the `SCSNODE SYSGEN` parameter is blank  
`QSQ_<component-id><instance><version>.LOG`

The following log files are created by the server components when the server is started:

- **Oracle SQL/Services monitor log file**  
Oracle SQL/Services logs the following information in the monitor log file:
  - Dispatcher and executor process startup and shutdown informational messages
  - Dispatcher and executor process failure error messages, including names and locations of component log files
  - Oracle SQL/Services authentication and authorization failures for Oracle SQL/Services system management clients



- Name and location of a monitor process bugcheck dump if the monitor encounters a nonrecoverable error

Use the following command to list monitor log files on an OpenVMS system:

```
$ DIRECTORY SYS$MANAGER:SQS*MON*.LOG
```

For example, a monitor log file may appear as:

```
SYS$MANAGER:SQS_NODE1_SQLSRV_MON_0071.LOG
```

The monitor log file contains the node name and version of Oracle SQL/Services. The component-id is SQLSRV\_MON.

The log file name may be represented as:

```
SYS$MANAGER:SQS_<nodename>_SQLSRV_MON_<instance><version>.LOG
```

#### ■ Oracle SQL/Services dispatcher log file

Oracle SQL/Services logs the following information in a dispatcher log file:

- Oracle SQL/Services authentication and authorization failures for Oracle SQL/Services and Oracle RMU clients
- Server-side client network link disconnections due to executor process failures
- Client-side client network link failures
- Name and location of a dispatcher process bugcheck dump if the dispatcher encounters a nonrecoverable error

Use the following command to list dispatcher log files on OpenVMS (assuming you used the word "dis" in the first 10 characters of the names of all the dispatchers in your server):

```
$ DIRECTORY SQLSRV_DISP_LOGPATH:SQS*DIS*.LOG
```

For example, the dispatcher log file name for a dispatcher named SQLSRV\_DISP may appear as:

```
$ SQLSRV_DISP_LOGPATH:SQS_NODE1_SQLSRV_DIS00371.LOG
```

Another option is to issue the DIRECTORY command on the directory specified by the new dispatcher log file logical.

The component-id is based on the first 10 characters of the dispatcher name, followed by a unique number, followed by the version. The component-id or dispatcher name used is SQLSRV\_DIS.

The log file name may be represented as:

```
SQLSRV_DISP_LOGPATH:SQS_<nodename>_SQLSRV_DIS0003<version>.LOG
```

The SQLSRV\_DISP\_LOGPATH logical name must be defined as a system logical name. If you do not define the SQLSRV\_DISP\_LOGPATH logical name, the default directory for dispatcher log files is the SYSSMANAGER directory. Once you have defined this logical name, you have to restart the dispatcher.

- **Oracle SQL/Services dispatcher dump file**

The SQLSRV\_DISP\_DUMPPATH logical name allows you to specify the location of the dump file directory as shown in the following example:

```
$ DEFINE/SYSTEM/EXEC SQLSRV_DISP_DUMPPATH DKA100:[USER1.DUMP]
```

The SQLSRV\_DISP\_DUMPPATH logical name must be defined as a system logical name. If you do not define the SQLSRV\_DISP\_DUMPPATH logical name, the default directory for dispatcher log files is the SYSSMANAGER directory. Once you have defined this logical name, you have to restart the dispatcher.

- **Oracle SQL/Services executor log file**

Oracle SQL/Services logs the following information in an executor log file:

- Executor process startup errors
- Oracle Rdb authentication and authorization failures for Oracle SQL/Services clients that use database services with database authorization set to the connect user name
- Oracle Rdb and SQL error messages
- Name and location of an executor process bugcheck dump if the executor encounters a nonrecoverable error

On OpenVMS, executor log files are created in the default directory of the service owner account. For example, use the following commands to list executor log files for a service named GENERIC with a service owner account named SQLSRV\$DEFLT that has a default directory of SYSS\$SYSDEVICE:[SQLSRV\$DEFLT].

```
$ DIRECTORY SYSS$SYSDEVICE:[SQLSRV$DEFLT]SQS*GENERIC.LOG
```

For example:

```
SYSS$SYSDEVICE:[SQLSRV$DEFLT]SQS_NODE1_GENERI004000171.LOG
```

The general format of the log file name is `SQS_<nodename>_<portion of service name><serviceno><version>.LOG` on OpenVMS systems. The component-id field is based on the first 6 characters of the service name followed by a unique number.

## 2.5.2 Examining the Oracle SQL/Services OpenVMS Client IVP Log Files

The OpenVMS client IVP produces one or more log files, depending on which network transports are installed. OpenVMS client IVP log files are created in the `SYSS$COMMON:[SYSTEST.SQLSRV71]` directory and are named `clientnn.log`. Use the following command to check for OpenVMS client IVP log files:

```
$ DIRECTORY SYSS$COMMON:[SYSTEST.SQLSRV71]CLIENT*.LOG
```



---

---

# After Installing Oracle SQL/Services for OpenVMS

After installing Oracle SQL/Services, you should review the following list of postinstallation tasks. Some of these tasks are required and some are optional. They are listed and further described in this chapter, in the order in which you should execute them.

1. Return the system to original settings.
2. Edit the system startup and shutdown files.
3. Adapt Oracle SQL/Services for use in a clustered environment.
4. Start Oracle SQL/Services on other nodes in your cluster.
5. Tailor your system.
6. Run the configuration file conversion utility.
7. Enhance Oracle SQL/Services performance.
8. Delete versions of Oracle SQL/Services.
9. Determine and report problems.

This chapter also explains how to run the Installation Verification Procedure (IVP) independently after the software has been installed.

## 3.1 Returning the System to Original Settings

If you have set interactive logins to 0, or changed the protection on the Help Library, you must reverse these actions.

- To restore interactive logins, enter the following command:

```
$ SET LOGIN/INTERACTIVE=value
```

- To change the protection on the Help Library, enter the following commands:

```
$ SET DEFAULT SYS$HELP
```

```
$ SET PROTECTION=(S:RWED,O:RWED,G:RWED,W:RE) HELPLIB.HLB
```

## 3.2 Editing the System Files

Add to the system startup file (SYS\$STARTUP:SYSTARTUP\_VMS.COM or SYS\$STARTUP:SYSTARTUP\_V6.COM) the command that starts Oracle SQL/Services. You must position this new command line *after* the line that starts Oracle Rdb if you are using Oracle SQL/Services to access Oracle Rdb and *after* the line containing UCX\$STARTUP that starts TCP/IP services if you are using TCP/IP. The following example shows the Oracle Rdb startup command line followed by the startup command line for Oracle SQL/Services:

```
@SYS$STARTUP:RMONSTART.COM
```

```
@SYS$STARTUP:SQLSRV$STARTUP71.COM
```

Add the following command line to the system shutdown file, SYS\$MANAGER:SYSHUTDWN.COM, to shut down Oracle SQL/Services when the system is shut down:

```
@SYS$MANAGER:SQLSRV$SHUTDOWN71
```

Also, you must configure your Oracle SQL/Services server system for reboot. See [Section 3.3](#) for more information.

## 3.3 Configuring an Oracle SQL/Services System for Reboot

One of the tasks of the system manager installing Oracle SQL/Services software is to ensure that the software installed on a system is correctly configured for reboot. This is important so that whenever the system reboots, the Oracle SQL/Services server and all its components automatically become available and running again.

Oracle SQL/Services creates a default configuration file during the installation. This file contains the initial server component definitions. To ensure that any objects (dispatchers and services) that you create will automatically start up again on a system reboot, accept the AUTOSTART attribute as ON (the default) in your dispatcher and service definitions. Upon a system reboot operation, the system startup procedure runs the SQLSRV\$STARTUP71.COM file (in SYS\$STARTUP), which in turn starts the server with a START SERVER command. If all necessary

components are defined as AUTOSTART ON, each component starts automatically as part of the reboot operation.

---

---

**Note:** For any component that you want to start manually after a reboot operation, be sure to specify the AUTOSTART attribute as OFF in that component's definition. You must then issue a START DISPATCHER or START SERVICE command using the SQLSRV\_MANAGE utility, or use the Oracle SQL/Services Manager Windows client to start these components.

---

---

## 3.4 Configuring SQL\*Net for Rdb

See the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes*, the *Oracle Rdb Oracle SQL/Services Server Release 7.1.5 Configuration Guide*, and the *Oracle Rdb Guide to SQL\*Net for Rdb7* for configuration information.

## 3.5 VMScCluster Considerations

If the processor on which you installed Oracle SQL/Services is a member of a VMScCluster environment, you need to make Oracle SQL/Services available to other cluster members. To do this, edit the system startup and shutdown files of the cluster members on which you want to run and shut down Oracle SQL/Services so that they invoke the Oracle SQL/Services startup and shutdown procedures. (You may omit this step if you have already made these changes in a command file that is invoked for all cluster systems.) See [Section 3.2](#) for information on editing the system files.

### 3.5.1 Starting Oracle SQL/Services on Other Nodes in Your Cluster

This section provides information about starting Oracle SQL/Services on other nodes in your cluster.

After you have installed Oracle SQL/Services on one node in your cluster, you can run the SQLSRV\_CREATE71.COM file on other nodes in the cluster. You can run this command procedure on any other nodes in your cluster on which you want to have an Oracle SQL/Services server created and running. To do this, issue the following command:

```
$ @SYS$MANAGER:SQLSRV_CREATE71
```

When you issue this command, output of the script is directed to the display device. This display appears identical to a regular Oracle SQL/Services installation script display output beginning with the message "Create the Oracle SQL/Services server" and ending with the message "@SQLSRV> EXIT;".

When you run the SQLSRV\_CREATE71.COM file, this command procedure searches for an existing configuration file and if it finds one, it prompts you as to whether you want to delete and re-create the configuration file. If you reply YES or Y, the existing configuration file is deleted. If you reply NO or N, the procedure warns you that you may get errors if you are trying to create something that already exists and tells you to ignore these errors. By answering NO, you create your default configuration again if you have accidentally deleted a portion of it.

Note that the IVP does not run when you run the SQLSRV\_CREATE71.COM file. You can run the IVP manually by performing the steps described in [Section 3.9](#).

### 3.5.2 File Locations and Potential File Name Conflicts

Oracle SQL/Services places a variety of files in several locations by default. These files have unique names derived in part from the object names that you provide when you create the objects using either SQLSRV\_MANAGE or the Windows Oracle SQL/Services Manager client (see [Table 3-1](#)). The names are guaranteed *not* to conflict within an Oracle SQL/Services configuration, but may conflict with other software.

**Table 3-1 Oracle SQL/Services File Locations**

| Object     | File Name   | File's Purpose                |
|------------|---|-------------------------------|
| Monitor    | SYSSMANAGER:SQS_<nodename>_SQLSRV_MON_<instance><version>.LOG                             | Monitor output log file       |
|            | SYSSMANAGER:SQS_<nodename>_SQLSRV_MON_<instance><version>.DMP                             | Monitor bugcheck dump file    |
| Dispatcher | SQLSRV_DISP_LOGPATH:SQS_<nodename>_<portion of dispatchername><dispatcherno><version>.LOG | Dispatcher output log file    |
|            | SQLSRV_DISP_DUMPPATH:SQS_<nodename>_<portion of dispatchername><dispatcherno>.DMP         | Dispatcher bugcheck dump file |



**Table 3–1 (Cont.) Oracle SQL/Services File Locations**

| Object              | File Name  | File's Purpose                         |
|---------------------|--|--|
|                     | If you do not define the SQLSRV_DISP_LOGPATH or SQLSRV_DISP_DUMPPATH logical names, the log and dump files will be copied to the SYSSMANAGER directory by default. See <a href="#">Section 2.5.1</a> . |  |
| Services' executors | SYSSYSDEVICE:[SQLSRV\$DEFLT]SQS_<nodename>_<portion of servicename><serviceno><version>.LOG  | Services' executors output log file    |
|                     | SYSSYSDEVICE:[SQLSRV\$DEFLT]SQS_<nodename>_<portion of servicename><serviceno>.DMP   | Services' executors bugcheck dump file |
|                     | The services' executors log and dump files will be copied to the login directory of the service owner. SYSSYSDEVICE:[SQLSRV\$DEFLT] is the default location.   |  |

### 3.5.3 Oracle SQL/Services Server-Related Processes Created on Your System

When you start the server with the AUTOSTART attribute set to ON, a process is created on your system for each object type defined in the configuration (dispatchers and services' executors) in addition to the monitor process. When a service is started, the number of executor processes defined with the MIN\_EXECUTORS value in the CREATE SERVICE command is created. The maximum number of executor processes for a service is the MAX\_EXECUTORS value.

## 3.6 Tailoring Your System

This section provides information about special system arrangements and cleanup procedures that you can perform after installing Oracle SQL/Services.

### 3.6.1 Displaying a List of Files Installed by Oracle SQL/Services

A file is written to your system that identifies all the Oracle SQL/Services files installed on your system.

To obtain this list after the installation ends, print (DCL PRINT) or display (DCL TYPE) a copy of the following file on an Alpha system:

```
VMI$ROOT:[SYSUPD]SQLSRVAMVE071.VMI_DATA
```

## 3.6.2 Restoring Site-Specific Modifications

The Oracle SQL/Services installation creates a new default configuration. If you had customized your Oracle SQL/Services configuration, restore those changes now by using the `SQLSRV_MANAGE` utility or the Oracle SQL/Services Manager graphical user interface (GUI).

## 3.6.3 Configuring Oracle SQL\*Net Software Support in Oracle SQL/Services V7.1.5

Oracle SQL\*Net software support in Oracle SQL/Services V7.1.5 is described in the information that follows.

### 3.6.3.1 Running SQL\*Net on OpenVMS Without Oracle SQL\*Net Software Installed

Oracle SQL/Services V7.1.5 supplies minimum Oracle SQL\*Net software so that you can use Oracle SQL\*Net as a network transport for Oracle SQL/Services without installing software from the Oracle SQL\*Net media. If you choose to use SQL\*Net for Rdb software that comes with Oracle SQL/Services, the normal Oracle SQL\*Net directory tree will *not* exist on your system. Therefore, Oracle SQL/Services creates a directory for SQL\*Net for Rdb files at installation time. The directory resides in `SYSS$COMMON:[SQLSRV71.SQLNET]`.

At Oracle SQL/Services service startup time, two logical names are defined at the system level to reference this directory for SQL\*Net configuration files and the SQL\*Net message file, respectively:

- `TNS_ADMIN`
- `ORA_NETWORK`

### 3.6.3.2 Oracle SQL\*Net Configuration Files for Testing

You *must* create and distribute SQL\*Net configuration files for your network configuration before you can use SQL\*Net as a network transport for Oracle SQL/Services. Details are described in the information that follows.

However, if you want to test SQL\*Net as a network transport for Oracle SQL/Services in a simple network configuration, as when both the client application and the Oracle SQL/Services server reside on the same OpenVMS node, you can modify the sample SQL\*Net configuration files in the `SYSS$COMMON:[SQLSRV71.SQLNET.NETWORK.ADMIN]` directory if Oracle is

not installed or in the ORA\_ROOT:[NETWORK.ADMIN] directory if Oracle is installed. For example:

1. Copy or rename all four \*\_ORA.SAMPLE files to \*.ora files.
2. Modify the value of the 'Node' or the 'Host' name parameter (depending on whether you use DECNet or TCP/IP as the underlying transport) to the actual name of your system, in both listener.ora and tnsnames.ora. To use the same listener.ora file for all users in a cluster environment, omit the 'Node' and 'Host' name parameter.
3. Modify the value of the 'Port' or the 'Object' name parameter, if necessary.

Following this procedure provides you with SQL\*Net configuration files ready for testing. Check that the logical names TNS\_ADMIN and ORA\_NETWORK are defined to reference the SYSSCOMMON:[SQLSRV71.SQLNET.NETWORK.ADMIN] and SYSSCOMMON:[SQLSRV71.SQLNET.NETWORK] directories, respectively, if Oracle is not installed or the ORA\_ROOT:[NETWORK.ADMIN] and ORA\_ROOT:[NETWORK] directories, respectively, if Oracle is installed.

### 3.6.3.3 Creating an Oracle SQL/Services Dispatcher Using SQL\*Net as the Transport

You *must* create and start a dispatcher with a SQL\*NET network port defined in the Oracle SQL/Services server before you can use SQL\*Net as a network transport for Oracle SQL/Services. Details are described in the information that follows.

The SYSSCOMMON:[SQLSRV71.SQLNET]SQLSRV\_SQLNET\_CREATE.SQS file is an example that creates an Oracle SQL/Services dispatcher with SQL\*Net network ports. To use this example, ensure that the names of the listeners are defined in the listener.ora file, as described previously in [Section 3.6.3.2](#). Otherwise, you will see errors in the log file of the dispatcher process.

Once you start the Oracle SQL/Services server with this dispatcher defined, client applications can use SQL\*Net to establish connections.

### 3.6.3.4 Verifying SQL\*Net with the Oracle SQL/Services Sample Client

After you build the Oracle SQL/Services sample client, and you create the SQL\*Net configuration files and a dispatcher with a SQL\*Net network port defined, as described in [Section 3.6.3.2](#) and [Section 3.6.3.3](#), you can use the Oracle SQL\*Net Service Names defined in the tnsnames.ora file to connect to the server. In the tnsnames\_ora.sample file, SQL\*Net Service Name 'generic\_dec' is defined to use DECNet as the underlying transport and connects to a universal service named

GENERIC, whereas the SQL\*Net Service Name 'generic\_tcp' is defined to use TCP/IP as the underlying transport and connects to a universal service named GENERIC.

### 3.6.3.5 Using SQL\*Net Configuration Files Created by Oracle Net8 Easy Config on Windows

Oracle Net8 Easy Config for Windows creates a parameter in the sqlnet.ora file, which is currently *not* supported by SQL\*Net on OpenVMS. The name of the parameter is 'SQLNET.AUTHENTICATION\_SERVICES'.

---

---

**Note:** You *must* delete this line from all sqlnet.ora files created by Oracle Net8 Easy Config for Windows.

---

---

### 3.6.3.6 Diagnostic Error Messages

When SQL\*Net encounters an error, it writes error messages to a log file.

For the Oracle SQL/Services dispatcher process, the log file SQS\_LIS.LOG resides in the login directory of the owner of the dispatcher process.

For the Oracle SQL/Services client application process, the log file SQS\_CLL.LOG resides in current default directory.

If SQL\*Net cannot find the configuration files, it writes errors to a file named SQLNET.LOG. In this case, you should check that client and dispatcher processes of Oracle SQL/Services have the logical name TNS\_ADMIN defined and proper SQL\*Net configuration files reside there.

If you want to change the directory of the log files, or the name of the log files, you need to modify parameters in the SQL\*Net configuration files; use Oracle Net8 Easy Config for Windows to bring up your configuration and change the parameters in the Logging property of the Listener and Client Profile objects.

## 3.7 Running the Oracle SQL/Services Configuration File Conversion Utility

If you have V6.0, V6.1, or V7.0 Oracle SQL/Services configuration files that you want to convert to V7.1.5, you can run the conversion utility, SYSSMANAGER:SQLSRV\_CONVERT\_CONFIG.EXE. This conversion utility converts any Oracle SQL/Services V6.0, V6.1, or V7.0 configuration file into a V7.1.5

SQLSRV\_MANAGE script file that you can then run to add your previously defined classes to a V7.1.5 configuration file as services. You can run the utility by:

- Running the image and taking defaults for the input and output file names. The defaults are:

```
SYSS$STARTUP:SQLSRV$CONFIG.DAT
SYSS$STARTUP:SQLSRV_CONFIG.SQS
```

- Defining logical names to accept an input file name and produce an output file name from specific directories. For example:

```
$ DEFINE SQLSRV$CONFIG SYS$MANAGER:SQLSRV$CONFIG61.DAT ! for the existing SQLSRV$CONFIG61.DAT
$ DEFINE SQLSRV_CONFIG MY_CONFIG_SCRIPT_FILE.SQS ! for new MY_CONFIG_SCRIPT_FILE.SQS
$ RUN SYS$MANAGER:SQLSRV_CONVERT_CONFIG.EXE
```

- Defining a foreign symbol and using the arguments p1 and p2 as the input and output file names. For example:

```
$ CVT ::= $SYS$MANAGER:SQLSRV_CONVERT_CONFIG.EXE
$ CVT SYS$MANAGER:SQLSRV$CONFIG61.DAT MY_CONFIG_SCRIPT_FILE.SQS
```

The correct Oracle Rdb version must be set for each service (CLASS in terminology previous to release 7.0). In previous versions of Oracle SQL/Services, this version was set by the login procedure of the account specified as the STARTUP account in the configuration file. In Oracle SQL/Services release 7.0 and higher, the version is an attribute (SQL VERSION) of the defined service. The conversion utility attempts to default to this version depending on the name of the STARTUP account; however, the default may not be correct. Before creating the script file entry, the conversion utility displays the selected default SQL VERSION for the service and allows you to take the default or enter a different version. The version may be either the string STANDARD or x.x where x is a decimal digit.

Once you have created the SQLSRV\_MANAGE script file, you can run it to add the services to your release 7.1.5 configuration file. For example:

```
$ SQLSRV_MAN ::= $SYS$SYSTEM:SQLSRV_MANAGE71.EXE
$ SQLSRV_MAN -INPUT MY_CONFIG_SCRIPT_FILE.SQS
```

## 3.8 Enhancing Oracle SQL/Services Performance

This section includes information on system tuning and explains how to install Oracle SQL/Services images. Installing Oracle SQL/Services images as shared images can reduce memory consumption.

### 3.8.1 Tuning Your System

After you install Oracle SQL/Services you might want to adjust your system to enhance performance or lower the use of some system resources. Information about tuning your system is included in the *Oracle Rdb7 Guide to Database Performance and Tuning*. See the *Oracle Rdb Release 7.1 Installation and Configuration Guide* for suggested initial system parameter values.

### 3.8.2 Installing Oracle SQL/Services Images as Shared

If you expect Oracle SQL/Services to be used extensively on your system, you can reduce the system overhead and memory requirements by installing images as shared. When images are not installed as shared, users who access the images at the same time must each have a copy of these images in memory. When images are installed as shared, everyone uses the same copy of the image, eliminating duplication and improving performance.

Oracle SQL/Services images are not installed as shared by default on your system.

To install Oracle SQL/Services images as shared, follow these steps:

1. Edit the Oracle SQL/Services startup file `SYSSSTARTUP:SQLSRV$STARTUP71.COM` to install the following Oracle SQL/Services images as shared at system startup:

```
$!      INSTALL ADD SYS$SYSTEM:SQLSRV_MANAGE'VERSION'.EXE  /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SYSTEM:SQLSRV_MON'VERSION'.EXE    /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SYSTEM:SQLSRV_DISP'VERSION'.EXE   /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SYSTEM:SQLSRV_EXEC'VERSION'.EXE   /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$MESSAGE:SQLSRV_MESSAGES.EXE       /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$API.EXE              /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD.EXE              /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD1PC.EXE          /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD60.EXE           /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD1PC60.EXE        /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD61.EXE           /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD1PC61.EXE        /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD70.EXE           /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD1PC70.EXE        /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD71.EXE           /SHARE/OPEN/HEADER
$!      INSTALL ADD SYS$SHARE:SQLSRV$MOD1PC71.EXE        /SHARE/OPEN/HEADER
```

These lines are commented out in the `SQLSRV$STARTUP.COM` FILE.

2. Remove the comment characters (!) to have Oracle SQL/Services images installed as shared.

3. Verify that you have enough global pages and global sections to accommodate the shared images. See the *Oracle Rdb Release 7.1 Installation and Configuration Guide* for information on how to verify and change the settings for the GBLSECTIONS and GBLPAGES parameters.

### 3.8.3 Checking Quotas for Executor Processes

In all cases, minimum values for the following quotas are required for executor processes to attach to the appropriate database and execute requests. The following list provides minimum recommended values:

- File limit (FILLM): 50
- Buffered I/O limit (BIOLM): 60
- Direct I/O limit (DIOLM): 60
- AST limit (ASTLM): 250
- Timer queue entry limit (TQELM)

A recommended value for TQELM is twice the maximum number of executors you expect to be running.

- Enqueue limit (ENQLM): 18000
- Nonpaged pool limit (BYTLM): 50000
- Page file quota (PGFLQUO): 40000

## 3.9 Running the Oracle SQL/Services Installation Verification Procedure (IVP) Independently

The Oracle SQL/Services Installation Verification Procedure (IVP) can be run at any time after the successful installation of Oracle SQL/Services. For example, if Oracle SQL/Services does not appear to be running properly, you may want to verify that the correct Oracle SQL/Services distribution kit files are present on your system.

The account you use to run the IVP must have the TMPMBX and NETMBX privileges and the SQLSRV\$CLIENT identifier or network access.

To run the Oracle SQL/Services IVP after the installation of Oracle SQL/Services, perform the following steps:

1. Set the default to the following directory:

```
$ SET DEFAULT SYS$COMMON:[SYSTEST.SQLSRV71]
```

2. Enter the following command for the Oracle SQL/Services server kit:

```
$ @SQLSRV$IVP SER
```

The standalone IVP runs in the same manner as the VMSINSTAL IVP, except that it does not run the Oracle RMU IVP. To test the RMU IVP, first set your Oracle Rdb version to 7.1, then execute the following command:

```
$ RMU/EXECUTE/COMMAND "RMU/SHOW VERSION"
```

## 3.10 Deleting Versions of Oracle SQL/Services

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---

**Note:** The command procedure rdb\$deinstall\_delete.com does not delete Oracle SQL/Services.

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For your convenience, Oracle SQL/Services provides a command procedure SYSS\$MANAGER:SQLSRV\$DEINSTALL\_DELETE.COM to delete current or previous versions of Oracle SQL/Services. You must run this command file from an account that has SETPRV privileges, or from an account that has SYSPRV, CMKRNL, SYSNAM, and WORLD privileges.

The deinstall procedure displays a list of the versions of Oracle SQL/Services on your system, and asks which version you want to delete. For example, if Oracle SQL/Services V6.0, V6.1, and V7.0 are already installed on your system, the following information displays:

```
$ @SYSS$MANAGER:SQLSRV$DEINSTALL_DELETE
```

```
Oracle SQL/Services versions currently installed on your system
```

```
1      Version 6.0
2      Version 6.1
3      Version 7.0
0      Quit
```

```
Enter Choice to deinstall (0...3)
```

---

---

**Note:** To delete versions of Oracle SQL/Services prior to V5.1, you must use the Oracle Rdb deinstall procedure for that version.

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## 3.11 Determining and Reporting Problems

If an error occurs while Oracle SQL/Services is being used, and you believe that the error is caused by a problem with Oracle SQL/Services, contact your Oracle Corporation support representative for assistance.

If you experience problems with the server, include the following items on magnetic tape along with your problem report:

- Copies of the monitor log files, dispatcher log files, any applicable executor log files, and any relevant client log files
- A copy of the Oracle SQL/Services configuration file
- Copies of any bugcheck dump files produced

If you find an error in the Oracle SQL/Services documentation, you should fill out and submit the Send Us Your Comments form that is found in the front of the document and indicate in which book the error was found. Include the book title, section, and page number where the error occurred.

## 3.12 Postinstallation Checklist

[Table 3-2](#) summarizes the tasks that you must perform after installing Oracle SQL/Services. Ensure that you have performed all these tasks before making Oracle SQL/Services available to users.

**Table 3-2 Postinstallation Checklist**

| Task   | For More Information                |
|--|-------------------------------------|
| Reset logins and help file protection.   | See <a href="#">Section 3.1</a> .   |
| Edit system startup and shutdown files.  | See <a href="#">Section 3.2</a> .   |
| Configure an Oracle SQL/Services system for reboot.                            | See <a href="#">Section 3.3</a> .   |
| Start Oracle SQL/Services on other nodes in the cluster.                       | See <a href="#">Section 3.5.1</a> . |
| Restore site specific modifications.   | See <a href="#">Section 3.5.2</a> . |
| Configure Oracle SQL*Net software support in Oracle SQL/Services V7.1.5.       | See <a href="#">Section 3.6.3</a> . |
| Convert V6.0, V6.1, or V7.0 Oracle SQL/Services configuration files to V7.1.5. | See <a href="#">Section 3.7</a> .   |

**Table 3–2 (Cont.) Postinstallation Checklist**

| <b>Task</b>                          | <b>For More Information</b>         |
|--------------------------------------|-------------------------------------|
| Tune your system (optional).         | See <a href="#">Section 3.8.1</a> . |
| Install images as shared (optional). | See <a href="#">Section 3.8.2</a> . |
| Check executor process quotas.       | See <a href="#">Section 3.8.3</a> . |

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## Transport Guidelines and Error Codes

System management on an Oracle SQL/Services system for OpenVMS requires knowledge of the client, network, and server components. This chapter contains specific information about the network transports supported by Oracle SQL/Services.

### 4.1 Supported Transports and Guidelines

The Oracle SQL/Services API supports one or more transports on each client, as shown in [Table 4-1](#).

**Table 4-1** *Supported Transports for the Oracle SQL/Services API on Each Client*

| Client   | DECnet | TCP/IP | SQL*Net |
|--|--------|--------|---------|
| Windows 95   | Yes    | Yes    | Yes     |
| Windows 98   | Yes    | Yes    | Yes     |
| Windows 2000   | Yes    | Yes    | Yes     |
| Windows ME   | Yes    | Yes    | Yes     |
| Windows NT   | Yes    | Yes    | Yes     |
| Tru64 UNIX   | Yes    | Yes    | Yes     |
| OpenVMS  | Yes    | Yes    | Yes     |
| Oracle ODBC Driver for Rdb for the Windows 95 operating system | Yes    | Yes    | No      |
| Oracle ODBC Driver for Rdb for the Windows 98 operating system | Yes    | Yes    | No      |

**Table 4–1 (Cont.) Supported Transports for the Oracle SQL/Services API on Each**

| Client   | DECnet | TCP/IP | SQL*Net |
|--|--------|--------|---------|
| Oracle ODBC Driver for Rdb for the Windows NT operating system | Yes    | Yes    | No      |

In general, Oracle SQL/Services clients select the DECnet transport by default.

The dispatcher supports DECnet, TCP/IP, and SQL\*Net connections simultaneously, but prerequisite support for each transport must exist.

The next several sections provide general information about using each transport with Oracle SQL/Services.

### 4.1.1 DECnet Transport Guidelines

DECnet must be running on the OpenVMS server system and properly configured on client systems. If you have problems, be sure that you can use the file transfer utilities (such as NCP or NCL) between client and server systems. See the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* and the *Oracle Rdb Oracle SQL/Services Server Release 7.1.5 Configuration Guide* for more information.

### 4.1.2 TCP/IP Transport Guidelines

To use TCP/IP with Oracle SQL/Services on an OpenVMS system, you must have TCP/IP Services installed on your OpenVMS system and a TCP/IP stack on the client. See the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* and the *Oracle Rdb Oracle SQL/Services Server Release 7.1.5 Configuration Guide* for more information.

### 4.1.3 SQL\*Net Transport Guidelines

SQL\*Net must be installed and running on your OpenVMS server system. See the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* and the *Oracle Rdb Oracle SQL/Services Server Release 7.1.5 Configuration Guide* for more information.

## 4.2 Network Errors

When you receive the primary SQLSRV\_NETERR error, look at the network error documentation for the network error referred to in the secondary error message. For example, [Table 4–2](#) and [Table 4–3](#) contain platform-specific error information for DECnet and TCP/IP, respectively. You should also look at your own

platform-specific documentation for more information on the secondary error code resulting from a network error.

Information about DECnet error codes can be found at the locations listed in [Table 4-2](#).

**Table 4-2 Error Code Files for DECnet**

| Operating System                      | File Specification   | Description  |
|---------------------------------------|----------------------|--|
| OpenVMS                               | SYSSLIBRARY:SSDEF.H  | System service return status code definitions for DECnet                 |
| Windows 95/98/2000/<br>Windows NT X86 | skerrno.h            | DECnet error codes (check PATHWORKS SDK)                                 |
| Tru64 UNIX                            | /usr/include/errno.h | DECnet error codes (provided with the PATHWORKS for Tru64 UNIX software) |

Information about TCP/IP error codes can be found at the locations listed in [Table 4-3](#).

**Table 4-3 Error Code Files for TCP/IP**

| Operating System                      | File Specification   | Description  |
|---------------------------------------|----------------------|--|
| OpenVMS                               | SYSSLIBRARY:ERRNO.H  | System service return status code definitions for TCP/IP             |
| Windows 95/98/2000/<br>Windows NT X86 | winsock.h            | TCP/IP error codes (check Microsoft Windows 95 SDK or Microsoft C++) |
| Tru64 UNIX                            | /usr/include/errno.h | TCP/IP error codes (provided with the Tru64 UNIX software)           |



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# Installing the API on an OpenVMS Client System

This appendix discusses the installation of the Oracle SQL/Services application programming interface (API) software for OpenVMS on remote Alpha systems.

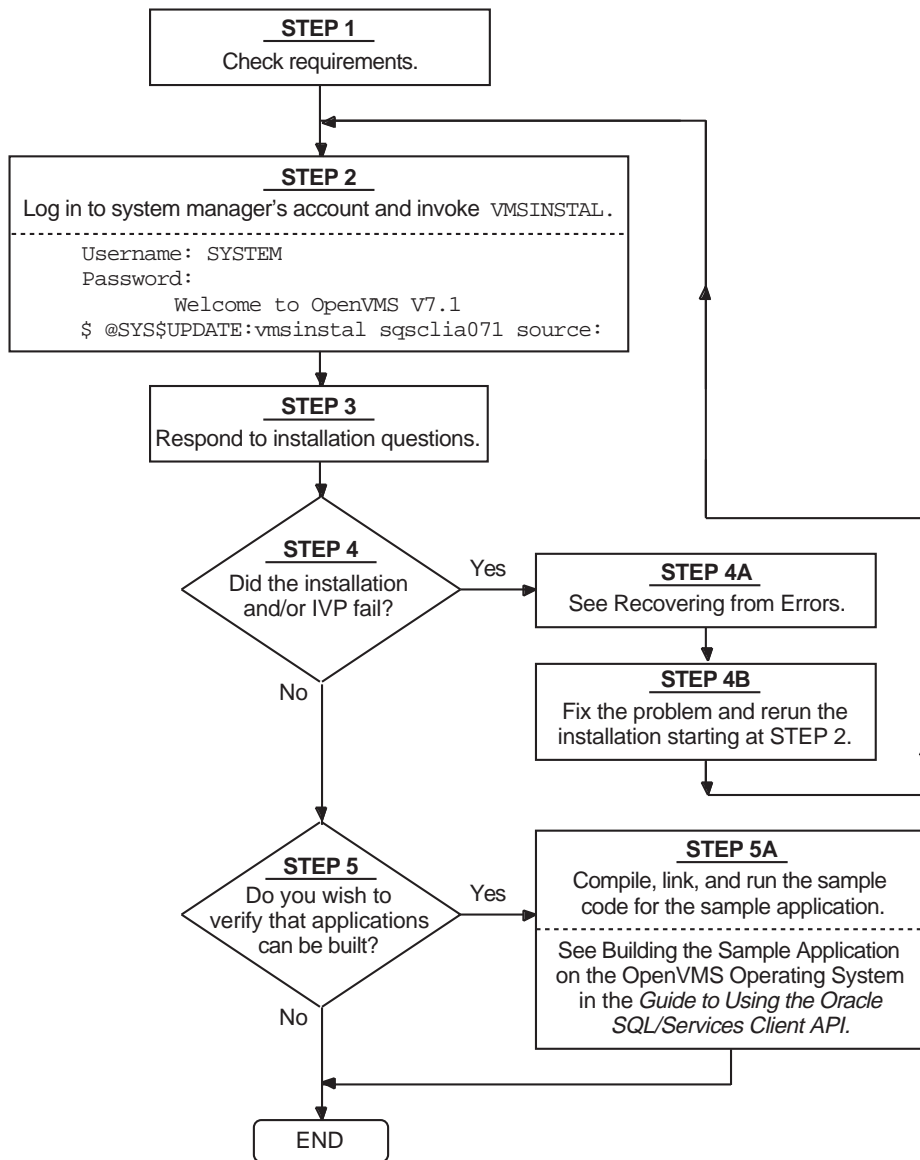
## A.1 Who Should Install the Oracle SQL/Services API on the OpenVMS Client System?

You need to follow the installation procedure in this appendix if you have remote OpenVMS Alpha systems (without the Oracle SQL/Services server installed) on which you want to install the Oracle SQL/Services API on the OpenVMS Alpha client system. You *need not* perform the installation procedure if your OpenVMS Alpha system is running the Oracle SQL/Services server kit; the Oracle SQL/Services API for the OpenVMS Alpha client has already been installed and is ready to use.

## A.2 Flowchart for Installing the Oracle SQL/Services API on the OpenVMS Alpha Client System

[Figure A-1](#) describes in a flowchart format the major steps necessary for installing the Oracle SQL/Services API on the OpenVMS Alpha client system.

**Figure A-1** Flowchart for Installing the Oracle SQL/Services API for the OpenVMS Alpha Client System





This section discusses the preparations and requirements necessary for installing the Oracle SQL/Services API on the OpenVMS Alpha client on remote Alpha systems.

## A.2.1 Prerequisite Software

To use the Oracle SQL/Services API for the OpenVMS Alpha client system, you must have DECnet, Transmission Control Protocol/Internet Protocol (TCP/IP), or SQL\*Net network access to an OpenVMS Alpha server system running any supported version of Oracle SQL/Services so you can run the installation verification program (IVP).

- DECnet

If you plan to use DECnet for client/server communication, you must install, configure, and run the DECnet software on both your OpenVMS client and OpenVMS server systems before you can use the Oracle SQL/Services API on the OpenVMS Alpha client system.

- TCP/IP

If you plan to use TCP/IP for client/server communication, you must install, configure, and run the DEC TCP/IP Services for OpenVMS software on both your OpenVMS client and OpenVMS server systems before you can use the Oracle SQL/Services API on the OpenVMS Alpha client system.

- SQL\*Net

If you plan to use SQL\*Net for client/server communication, you must create a SQL\*Net configuration using the Oracle Net8 Assistant. See the *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* for additional information about configuring SQL\*Net for Rdb.

The Oracle SQL/Services API on the OpenVMS Alpha client system includes client support for DECnet, TCP/IP, and SQL\*Net.

The *Oracle Rdb Oracle SQL/Services Release 7.1.5 Release Notes* contains a complete list of the products that are compatible with this version of Oracle SQL/Services.

## A.2.2 Installation Procedure Requirements

The following sections discuss the requirements for installing the Oracle SQL/Services API on the OpenVMS Alpha client.

### A.2.2.1 Time

Installing the Oracle SQL/Services API on the OpenVMS Alpha client system and running the associated Installation Verification Procedure (IVP) takes approximately 5 minutes, depending on your system and network configurations.

### A.2.2.2 Privileges

To install the Oracle SQL/Services API on the OpenVMS Alpha client system, you must be logged in to an account that has SETPRV or at least the following privileges:

- CMKRNL
- NETMBX
- PRMMBX
- SYSLCK
- SYSNAM
- SYSPRV

### A.2.2.3 Disk Space

Installing the Oracle SQL/Services API on the OpenVMS Alpha client system requires 6,000 blocks of available storage space during the installation. Once the API is installed, less storage space is required. [Table A-1](#) summarizes the storage requirements for Oracle SQL/Services.

To determine the number of available disk blocks on the current system disk, enter the following command at the DCL prompt:

```
$ SHOW DEVICE SYS$SYSDEVICE
```

### A.2.2.4 VMSINSTAL Requirements

When you invoke the VMSINSTAL command procedure, it checks the following:

- If you are logged in to a privileged account
- If you have adequate quotas for installation
- If any users are logged in to the system

If VMSINSTAL detects any problems during the installation, it notifies you and asks if you want to continue the installation. In some instances, you can enter YES to

continue. To stop the installation process and correct the situation, enter NO or press the Return key. Then correct the problem and start the installation again.

#### **A.2.2.5 Backing Up Your System Disk**

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. Oracle Corporation recommends that you back up your system disk before installing any software layered on top of the operating system.

This precaution protects your system software. A system failure at a critical point in the installation procedure could result in unusable files. By backing up your system disk you also protect an existing version of the product, which may, if you request it, be deleted during the installation.

Use the backup procedures that have been established at your site. For details on backing up a system disk, see the information about the OpenVMS Backup utility in the OpenVMS documentation set.

## **A.3 Installing the Oracle SQL/Services API on the OpenVMS Alpha Client System**

This section describes how to install the Oracle SQL/Services API on remote OpenVMS Alpha client systems.

### **A.3.1 Accessing the Distribution Kit**

The Oracle SQL/Services API for the OpenVMS Alpha client system distribution kit save set can be found on the Oracle Rdb Server CD-ROM kit. Place this CD-ROM kit in your CD-ROM drive. The save set is used by VMSINSTAL to install the Oracle SQL/Services API on the OpenVMS Alpha client system.

### **A.3.2 Installation Procedure**

The installation procedure for the Oracle SQL/Services API for the OpenVMS Alpha client system consists of a series of questions and informational messages. The following steps describe this process for an Oracle SQL/Services OpenVMS Alpha client API installation and provide examples of the questions and messages that you will encounter during the installation procedure.

Each question in the installation procedure is marked with an asterisk (\*) at the beginning of the line. Some questions that appear when you run the installation procedure show the default response in brackets, for example, [YES]. If you want to

give the default response, press the Return key or type YES. (The installation procedure accepts one, two, or three characters of the YES response, either in uppercase or lowercase letters, or any combination of uppercase and lowercase.)

To abort the installation procedure at any time, press Ctrl/Y. When you press Ctrl/Y, the installation procedure deletes all of the files that it has created up to that point and exits. You can then begin the installation procedure again.

### **Step 1: Log in to the system manager's account.**

Username: SYSTEM

Password:

Welcome to OpenVMS Alpha Operating System, Version V7.1 on node FLOWER

### **Step 2: Invoke VMSINSTAL.**

Enter the following command to invoke the VMSINSTAL command procedure and to install the OpenVMS Alpha kit:

```
$ @SYS$UPDATE:VMSINSTAL SQSCLIA071 SOURCE
```

Replace *source* with the name of the directory on the client system where the saveset can be found. The VMSINSTAL procedure provides several options; for more information, see the OpenVMS documentation on software installation. The installation procedure displays the following information after you have successfully executed the VMSINSTAL command:

```
OpenVMS AXP Software Product Installation Procedure V7.1
```

```
It is 24-MAY-2001 at 00:06.
```

```
Enter a question mark (?) at any time for help.
```

### **Step 3: Respond to backup question.**

The VMSINSTAL procedure asks you if you are satisfied with the backup of your system disk:

```
* Are you satisfied with the backup of your system disk [YES]?
```

If you have not backed up your system disk, do not continue with the installation procedure until you do so. If you must back up the system disk, type NO. The VMSINSTAL procedure exits and returns you to the DCL prompt. Back up your system disk, and then invoke VMSINSTAL again.

If you have already backed up the system disk, type YES and press the Return key, or simply press the Return key.

The following products will be processed:

SQSCLIA V7.1

Beginning installation of SQSCLIA V7.1 at 00:07

%VMSINSTALL-I-RESTORE, Restoring product save set A ...

#### **Step 4: Select installation options.**

The installation procedure then asks three questions:

- \* Do you want to install the Oracle SQL/Services version of Oracle SQL\*Net?
- \* Do you want to purge files replaced by this installation [YES]?
- \* Do you want to run the IVP after the installation [YES]?

If you want to install the Oracle SQL/Services version of Oracle SQL\*Net, answer YES to this first question. Otherwise, press the Return key to accept the default No. Installing this Oracle SQL\*Net image will not affect your existing SQL\*Net installation; only Oracle SQL/Services clients and servers use this Oracle SQL\*Net image.

The installation procedure does not automatically purge files that it replaces during the installation. To conserve disk space, you should purge the files. Press the Return key to direct the installation procedure to purge files that it replaces.

The Installation Verification Procedure (IVP) runs a series of tests to check that the installation procedure was successful. If you do not want to run the IVP, type NO in response to the prompt. If you want to run the IVP, press the Return key.

#### **Step 5: Supply information for the IVP.**

The IVP must establish a remote connection and thus requires a user name, password, and a node name. Enter your user name and password for the node on which the Oracle SQL/Services server is running. Supply the node name of your Oracle SQL/Services server system.

\*\*\*\*\*

The installation verification procedure requires a valid  
username and password in order to run.

\*\*\*\*\*

Enter the username under which to run the IVP: username  
Enter the password for the USERNAME account:

\*\*\*\*\*

The installation verification procedure requires a valid server node name in order to run. The IVP will call sqlsrv\_associate using this node name.

The IVP will fail without a valid server node name

\*\*\*\*\*

\* Enter the server node name for the IVP run: eagle

\*\*\*\*\*

### Step 6: Informational messages.

The installation procedure displays a number of messages about its progress:

\*\*\*\*\*

The Oracle SQL/Services Installation Verification Procedure (IVP) has been provided in SYS\$COMMON:[SYSTEST.SQLSRV]. It is invoked while inside the above directory using the commands:

```
$ SET DEFAULT SYS$COMMON:[SYSTEST.SQLSRV]
$ @SQLSRV$IVP API
```

\*\*\*\*\*

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

### Step 7: Check for successful execution of the IVP.

If you chose to run the IVP in step 4, the installation procedure displays messages similar to the following:

```
Executing IVP for: Oracle SQL/Services V7.1-50
Starting the DECnet test.
```

```
**** Connecting to generic service ****
```

```
**** Creating database SQLSRV_SAMPLE ****
```

```
**** Accessing database SQLSRV_SAMPLE ****
```

```
**** Oracle SQL/Services IVP succeeded ****
```

DECnet test completed successfully.

Starting the TCP/IP test.

```
***** Connecting to generic service *****
***** Creating database SQLSRV_SAMPLE *****
***** Accessing database SQLSRV_SAMPLE *****
***** Oracle SQL/Services IVP succeeded *****
```

TCPIP test completed successfully.

Oracle SQL/Services client tests completed successfully.

IVP complete for: Oracle SQL/Services V7.1-50

Oracle SQL/Services checks internally to ensure that a transport is available. If DECnet support is provided, but TCP/IP is not, the IVP runs using DECnet. If TCP/IP support is provided, but DECnet is not, the IVP runs using TCP/IP. The IVP performs tests with both DECnet and TCP/IP when *both* DECnet and TCP/IP transports are available.

### **Step 8: End the installation procedure.**

The installation procedure ends automatically with the following message:

```
Installation of SQSCLIA V7.1 completed at 00:08
```

```
Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY
```

```
Creating installation data file: VMI$ROOT:[SYSUPD]SQSCLIA071.VMI_DATA
```

```
VMSINSTAL procedure done at 00:08
```

VMSINSTAL deletes or changes your DCL symbols during the installation procedure. Therefore, if you are going to continue using the same account and you want to restore the symbols, you should log out and log in again.

### A.3.3 Recovering from Errors

Errors can occur during the installation procedure if any of the following conditions exist:

- The server node does not have TCP/IP Services functioning correctly.
- The server node does not have DECnet functioning correctly.
- The server node is unavailable.
- The server node name is invalid.
- The server software is not installed, is improperly installed, or is not started.
- The server IVP failed.
- The client node has insufficient disk space.
- The client account has insufficient privileges.
- The client node does not have DECnet or TCP/IP Services functioning correctly.
- The local node name in the host database for TCP/IP Services is not in lowercase letters or a lowercase alias is not present.

## A.4 Postinstallation Procedures

This section includes information about the files added to your system and running the IVP.

### A.4.1 Files Added to the System

All C language header files (.h) and source files (.c) listed in [Table A-1](#) are *created* on the client node during the installation of the Oracle SQL/Services API on the OpenVMS Alpha client system.

**Table A-1** Files Created on or Copied to OpenVMS Alpha

| VMI\$ROOT                | Name              | Description                                 |
|--------------------------|-------------------|---|
| [SYSHLP.EXAMPLES.SQLSRV] | SQLSRV\$DRIVER.C  | Sample application driver module            |
| [SYSHLP.EXAMPLES.SQLSRV] | SQLSRV\$DYNAMIC.C | Sample application dynamic execution module |
| [SYSLIB]                 | SQLSRV\$API.EXE   | API library for local I/O                   |



**Table A-1 (Cont.) Files Created on or Copied to OpenVMS Alpha**

| <b>VMI\$ROOT</b> | <b>Name</b>     | <b>Description</b>  |
|------------------|-----------------|---|
| [SYSLIB]         | SQLSRV\$API.OPT | Link options file for API library (D_FLOAT)   |
| [SYSLIB]         | SQLSRV.H        | C header file containing Oracle SQL/Services function prototypes, structure definitions, and typedefs |
| [SYSLIB]         | SQLSRVCA.H      | C declaration for the SQLCA structure   |
| [SYSLIB]         | SQLSRVDA.H      | C declaration for the SQLDA structure   |
| [SYSTEST.SQLSRV] | SQLSRV\$IVP.COM | Installation verification command procedure   |
| [SYSTEST.SQLSRV] | SQLSRV\$IVP.EXE | IVP executable (D_FLOAT)  |
| [SQLSRV.SQLNET]  | TNSUS.MSB       | SQL*Net message file, if SQL*Net is installed   |

The IVP produces a log file, called `clientnn.log`, every time you run the IVP. The log file is used primarily to capture error messages when the IVP fails. You can save disk space by deleting any unnecessary log files.

## A.4.2 Running the IVP

You can run the IVP independently, any time after the Oracle SQL/Services API software is installed on the OpenVMS Alpha client system, to verify that the software is available on your system. You might also want to run the IVP after a system failure to be sure that users can access Oracle SQL/Services. Should you want to run the IVP again without installing Oracle SQL/Services, enter the following commands:

```
$ SET DEFAULT SYS$COMMON: [SYSTEST.SQLSRV]
$ @SQLSRV$IVP API
```

The IVP displays a question asking you for the node name of the system upon which the server is installed:

\* Enter the Oracle SQL/Services server node name:

After you respond with the node name, the IVP prompts for a user name and password. After you respond to these questions, the IVP runs automatically, displaying messages as it performs the software verification process:

```
Starting the DECnet test.
Enter the username: xxx
Enter the password: xxx
**** Connecting to generic service ****

**** Creating database SQLSRV_SAMPLE ****

**** Accessing database SQLSRV_SAMPLE ****

**** Oracle SQL/Services IVP succeeded ****

    DECnet test completed successfully.

Oracle SQL/Services client tests completed successfully.
```

## A.5 Sample Installation

A sample Oracle SQL/Services API software installation log for the OpenVMS Alpha client system follows:

```
$ @SYS$UPDATE:VMSINSTAL SQSCLIA071 SOURCE

    OpenVMS AXP Software Product Installation Procedure V7.1

It is 24-MAY-2001 at 00:06.

Enter a question mark (?) at any time for help.
%VMSINSTAL-W-NOTSYSTEM, You are not logged in to the SYSTEM account.
* Do you want to continue anyway [NO]? y
* Are you satisfied with the backup of your system disk [YES]?

The following products will be processed:
    SQSCLIA V7.1

    Beginning installation of SQSCLIA V7.1 at 00:07

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

*****
The Oracle SQL/Services OpenVMS client "V7.0-02" is
installed on this system. This installation will replace the
currently installed Oracle SQL/Services OpenVMS client software.
*****
```

\* Do you want to proceed [NO]: y

\*\*\*\*\*

If you wish to use Oracle SQL\*Net with Oracle SQL/Services, you will need to install an Oracle SQL/Services specific version of Oracle SQL\*Net. Note that installing the Oracle SQL/Services version of Oracle SQL\*Net will not in any way impact your existing Oracle SQL\*net installation, if any. Only Oracle SQL/Services clients and servers use the Oracle SQL\*Net image provided by this installation.

\*\*\*\*\*

\* Do you want to install the Oracle SQL/Services version of Oracle SQL\*Net? [y]:

\* Do you want to purge files replaced by this installation [YES]?

\* Do you want to run the IVP after the installation [YES]?

\*\*\*\*\*

The installation verification procedure requires a valid username and password in order to run.

\*\*\*\*\*

Enter the username under which to run the IVP: username

Enter the password for the USERNAME account:

\*\*\*\*\*

The installation verification procedure requires a valid server node name in order to run. The IVP will call sqlsrv\_associate using this node name.

The IVP will fail without a valid server node name

\*\*\*\*\*

\* Enter the server node name for the IVP run: eagle

\*\*\*\*\*

The Oracle SQL/Services Installation Verification Procedure (IVP) has been provided in SYS\$COMMON:[SYSTEM.SQLSRV]. It is invoked while inside the above directory using the commands:

```

$ SET DEFAULT SYS$COMMON:[SYSTEM.SQLSRV]
$ @SQLSRV$IVP API

*****

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target
directories...

Executing IVP for: Oracle SQL/Services V7.1-50
  Starting the DECnet test.

**** Connecting to generic service ****

**** Creating database SQLSRV_SAMPLE ****

**** Accessing database SQLSRV_SAMPLE ****

**** Oracle SQL/Services IVP succeeded ****

  DECnet test completed successfully.

  Starting the TCP/IP test.

**** Connecting to generic service ****

**** Creating database SQLSRV_SAMPLE ****

**** Accessing database SQLSRV_SAMPLE ****

**** Oracle SQL/Services IVP succeeded ****

  TCPIP test completed successfully.

Oracle SQL/Services client tests completed successfully.

IVP complete for: Oracle SQL/Services V7.1-50

  Installation of SQSCLIA V7.1 completed at 00:08

  Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY

  Creating installation data file: VMI$ROOT:[SYSUPD]SQSCLIA071.VMI_DATA

  VMSINSTAL procedure done at 00:08
```

---

---

# Sample Installation: Oracle SQL/Services Server Kit

This appendix contains a full server kit sample installation log for Oracle SQL/Services (including SQL\*Net for Rdb) for OpenVMS Alpha.

An example of a new installation procedure log on an OpenVMS Alpha system is included here to further guide system managers who are installing Oracle SQL/Services release 7.1.5.

```
$ @SYS$UPDATE:VMSINSTAL SQLSRVAMVE071 DUB4:
OpenVMS AXP Software Product Installation Procedure V7.1
```

```
It is 15-MAY-2001 at 15:22.
```

```
Enter a question mark (?) at any time for help.
```

```
* Are you satisfied with the backup of your system disk [YES]?
* Where will the distribution volumes be mounted: DKA300
```

```
Enter the products to be processed from the first distribution volume set.
```

```
* Products: SQLSRVAMVE071
* Enter installation options you wish to use (none):
```

```
The following products will be processed:
```

```
SQLSRVAMVE V7.1
```

```
Beginning installation of SQLSRVAMVE V7.1 at 15:22
```

```
%VMSINSTAL-I-RESTORE, Restoring product save set A ...
```

```
%VMSINSTAL-I-REMOVED, Product's release notes have been moved to SYS$HELP.
```

```
The Oracle SQL/Services installation guide has been provided in
SYS$HELP. Please review the installation guide before continuing
with this installation.
```

---

\* Would you like to print the installation guide ? [NO]:

Installation procedure for: "Oracle SQL/Services V7.1-5"

This installation kit provides the Oracle SQL/Services server and the local OpenVMS Alpha client. OpenVMS remote client kits are provided on the Oracle Rdb OpenVMS CD-ROM. All other remote client kits are provided on a separate Oracle Rdb Clients CD-ROM.

\*\*\*\*\*

You are about to install a multiversion Oracle SQL/Services OpenVMS Alpha kit.

Even though this is a multiversion kit, all client files will be installed nonvariated. Any existing Oracle SQL/Services OpenVMS Alpha client will be replaced by this installation.

\*\*\*\*\*

\* Do you want to proceed ? [YES]:

Checking system requirements ...

\*\*\*\*\*

The installation procedure will not proceed until you enter a valid user identification code (UIC) for the SQLSRV\$DEFLT account.

To find a free UIC in the 300 group (or another group if you wish), run the authorize utility and issue the 'SHOW/BRIEF [300,\*]' command. This will display all the used UICs in the 300 group.

\*\*\*\*\*

\* Enter UIC to be used for the SQLSRV\$DEFLT account (e.g. [300,2]): [300,1]

\* Enter the default device for the SQLSRV\$DEFLT account [SYS\$SYSDEVICE]:

\*\*\*\*\*

---

The installation procedure will not proceed until you enter a valid user identification code (UIC) for the RMU\$SRV account.

To find a free UIC in the 300 group (or another group if you wish), run the authorize utility and issue the 'SHOW/BRIEF [300,\*]' command. This will display all the used UICs in the 300 group.

\*\*\*\*\*

- \* Enter UIC to be used for the RMU\$SRV account (e.g. [300,2]): [300,3]
- \* Enter the default device for the RMU\$SRV account [SYS\$SYSDEVICE]:

\*\*\*\*\*

This installation procedure will define a universal Oracle SQL/Services service named GENERIC in the default configuration file. Please specify the version of SQL you would like the GENERIC service to set to (STANDARD or x.y).

\*\*\*\*\*

- \* What version of SQL should the GENERIC service specify?: 7.1

\*\*\*\*\*

The Oracle SQL/Services dispatcher listens on one or more of DECnet, TCP/IP, or IPX/SPX ports. The Oracle SQL/Services management service listens on DECnet or TCP/IP. If a transport type is configured into the server but is not running when the server is started messages will be logged in the dispatcher or monitor log files and the server will continue with the transports that exist. The following transport(s) are not currently running:

- IPX/SPX

If you do not plan on running these transports in the future you may choose to eliminate them from the configuration and avoid the log messages.

\*\*\*\*\*"

- \* IPX/SPX is not running. Do you want to configure it anyway [NO]? y

\*\*\*\*\*

You have chosen to install a multiversed Oracle SQL/Services.

---

By default, the Oracle SQL/Services dispatcher listens on the following network ports:

- DECnet object 81
- TCP/IP port 118
- IPX/SPX port 33969 (%0x84b1)

Oracle SQL/Services clients connect to the above ports by default.

The Oracle SQL/Services management service listens on the following network ports:

- DECNET object SQLSRV\_SERVER
- TCP/IP port 2199

Oracle SQL/Services management clients connect to the above ports by default.

You may have only one version of Oracle SQL/Services running at a time using the default network ports. If you have another version of Oracle SQL/Services running now, or if you will in the future, you must choose alternate network ports for this multiversion installation.

Note that clients by default will connect to Oracle SQL/Services via default ports. Oracle SQL/Services 7.0 and higher clients and Oracle ODBC Driver for Rdb 2.1 and higher clients can use alternate ports. Each client must be configured to use alternate ports if you choose not to use default ports for this installation. See the Oracle SQL/Services Installation Guide for information on using alternate ports.

```
*****
*                               *
*                   W A R N I N G                   *
*                               *
* Oracle SQL/Services clients before V7.0 and *
* Oracle ODBC Driver for Oracle Rdb clients *
* before V2.1 cannot connect to the server *
* via alternate ports. Older clients will not*
* work with this server if you choose not to *
* use default ports. *
*****
```

\* Do you want to use the default Oracle SQL/Services network ports [NO]? y

```
*****
```



---

SQL\*Net for Rdb connects Oracle SQL\*Net clients to Rdb servers. SQL\*Net for Rdb gives you the ability to use Oracle SQL semantics to access data in Rdb databases. SQL\*Net for Rdb is a server-side solution, it will not in any way impact your existing Oracle installation.

Oracle SQL\*Net for Rdb requires that you have Open/VMS version V7.1 or higher already installed on your system.

\*\*\*\*\*

\* Do you want to install SQL\*Net for Rdb [YES]?

\*\*\*\*\*

If you have an existing Oracle installation on this system please enter the root directory of your Oracle installation at the following prompt

If you have not installed Oracle on this system, please hit carriage return. The SQL\*Net for Rdb configuration files will be placed in:

SYS\$COMMON:[SQLSRV' 'SQLSRV\_VARIANT'.SQLNET...].

See the SQL\*Net for Rdb documentation for information on how to change the location of SQL\*Net for Rdb configuration files after installation.

\*\*\*\*\*

\* Enter root directory of your Oracle installation (if any):

\* Do you want to run the IVP after the installation [YES]?

\*\*\*\*\*

The installation verification procedure requires a valid username and password in order to run.

\*\*\*\*\*

Enter the username under which to run the IVP: jones

Enter the password for the JONES account:

\* Do you want to purge files replaced by this installation [YES]?

---

There are no further questions. The installation takes approximately 5 minutes

%VMSINSTAL-I-RESTORE, Restoring product save set B ...

Beginning installation ...

Installing under VMS V7.1 - 15-MAY-2001 15:32

%VMSINSTAL-I-SYSDIR, This product creates system disk directory  
VMI\$ROOT:[SYSTEST.SQLSRV71].  
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  
VMI\$ROOT:[SYSHLP.EXAMPLES.SQLSRV71].  
%VMSINSTAL-I-ACCOUNT, This installation updates an identifier named  
SQLSRV\$CLIENT.  
%UAF-I-RDBMDFYMSG, identifier SQLSRV\$CLIENT modified  
%VMSINSTAL-I-ACCOUNT, This installation updates an identifier named RDB\$TRUSTED\_  
USER.  
%UAF-I-RDBMDFYMSG, identifier RDB\$TRUSTED\_USER modified  
%VMSINSTAL-I-ACCOUNT, This installation updates an identifier named SQLSRV\_  
SHARED\_MEMORY.  
%UAF-I-RDBMDFYMSG, identifier SQLSRV\_SHARED\_MEMORY modified  
%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named SQLSRV\$DEFLT.  
%UAF-I-ADDMSG, user record successfully added  
%UAF-I-RDBADDSMSGU, identifier SQLSRV\$DEFLT value [000300,000001] added to rights  
database  
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named SQLSRV\$DEFLT.  
%UAF-I-MDFYMSG, user record(s) updated  
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named SQLSRV\$DEFLT.  
%UAF-I-MDFYMSG, user record(s) updated  
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named SQLSRV\$DEFLT.  
%UAF-I-MDFYMSG, user record(s) updated  
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  
SYS\$SYSDEVICE:[SQLSRV\$DEFLT].

\*\*\*\*\*

SQLSRV\$DEFLT has been modified in SYSUAF

\*\*\*\*\*

---

```
%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named RMU$SRV.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier RMU$SRV value [000300,000003] added to rights
database
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named RMU$SRV.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named RMU$SRV.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named RMU$SRV.
%UAF-I-MDFYMSG, user record(s) updated
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$SYSDIR:[RMU$SRV].
```

```
*****
```

```
RMU$SRV has been modified in SYSUAF
```

```
*****
```

```
%REGISTER-I-SUMMARY images examined: 1, dependent images: 1
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[000000.SQLSRV71].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SQLSRV71.SQLNET].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SQLSRV71.SQLNET.POST_INSTALL].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SQLSRV71.SQLNET.NETWORK].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
VMI$ROOT:[SQLSRV71.SQLNET.NETWORK.ADMIN].
```

```
*****
```

```
Please refer to the Oracle SQL*Net for Rdb documentation for
specific instructions for setting up and running Oracle
SQL*Net for Rdb.
```

```
*****
```

```
%VMSINSTAL-I-ACCOUNT, This installation adds an identifier named SQLNET4RDB.
%UAF-I-RDBADDMSG, identifier SQLNET4RDB value %X80010022 added to rights
database
```

```
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
```

---

Starting Oracle SQL/Services, creating and starting Oracle  
RMU and Oracle SQL/Services dispatchers and services.

```
SQLSRV>
@SQLSRV>
--
@SQLSRV> -- Create the Oracle SQL/Services server.
@SQLSRV> --
@SQLSRV> create server
        network_port DECnet
        network_port tcpip
        ;
@SQLSRV>
--
@SQLSRV> -- Create the Oracle SQL/Services dispatcher which listens on DECnet
@SQLSRV> -- object 81, TCP/IP port 118 , and IPX/SPX port 0x84b1 unless
@SQLSRV> -- alternate ports were specified.
@SQLSRV> --
@SQLSRV> --
@SQLSRV> create dispatcher sqlsrv_disp
        autostart on
        network_port DECnet
        network_port tcpip
        network_port ipxspx
        ;
@SQLSRV>
--
@SQLSRV> -- Create the GENERIC service with the following attributes:
@SQLSRV> -- - It is an Oracle SQL/Services service.
@SQLSRV> -- - It is started automatically when the server starts.
@SQLSRV> -- - No database is attached.
@SQLSRV> -- - Executors for the service are session reusable.
@SQLSRV> -- - It sets to the SQL version 7.1.
@SQLSRV> -- - The SQLSRV$DEFLT account is the owner of the service.
@SQLSRV> -- - Database authorization is Connect Username, so all database
@SQLSRV> --   access is made using the client-supplied user name and password.
@SQLSRV> --
@SQLSRV>
@SQLSRV> create service GENERIC
        autostart on
        sql version 7.1
        owner 'SQLSRV$DEFLT'
        database authorization connect username
        min_executors 2
```

---

```

        max_executors 10;
@SQLSRV>
--
@SQLSRV> -- Grant access to the GENERIC service to all users. This
@SQLSRV> -- allows any client that supplies a valid user name and
@SQLSRV> -- password to access this service.
@SQLSRV> --
@SQLSRV>
grant use on service GENERIC to public;
@SQLSRV>
--
@SQLSRV> -- Create the Oracle RMU dispatcher.
@SQLSRV> --
@SQLSRV>
create dispatcher rmu_disp
        autostart ON
        network_port decnet object rmu_disp protocol native
        network_port tcpip port_id 1571 protocol native
        ;
@SQLSRV>
--
@SQLSRV> -- Create the Oracle RMU service for 7.1.
@SQLSRV> --
@SQLSRV>
create service rmu_service
        protocol rmu
        autostart ON
        sql version 7.1
        owner 'RMU$SRV'
        database authorization connect username
        min_executors 4
        max_executors 100
        idle_executor_timeout 120;
@SQLSRV>
--
@SQLSRV> -- Grant access to the Oracle RMU service to all users. This
@SQLSRV> -- allows any client that supplies a valid user name and
@SQLSRV> -- password to access this service.
@SQLSRV> --
@SQLSRV>
grant use on service rmu_service to public;
@SQLSRV>
--
@SQLSRV> -- End of Oracle SQL/Services management commands
@SQLSRV> --

```

---

```
@SQLSRV> exit;
Installing Oracle SQL/Services images
Starting Oracle SQL/Services
SQLSRV>
Server started
```

```
Creating SQL*Net for Rdb sample service and dispatcher
```

```
SQLSRV>
@SQLSRV>
--
@SQLSRV> -- Connect to the server.
@SQLSRV> --
@SQLSRV> connect server;
Connecting to server ...
Connected
@SQLSRV> --
@SQLSRV> -- Create the Oracle SQL*Net for Rdb dispatcher.
@SQLSRV> --
@SQLSRV>
create dispatcher OCI_DISP
  autostart off
  network_port sqlnet
  listener "oci_listener"
  protocol oci;
@SQLSRV>
--
@SQLSRV> -- Create a service for the sample SQL*Net for Rdb database.
@SQLSRV> --
@SQLSRV> create service OCI_SAMPLE
  protocol oci
  autostart off
  owner 'SQLSRV$DEFLT'
  database authorization connect username
  attach 'filename SYS$COMMON:[SYSHLP.EXAMPLES.SQLSRV71]oci_sample'
  sql version 7.1
  min_executors 1
  max_executors 10;
@SQLSRV>
--
@SQLSRV>
```

```
Creating the sample SQL*Net for Rdb database using Rdb 71.
```

---

\*\*\*\*\* Use SYS\$COMMON:[SYSHLP.EXAMPLES.SQLSRV71]OCI\_SAMPLE as database name  
\*\*\*\*\*

\*\*\*\*\* Use Oracle Rdb version 71 \*\*\*\*\*

\*\*\*\*\* Creating database ... \*\*\*\*\*

\*\*\*\*\* Inserting functions ... \*\*\*\*\*

Copyright © 1995, 2001, Oracle Corporation. All Rights Reserved.

This script defines functions that use the Rdb\$ORACLE\_SQLFUNC\_VCHAR\_DOM character domain for character types and the Rdb\$ORACLE\_SQLFUNC\_DATE\_DOM date domain for date types. This script attempts to create the Rdb\$ORACLE\_SQLFUNC\_VCHAR\_DOM domain as VARCHAR(2000) using the default character set and the Rdb\$ORACLE\_SQLFUNC\_DATE\_DOM domain as DATE VMS. You can override these settings by defining these domains with the settings of your choice. Then either ROLLBACK or run the SQL\_FUNCTIONS\_DROP71.SQL script as appropriate. Finally, re-run this script and ignore the 2 error messages that result when this script attempts to create the 2 domains. If the character set is not DEC\_MCS, you must establish the character set properly before running this script.

Creating ABS

Creating CEIL

Creating COS

Creating COSH

Creating EXP

Creating FLOOR

Creating LN

Creating LOG

Creating MOD

Creating POWER

Creating ROUND

---

Creating SIGN

Creating SIN

Creating SINH

Creating SQRT

Creating TAN

Creating TANH

Creating TRUNC

Creating CHR

Creating RDB\$VARCHAR\_TO\_ASCII

Creating HEXTORAW

Creating RAWTOHEX

Creating RDB\$IS\_DEC\_MCS\_ALPHANUM

Creating RDB\$IS\_ALPHANUM

Type COMMIT if there were no unexpected errors, otherwise ROLLBACK

If you later wish to drop: Use @SQL\_FUNCTIONS\_DROP71.SQL  
There are uncommitted changes to this database.

Please ignore the message: There are uncommitted changes to this database.

\*\*\*\*\* Inserting SQL\*Net for Rdb metadata ... \*\*\*\*\*

Copyright © 1997, 2000, Oracle Corporation. All Rights Reserved.

%SQL-I-NO\_NUMBER, INITIAL\_EXTENT is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, NEXT\_EXTENT is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, MIN\_EXTENT is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, MAX\_EXTENT is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, PCT\_INCREASE is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, SNAPID is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, SSCN is being converted from NUMBER to FLOAT



---

%SQL-I-NO\_NUMBER, TSCN is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, ERROR# is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, REFGROUP is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, STATUS is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, MASTER\_VERSION is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, TABLES is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, FIELD1 is being converted from NUMBER to FLOAT  
%SQL-I-NO\_NUMBER, FLAG is being converted from NUMBER to FLOAT

Type COMMIT if there were no unexpected errors, otherwise ROLLBACK  
There are uncommitted changes to this database.

Please ignore the message: There are uncommitted changes to this database.

Now executing the Oracle SQL/Services IVP

Starting the DECnet test.

\*\*\*\*\* Connecting to generic service \*\*\*\*\*  
\*\*\*\*\* Creating database SQLSRV\_SAMPLE \*\*\*\*\*  
\*\*\*\*\* Accessing database SQLSRV\_SAMPLE \*\*\*\*\*  
\*\*\*\*\* Oracle SQL/Services IVP succeeded \*\*\*\*\*

DECnet test completed successfully.

Starting the TCP/IP test.

\*\*\*\*\* Connecting to generic service \*\*\*\*\*  
\*\*\*\*\* Creating database SQLSRV\_SAMPLE \*\*\*\*\*  
\*\*\*\*\* Accessing database SQLSRV\_SAMPLE \*\*\*\*\*  
\*\*\*\*\* Oracle SQL/Services IVP succeeded \*\*\*\*\*

TCPIP test completed successfully.

Oracle SQL/Services client tests completed successfully.

Now executing the following command to verify the Oracle

---

RMU service:

RMU/EXECUTE/COMMAND "RMU/SHOW VERSION"

Executing RMU for Oracle Rdb V7.1

\*\*\* Oracle RMU IVP completed successfully. \*\*\*

Installation of SQLSRVAMVE V7.1 completed at 15:44

Adding history entry in VMI\$ROOT:[SYSUPD]VMSINSTAL.HISTORY

Creating installation data file: VMI\$ROOT:[SYSUPD]SQLSRVAMVE071.VMI\_DATA

Enter the products to be processed from the next distribution volume set.

\* Products:

VMSINSTAL procedure done at 15:44