



Installation Guide

Adaptive Server® Enterprise

12.5.1

Linux Itanium

DOCUMENT ID: DC20069-01-1251-02

LAST REVISED: July 2004

Copyright © 1989-2004 by Sybase, Inc. All rights reserved.

This publication pertains to Sybase software and to any subsequent release until otherwise indicated in new editions or technical notes. Information in this document is subject to change without notice. The software described herein is furnished under a license agreement, and it may be used or copied only in accordance with the terms of that agreement.

To order additional documents, U.S. and Canadian customers should call Customer Fulfillment at (800) 685-8225, fax (617) 229-9845.

Customers in other countries with a U.S. license agreement may contact Customer Fulfillment via the above fax number. All other international customers should contact their Sybase subsidiary or local distributor. Upgrades are provided only at regularly scheduled software release dates. No part of this publication may be reproduced, transmitted, or translated in any form or by any means, electronic, mechanical, manual, optical, or otherwise, without the prior written permission of Sybase, Inc.

Sybase, the Sybase logo, AccelaTrade, ADA Workbench, Adaptable Windowing Environment, Adaptive Component Architecture, Adaptive Server, Adaptive Server Anywhere, Adaptive Server Enterprise, Adaptive Server Enterprise Monitor, Adaptive Server Enterprise Replication, Adaptive Server Everywhere, Adaptive Server IQ, Adaptive Warehouse, Anywhere Studio, Application Manager, AppModeler, APT Workbench, APT-Build, APT-Edit, APT-Execute, APT-Translator, APT-Library, AvantGo, AvantGo Application Alerts, AvantGo Mobile Delivery, AvantGo Mobile Document Viewer, AvantGo Mobile Inspection, AvantGo Mobile Marketing Channel, AvantGo Mobile Pharma, AvantGo Mobile Sales, AvantGo Pylon, AvantGo Pylon Application Server, AvantGo Pylon Conduit, AvantGo Pylon PIM Server, AvantGo Pylon Pro, Backup Server, BizTracker, ClearConnect, Client-Library, Client Services, Convoy/DM, Copernicus, Data Pipeline, Data Workbench, DataArchitect, Database Analyzer, DataExpress, DataServer, DataWindow, DB-Library, dbQueue, Developers Workbench, Direct Connect Anywhere, DirectConnect, Distribution Director, e-ADK, E-Anywhere, e-Biz Impact, e-Biz Integrator, E-Whatever, EC Gateway, ECMAP, ECRTP, eFulfillment Accelerator, Embedded SQL, EMS, Enterprise Application Studio, Enterprise Client/Server, Enterprise Connect, Enterprise Data Studio, Enterprise Manager, Enterprise SQL Server Manager, Enterprise Work Architecture, Enterprise Work Designer, Enterprise Work Modeler, eProcurement Accelerator, EWA, Financial Fusion, Financial Fusion Server, Gateway Manager, GlobalFIX, iAnywhere, ImpactNow, Industry Warehouse Studio, InfoMaker, Information Anywhere, Information Everywhere, InformationConnect, InternetBuilder, iScript, Jaguar CTS, jConnect for JDBC, Mail Anywhere Studio, MainframeConnect, Maintenance Express, Manage Anywhere Studio, M-Business Channel, M-Business Network, M-Business Server, MDI Access Server, MDI Database Gateway, media.splash, MetaWorks, My AvantGo, My AvantGo Media Channel, My AvantGo Mobile Marketing, MySupport, Net-Gateway, Net-Library, New Era of Networks, ObjectConnect, ObjectCycle, OmniConnect, OmniSQL Access Module, OmniSQL Toolkit, Open Biz, Open Client, Open ClientConnect, Open Client/Server, Open Client/Server Interfaces, Open Gateway, Open Server, Open ServerConnect, Open Solutions, Optima++, Orchestration Studio, PB-Gen, PC APT Execute, PC DB-Net, PC Net Library, PocketBuilder, Pocket PowerBuilder, Power++, power.stop, PowerAMC, PowerBuilder, PowerBuilder Foundation Class Library, PowerDesigner, PowerDimensions, PowerDynamo, PowerJ, PowerScript, PowerSite, PowerSocket, Powersoft, PowerStage, PowerStudio, PowerTips, Powersoft Portfolio, Powersoft Professional, PowerWare Desktop, PowerWare Enterprise, ProcessAnalyst, Rapport, RepConnector, Replication Agent, Replication Driver, Replication Server, Replication Server Manager, Replication Toolkit, Report-Execute, Report Workbench, Resource Manager, RW-DisplayLib, RW-Library, S-Designer, SDF, Secure SQL Server, Secure SQL Toolset, Security Guardian, SKILS, smart.partners, smart.parts, smart.script, SQL Advantage, SQL Anywhere, SQL Anywhere Studio, SQL Code Checker, SQL Debug, SQL Edit, SQL Edit/TPU, SQL Everywhere, SQL Modeler, SQL Remote, SQL Server, SQL Server Manager, SQL SMART, SQL Toolset, SQL Server/CFT, SQL Server/DBM, SQL Server SNMP SubAgent, SQL Station, SQLJ, STEP, SupportNow, S.W.I.F.T. Message Format Libraries, Sybase Central, Sybase Client/Server Interfaces, Sybase Financial Server, Sybase Gateways, Sybase MPP, Sybase SQL Desktop, Sybase SQL Lifecycle, Sybase SQL Workgroup, Sybase User Workbench, SybaseWare, Syber Financial, SyberAssist, SyBooks, System 10, System 11, System XI (logo), SystemTools, Tabular Data Stream, TotalFix, TradeForce, Transact-SQL, Translation Toolkit, UltraLite, UltraLite.NET, UNIBOM, Unilib, Uninull, Unisep, Unistring, URK Runtime Kit for UniCode, VisualWriter, VQL, WarehouseArchitect, Warehouse Control Center, Warehouse Studio, Warehouse WORKS, Watcom, Watcom SQL, Watcom SQL Server, Web Deployment Kit, Web.PB, Web.SQL, WebSights, WebViewer, WorkGroup SQL Server, XA-Library, XA-Server and XP Server are trademarks of Sybase, Inc. 02/04

Unicode and the Unicode Logo are registered trademarks of Unicode, Inc.

All other company and product names used herein may be trademarks or registered trademarks of their respective companies.

Use, duplication, or disclosure by the government is subject to the restrictions set forth in subparagraph (c)(1)(ii) of DFARS 52.227-7013 for the DOD and as set forth in FAR 52.227-19(a)-(d) for civilian agencies.

Sybase, Inc., One Sybase Drive, Dublin, CA 94568.

Contents

About This Book	vii	
CHAPTER 1	Overview	1
	Product components	1
	Adaptive Server Enterprise	1
	Backup Server	3
	Stored procedures	3
	The client	3
	Adaptive Server editions	4
	Enterprise Edition	5
	Small Business Edition	6
	Developer's Edition	6
	Adaptive Server specifications	6
	Product descriptions and directory layout	7
	PC-client product descriptions and directory layout	8
	Separately installable PC-Client products	8
CHAPTER 2	Installing Adaptive Server	11
	Overview	11
	System requirements	12
	Pre-installation tasks	12
	Installing server components	13
	Installation methods	13
	Installing components with InstallShield in GUI mode	14
	Sybase Software Asset Manager (SySAM)	17
CHAPTER 3	Post-Installation Tasks	21
	Verifying that servers are running	21
	Verifying that you can connect to servers	21
	Connecting to Adaptive Server via Sybase Central	22
	Setting the System Administrator password	23
	Installing sample databases	23
	Default devices for sample databases	24

	interpubs database.....	26
	jpubs database.....	26
	Maintaining the sample databases.....	27
CHAPTER 4	Installing Sybase PC-Client Products.....	29
	Overview	29
	Before you install the PC-client products	30
	Installing PC-client products.....	30
	Installing PowerDesigner, PowerTransfer, and InfoMaker	32
	Configuring network connections for client products.....	33
	Adding a server to the sql.ini file	33
	Testing the Sybase Central installation.....	35
CHAPTER 5	Migrating from 32-bit to 64-bit versions of Adaptive Server	37
	Migrating from 32-bit to 64-bit versions.....	37
CHAPTER 6	Troubleshooting	39
	Overview	39
	Error log locations	40
	For installation utilities	40
	For Sybase servers	41
	Solutions to common installation problems.....	41
	Unable to use X-Windows	41
	Cannot eject the CD from the drive.....	42
	DISPLAY environment variable not set correctly	42
	Client not authorized to connect to server.....	43
	Address already in use.....	43
	Adaptive Server fails to start	43
	InstallShield fails to start.....	43
	Cannot start XP Server	44
	Stopping Adaptive Server after a failure.....	44
	Recovering from a failed installation	44
	Troubleshooting resource file installations	45
	Recovering from a failed upgrade	45
	Troubleshooting SySAM	48
	Fixing license certificate input errors.....	48
CHAPTER 7	Removing Adaptive Server	51
	Uninstalling Adaptive Server 12.5.1	51
	Removing an existing Adaptive Server	52

APPENDIX A	Alternative Installation Methods.....	53
	Installation on consoles (no-GUI mode).....	53
	Silent installation	54
	Configuration using resource files.....	55
	Configuring from a resource file	55
	Using srvbuildres.....	58
APPENDIX B	Creating Raw Partitions	59
	Overview	59
	Creating the partitions	61
	Red Hat Raw device administration	62
	Accessing raw devices from Adaptive Sever	63
APPENDIX C	Using sybsystemprocs.....	65
	Increasing the size of the sybsystemprocs database.....	66
	Increasing device and database capacity for system procedures..	67
Index		71

About This Book

The *Installation Guide for Sybase Adaptive Server Enterprise* provides:

- An overview of the Sybase® Adaptive Server® Enterprise installation infrastructure
- Instructions for installing and upgrading Adaptive Server, and installing Backup Server™, Monitor Server, XP Server™, jConnect™ for JDBC™, Java utilities, and client products, including the Adaptive Server plug-in for Sybase Central™
- Instructions for installing optional Adaptive Server functionality, such as auditing, and sample databases, and localization information

Audience

This guide is written for Sybase System Administrators and other qualified personnel who are familiar with their system's environment, networks, disk resources, and media devices.

How to use this book

This book contains the following chapters:

- Chapter 1, “Overview” provides an over view of Adaptive Server, and describes the Enterprise Edition, Small Business Edition, and Developer's Edition of Adaptive Server. It also provides product descriptions and directory layout information.
- Chapter 2, “Installing Adaptive Server” describes pre-installation procedures, and how to install server components.
- Chapter 3, “Post-Installation Tasks” describes how to verify that servers are running, connect to servers, set passwords, and install sample databases.
- Chapter 4, “Installing Sybase PC-Client Products” describes how to install Adaptive Server client products like the Adaptive Server plug-in to Sybase Central.
- Chapter 5, “Migrating from 32-bit to 64-bit versions of Adaptive Server” describes how to upgrade an existing Adaptive Server to the current version .
- Chapter 6, “Troubleshooting” provides installation error messages and possible solutions to installation problems.

-
- Chapter 7, “Removing Adaptive Server” describes how to uninstall Adaptive Server.
 - Appendix A, “Alternative Installation Methods” describes how to install Adaptive Server in noninteractive mode.
 - Appendix B, “Creating Raw Partitions” describes how to create partitions, bind partitions for raw disk I/O, and access raw devices from Adaptive Server.
 - Appendix C, “Using sybsystemprocs” describes how to upgrade servers with replicated databases.

Related documents

The Sybase Adaptive Server Enterprise documentation set consists of the following:

- The release bulletin for your platform – contains last-minute information that was too late to be included in the books.

A more recent version of the release bulletin may be available on the World Wide Web. To check for critical product or document information that was added after the release of the product CD, use the Sybase Technical Library.
- The *Installation Guide* for your platform – describes installation, upgrade, and configuration procedures for all Adaptive Server and related Sybase products.
- *What’s New in Adaptive Server Enterprise?* – describes the new features in Adaptive Server version 12.5.1, the system changes added to support those features, and the changes that may affect your existing applications.
- *ASE Replicator User’s Guide* – describes how to use the ASE Replicator feature of Adaptive Server to implement basic replication from a primary server to one or more remote Adaptive Servers.
- *Component Integration Services User’s Guide* – explains how to use the Adaptive Server Component Integration Services feature to connect remote Sybase and non-Sybase databases.
- *Configuring Adaptive Server Enterprise* for your platform – provides instructions for performing specific configuration tasks for Adaptive Server.
- *EJB Server User’s Guide* – explains how to use EJB Server to deploy and execute Enterprise JavaBeans in Adaptive Server.

- *Error Messages and Troubleshooting Guide* – explains how to resolve frequently occurring error messages and describes solutions to system problems frequently encountered by users.
- *Full-Text Search Specialty Data Store User's Guide* – describes how to use the Full-Text Search feature with Verity to search Adaptive Server Enterprise data.
- *Glossary* – defines technical terms used in the Adaptive Server documentation.
- *Historical Server User's Guide* – describes how to use Historical Server to obtain performance information for SQL Server[®] and Adaptive Server.
- *Java in Adaptive Server Enterprise* – describes how to install and use Java classes as data types, functions, and stored procedures in the Adaptive Server database.
- *Job Scheduler User's Guide* – provides instructions on how to install and configure, and create and schedule jobs on a local or remote Adaptive Server using the command line or a graphical user interface (GUI).
- *Monitor Client Library Programmer's Guide* – describes how to write Monitor Client Library applications that access Adaptive Server performance data.
- *Monitor Server User's Guide* – describes how to use Monitor Server to obtain performance statistics from SQL Server and Adaptive Server.
- *Performance and Tuning Guide* – is a series of four books that explains how to tune Adaptive Server for maximum performance:
 - *Basics* – the basics for understanding and investigating performance questions in Adaptive Server.
 - *Locking* – describes how the various locking schemas can be used for improving performance in Adaptive Server.
 - *Optimizer and Abstract Plans* – describes how the optimizer processes queries and how abstract plans can be used to change some of the optimizer plans.
 - *Monitoring and Analyzing* – explains how statistics are obtained and used for monitoring and optimizing performance.
- *Quick Reference Guide* – provides a comprehensive listing of the names and syntax for commands, functions, system procedures, extended system procedures, datatypes, and utilities in a pocket-sized book.

-
- *Reference Manual* – is a series of four books that contains the following detailed Transact-SQL[®] information:
 - *Building Blocks* – Transact-SQL datatypes, functions, global variables, expressions, identifiers and wildcards, and reserved words.
 - *Commands* – Transact-SQL commands.
 - *Procedures* – Transact-SQL system procedures, catalog stored procedures, system extended stored procedures, and dbcc stored procedures.
 - *Tables* – Transact-SQL system tables and dbcc tables.
 - *System Administration Guide* – provides in-depth information about administering servers and databases. This manual includes instructions and guidelines for managing physical resources, security, user and system databases, and specifying character conversion, international language, and sort order settings.
 - *System Tables Diagram* – illustrates system tables and their entity relationships in a poster format. Available only in print version.
 - *Transact-SQL User's Guide* – documents Transact-SQL, Sybase's enhanced version of the relational database language. This manual serves as a textbook for beginning users of the database management system. This manual also contains descriptions of the pubs2 and pubs3 sample databases.
 - *Using Adaptive Server Distributed Transaction Management Features* – explains how to configure, use, and troubleshoot Adaptive Server DTM features in distributed transaction processing environments.
 - *Using Sybase Failover in a High Availability System* – provides instructions for using Sybase's Failover to configure an Adaptive Server as a companion server in a high availability system.
 - *Utility Guide* – documents the Adaptive Server utility programs, such as isql and bcp, which are executed at the operating system level.
 - *Web Services User's Guide* – explains how to configure, use, and troubleshoot Web Services for Adaptive Server.
 - *XA Interface Integration Guide for CICS, Encina, and TUXEDO* – provides instructions for using the Sybase DTM XA interface with X/Open XA transaction managers.

- *XML Services in Adaptive Server Enterprise* – describes the Sybase native XML processor and the Sybase Java-based XML support, introduces XML in the database, and documents the query and mapping functions that comprise XML Services.

Other sources of information

Use the Sybase Getting Started CD, the Sybase Technical Library CD and the Technical Library Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the Technical Library CD. It is included with your software. To read or print documents on the Getting Started CD you need Adobe Acrobat Reader (downloadable at no charge from the Adobe Web site, using a link provided on the CD).
- The Technical Library CD contains product manuals and is included with your software. The DynaText reader (included on the Technical Library CD) allows you to access technical information about your product in an easy-to-use format.

Refer to the *Technical Library Installation Guide* in your documentation package for instructions on installing and starting the Technical Library.

- The Technical Library Product Manuals Web site is an HTML version of the Technical Library CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Updates, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

To access the Technical Library Product Manuals Web site, go to Product Manuals at <http://www.sybase.com/support/manuals/>.

Sybase certifications on the Web

Technical documentation at the Sybase Web site is updated frequently.

❖ Finding the latest information on product certifications

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Select Products from the navigation bar on the left.
- 3 Select a product name from the product list and click Go.
- 4 Select the Certification Report filter, specify a time frame, and click Go.
- 5 Click a Certification Report title to display the report.

❖ **Creating a personalized view of the Sybase Web site (including support pages)**

Set up a MySybase profile. MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Click MySybase and create a MySybase profile.

Sybase EBFs and software maintenance

❖ **Finding the latest information on EBFs and software maintenance**

- 1 Point your Web browser to the Sybase Support Page at <http://www.sybase.com/support>.
- 2 Select EBFs/Maintenance. Enter user name and password information, if prompted (for existing Web accounts) or create a new account (a free service).
- 3 Select a product.
- 4 Specify a time frame and click Go.
- 5 Click the Info icon to display the EBF/Maintenance report, or click the product description to download the software.

Conventions

The following style conventions are used in this manual:

- In a sample window display, commands you should enter exactly as shown are given in:

`this font`

- In a sample window display, words that you should replace with the appropriate value for your installation are shown in:

this font

- In the regular text of this document, the names of files and directories appear in this font:

`/usr/u/sybase`

- The names of programs, utilities, procedures, and commands appear in this font:

`sqlupgrade`

- Commands for both the C shell and the Bourne shell are provided in this document, when they differ. The initialization file for the C shell is called *.cshrc*. The initialization file for the Bourne shell is called *.profile*. If you are using a different shell, such as the Korn shell, refer to your shell-specific documentation for the correct command syntax.

Table 1 shows the conventions for syntax statements in this manual.

Table 1: SQL syntax conventions

Key	Definition
command	Command names, command option names, utility names, utility flags, and other keywords are in bold.
<i>variable</i>	Variables, or words that stand for values that you fill in, are in <i>italic</i> .
{ }	Curly braces indicate that you choose at least one of the enclosed options. Do not include braces in your option.
[]	Brackets mean choosing one or more of the enclosed options is optional. Do not include brackets in your option.
()	Parentheses are to be typed as part of the command.
	The vertical bar means you can select only one of the options shown.
,	The comma means you can choose as many of the options shown as you like, separating your choices with commas to be typed as part of the command.

If you need help

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you cannot resolve a problem using the manuals or online help, please have the designated person contact Sybase Technical Support or the Sybase subsidiary in your area.



Overview

This chapter introduces important concepts about the product and installation of Adaptive Server and Adaptive Server products.

Topic	Page
Product components	1
Adaptive Server editions	4
Adaptive Server specifications	6
Product descriptions and directory layout	7
PC-client product descriptions and directory layout	8

Product components

Adaptive Server Enterprise is based on the client-server model. Each Adaptive Server user is associated with a client process that communicates with a server process via a network interface called the Tabular Data Stream (TDS) protocol. The client process may execute on one machine and communicate with a database server on the same or a different machine.

Adaptive Server Enterprise

Adaptive Server runs as an application on top of an operating system and depends solely on the services exported by the operating system to function. Adaptive Server uses operating system services for process creation and manipulation, device and file processing, and interprocess communication. The hardware that the operating system runs on is completely transparent to Adaptive Server — Adaptive Server sees only the operating system's user interfaces.

Adaptive Server has a virtual server architecture and has one or more operating system processes (engines) that service client requests. You can configure multiple processes to enhance performance on multiprocessor systems. A process is divided into two components, a DBMS component and a kernel component. The kernel component manages multiple tasks, while the DBMS component performs the database functions on behalf of the current task. Each client is associated with a task, and there are several tasks that perform specific services; for example, writing buffers or audit data to disk, and communicating with the network. The DBMS component of Adaptive Server manages the processing of SQL statements, accesses data in a database, and manages different types of server resources.

All server processes share two distinct areas of shared memory: a kernel area and a DBMS area. The kernel area contains data structures that relate to task management and operating system services, while the DBMS component contains caches of database buffers, object descriptors, and other resources used by the DBMS component of the server process.

The kernel layer of the server abstracts the operating system-specific functions so that the rest of the server has a consistent view of those functions regardless of the underlying operating system. Essentially, the kernel provides low-level functions, such as task and engine management, network and disk I/O, and low-level memory management to the rest of the server. The part of the server that processes a TDS request (the TDS engine) is part of the kernel layer.

The heart of Adaptive Server is the SQL/DBMS engine. The SQL/DBMS engine, also a separate task within Adaptive Server, processes data manipulation statements (DML), utility commands, which are generally data definition statements (DDL) and administrative functions, and performs stored procedure executions. The DBMS engine uses the services provided by the resource manager routines and the access methods routines.

A resource manager is a set of subroutines that manage a particular system resource, such as pages, buffers, or a particular data structure. The DBMS engine uses these subroutines to manipulate various system resources. There are also a number of tasks within the server that perform specialized tasks. The resource managers, as well as these specialized tasks, rely on the kernel layer for low-level functions.

Access methods has two primary functions: the management of data on disk and manipulation of database constructs, such as tables and rows. Actual disk I/O routines are provided to the access methods routines by the kernel disk I/O routines.

Backup Server

Like Adaptive Server, Backup server is also an operating system process. Backup Server is dedicated to backing up and restoring Adaptive Server files. Clients do not communicate directly with Backup Server. Only Adaptive Server communicates with Backup Server.

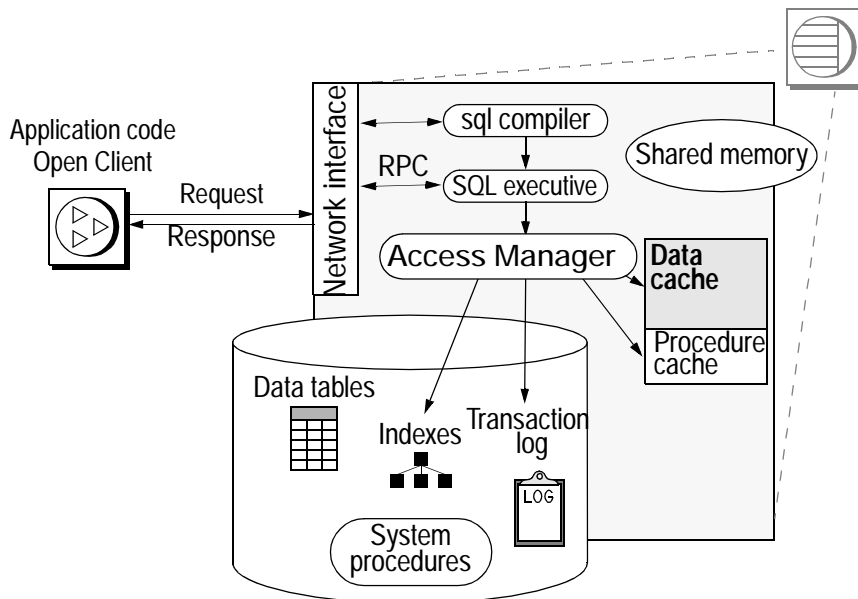
Stored procedures

Stored procedures encapsulate a series of SQL commands that the server can execute as a single command. System stored procedures (SSPs) are created when the server is installed.

The client

A client uses functions provided by the CT-Library (CTLIB) library and the Common Library (CSLIB) to establish a connection to the server, submit requests to the server, and receive results back from the server.

Figure 1-1: Adaptive Server system model



Adaptive Server editions

Adaptive Server is available in three editions:

- Enterprise Edition – a full-featured server that can run all optional features.
- Small Business Edition – includes the features required by most small businesses, but excludes some of the more advanced features.
- Developer’s Edition – is created for you to design and build applications for Adaptive Server in a development environment.

Sybase also offers a series of options. Some of these options are intended for an enterprise-level site, and are not available in the Small Business Edition. Table 1-1 describes the availability of each option. For a full description of the option contents, see your sales representative.

Table 1-1: Optional packages available for Adaptive Server

Available in the following editions:

Option	Enterprise Edition	Small Business Edition	Developer’s Edition	Description
Security and Directory Services option	Optional	Optional	Included	Lightweight directory services and network-based authentication and encryption using DCE and CyberSafe.
XML Management option	Optional	Optional	Included	Semi-structured and unstructured-data handling.
Content Management option	Optional	Optional	Included	Semi-structured and unstructured-data management.
e-business option	Optional	Not available	Included	Data-storage, access, replication, and security via an e-business platform.
High Availability	Optional	Not available	Included	Systems continuously available.
Distributed Transaction Management (DTM)	Not available	Not available	Not available	
Enhanced Full Text Search (EFTS)	Optional	Optional	Not available	
SQL Expert	Optional	Optional	Not available	

Option	Available in the following editions:			Description
	Enterprise Edition	Small Business Edition	Developer's Edition	
BMC DBXray	Optional	Optional	Not available	
Disaster Recovery option	Optional	Not available	Not available	Provides a disaster recovery package for Adaptive Server users.
Web services	Optional	Optional	Included	Provides access to Adaptive Server through Simple Object Access Protocol (SOAP), and Web Services Description Language (WSDL)..

For more information, see “SySAM Configuration” in the *Configuration Guide*.

Use `license_enabled` to determine which edition of Adaptive Server you are running. Enter:

```
select license_enabled("server_edition")
```

Where `server_edition` is:

- `ase_server` for the Enterprise Edition
- `ase_sbe` for the Small Business Edition
- `ase_dev` for the Developer's Edition

Adaptive Server returns a value of “1” for the version that is enabled. See the *Reference Manual* for more information about the `license_enabled` function.

Enterprise Edition

The Enterprise Edition includes a full-featured Adaptive Server. In addition to the base server, you can purchase such options as High Availability, DTM, Java, and so on. Your licensing agreement describes the features licensed for your site.

The options available for Adaptive Server Enterprise are listed in Table 1-1.

Small Business Edition

The Small Business Edition includes features that meet the needs of small businesses. This edition of Adaptive Server includes most of the functionality of the Enterprise Edition, and allows for the following Adaptive Server configuration:

- Number of engines – maximum of 4.
- Number of connections – maximum of 256.

The options available for Adaptive Server Enterprise are listed in Table 1-1.

Developer's Edition

The Developer's Edition is a competitively-priced version of Adaptive Server that developers can use to create applications in their development environment. The Developer's Edition includes a full set of Adaptive Server Enterprise features and options (that is, DTM, High Availability, Java, and so on), and allows for the following configuration:

- Number of engines – 1
- Number of connections – 25

The options available for Adaptive Server Enterprise are listed in Table 1-1.

Adaptive Server specifications

Table 1-2 provides Adaptive Server specifications for Linux.

Table 1-2: Adaptive Server specifications on Linux

<i>Hardware</i>		
Processor	64-bit Intel Itanium	
Minimum RAM required for Adaptive Server	128MB	With default stack size, packet size, and user log cache size
Minimum RAM per additional user	Approx. 140KB	
Default user stack size	92K	Minimum: 72K

Note Adaptive Server 12.5.1 supports Pentium and higher chip sets.

Product descriptions and directory layout

The Adaptive Server installation installs a wide array of software products into the *SYBASE* directory. Table 1-3 provides a brief description of the server products installed, and the top-level directory structure.

Table 1-3: Product descriptions

Product	Description
<i>Adaptive Server</i>	Installed into the <i>ASE-12_5</i> directory. <ul style="list-style-type: none"> • Adaptive Server – the database server. • Backup Server – an Open Server-based application that manages all database backup (dump) and restore (load) operations. • Monitor Server – an Open Server-based application that obtains performance information on Adaptive Server and makes that information available to Monitor Server client applications. • XP Server – An Open Server application that manages and executes extended stored procedures (ESPs) from within Adaptive Server.
<i>Open Client</i>	Installed into the <i>OCS-12_5</i> directory. <ul style="list-style-type: none"> • Open Client libraries needed for development and execution of Open Client applications. • (NT-only) ODBC – driver used to connect to Adaptive Server from ODBC based applications. • OLEDB • Monitor Client Library • XA Libraries
<i>Sybase Central</i>	Installed into the <i>sybcent41</i> directory. This is a Java-based common framework for managing Adaptive Server.
<i>Adaptive Server Plug-in</i>	Installed into <i>ASEP</i> directory. This plug-in contains the management software for managing Adaptive Server and its associated servers.
<i>Language Modules</i>	Installed into the <i>locales</i> directory. Provides system messages and date/time formats.
<i>Character Sets</i>	Installed into the <i>charsets</i> directory. Provides character sets available for use with Adaptive Server.
<i>Collation Sequences</i>	Installed into the <i>collate</i> directory. Provides the collation sequences available for use with Adaptive Server.

Product	Description
<i>jConnect</i>	Installed into the <i>jConnect-5_5</i> directory. Provides a Java Database Connectivity (jdbc) driver for Adaptive Server.
<i>Sybase Software Asset Management (SySAM)</i>	Installed into the <i>SYSAM-1_0</i> directory. Provides asset management of Adaptive Servers and optional features.

PC-client product descriptions and directory layout

The following products are installed as Adaptive Server PC-Client products. In addition to these products, there are several separately installed products listed in the following sections.

Table 1-4: Products and platforms

Product	Description
<i>Open Client</i>	Installed into the <i>OCS-12_5</i> directory. <ul style="list-style-type: none"> • Open Client libraries needed for development and execution of Open Client applications. • (NT ONLY) ODBC – driver used to connect to Adaptive Server from ODBC based applications. • OLEDB • Monitor Client libraries • XA libraries
<i>Sybase Central</i>	Installed into <i>sybcent41</i> directory. A Java-based common framework for managing Adaptive Server.
<i>Adaptive Server Plug-in</i>	Installed into <i>ASEP</i> directory. This plug-in contains the management software for managing Adaptive Server and its associated servers.
<i>Language Modules</i>	Installed into the <i>locales</i> directory. Provides system messages and date/time formats.
<i>Character Sets</i>	Installed into the <i>charsets</i> directory. Provides charsets available for use with Adaptive Server.
<i>jConnect</i>	Installed into the <i>jConnect-5_5</i> directory. Provides a Java Database Connectivity (jdbc) driver for Adaptive Server.

Separately installable PC-Client products

The PC-Client CD also contains the following products, which are separately installable:

- InfoMaker – a tool for personal data access, management, and reporting, used by both developers and end users. InfoMaker® allows you to create presentation-quality reports and powerful queries without the complexities of programming. It complements client/server business applications and development tools as well as desktop productivity suites.
- PowerDesigner Physical Architect – a tool for data modeling, including database design, generation, maintenance, reverse engineering, and documentation for database architects.
- PowerTransfer – a plug-in for PowerDesigner that transfers table data from any supported database to Adaptive Server.

Installing Adaptive Server

This chapter provides instructions for installing a new Adaptive Server, Backup Server, and Monitor Server.

Topic	Page
Overview	11
System requirements	12
Pre-installation tasks	12
Installing server components	13

Overview

The installation process copies all of the files from the installation media to the hard drive and then configures a base Adaptive Server. At the end of the installation the Adaptive Server and associated software is ready to be customized for the user's environment (for example, creating devices, databases and tables, and loading data.)

The basic process for installing Adaptive Server is:

- 1 Perform the pre-installation tasks as described in “Pre-installation tasks” on page 12.
- 2 Perform the installation using any of the methods described in “Installation methods” on page 13.
- 3 Perform the post-installation tasks as described in Chapter 3, “Post-Installation Tasks.”

System requirements

Table 2-1 shows the required version-level, RAM, and network-protocol requirements for Adaptive Server. See the release bulletin for the latest information on required system patches.

Table 2-1: System requirements on RedHat Advanced server 64-bit

Hardware	Operating system	Network protocols
Intel Itanium	<ul style="list-style-type: none">Kernel version 2.4.18-e.37 smp or aboveRun-time environment glibc-2.2.4-31.7 or above	TCP/IP sockets

Pre-installation tasks

Before installing Adaptive Server:

- 1 Read the release bulletins for the latest information on the products (Adaptive Server, Monitor Server, and so on) that you are installing. See “Special Installation Instructions” in the release bulletin.
- 2 Install operating system patches, if required.
Recommended operating system patches are:
For Redhat Enterprise Linux 2.1 (ia64):
 - kernel version - 2.4.18-e.37smp or above
 - glibc - 2.2.4-31.7 or above
- 3 If you are installing multiple server, you should review the SySAM procedures and plan your client/server configuration using the *Configuration Guide* for your platform.
- 4 Create a “sybase” account on your system to perform all installation tasks.
The “sybase” user must have permission privileges from the top (or root) of the disk partition or operating system directory down to the specific physical device or operating system file.
- 5 Log in to the machine as the “sybase” user.

Maintain consistent ownership and privileges for all files and directories. A single user—the Sybase System Administrator with read, write, and execute permissions—should perform all installation, upgrade, and setup tasks.

- 6 Decide where the Adaptive Server software will be installed. Make sure that there is sufficient available disk space. There cannot be any spaces in the path name of the directory.
- 7 Verify that the operating system meets the version-level, RAM, and network protocol requirements for your platform.
- 8 Verify that your network software is configured.

Sybase software uses network software even if Adaptive Server and Sybase client applications are installed on a machine that is not connected to a network.

If you are having connection problems, or to verify your network configuration, ping the host.

Installing server components

Follow the instructions in this section to install Adaptive Server, Backup Server, and Monitor Server.

Be sure that you are logged in as “sybase”, and that you have performed the “Pre-installation tasks” on page 12.

Installation methods

The following instructions are for an installation using the InstallShield in GUI mode. You can also perform the installation in a non-GUI (text-based) mode or a completely silent installation with no interaction. Or, you can perform the installation, then configure Adaptive Server separately using either the GUI-based configuration tools or silently with the use of a resource file. For information on alternate methods of installation see Appendix A, “Alternative Installation Methods.”

Installing components with InstallShield in GUI mode

Note You should be logged in as “sybase” when you are performing installation tasks. Do not run InstallShield as “root”.

InstallShield creates the target directory (if necessary) and installs all the selected components into that directory.

At the end of the installation, you can verify the product installation. You may need to perform additional configuration procedures before you can use some products.

As part of the installation, InstallShield sets most of the environment variables needed for Adaptive Server products. However, you must source other environment variables by running the *SYBASE.csh* or *SYBASE.sh* script file after exiting InstallShield.

To install server components:

- 1 Insert the Adaptive Server CD into the CD.

Change to the CD directory and start the installer by entering:

```
./setup
```

The welcome window displays

- 2 When the license selection window displays, select the most appropriate location from the drop-down list, read the license terms, and then click “I agree...” to proceed. Click Next.

Not every country is listed in the drop-down list. If the country you are located in is not listed, select the most appropriate area (‘Americas & Asia Pacific’, ‘Europe, Middle-East, and Africa’, or ‘Any Other Locations’).

- 3 The Install directory window allows you to select a directory for the installation by clicking Browse. You can accept the default of:

```
/opt/sybase -is:javahome JVM
```

by clicking Next.

You can also enter a directory for installation.

Note If you are installing for an upgrade, do not install into the same directory as your current installation. You must reconfigure the path.

Note When you browse “...” in the Destination panel, a directory chooser dialog displays. In this dialog, you must navigate to one directory above the “to-be-chosen” directory, and enter or choose a directory name in the field, before clicking OK.

- 4 You can choose from three types of installations in the Install Type window:
- Typical
 - Full
 - Custom

Note Enhanced Full-Text Search, EJB Server, Language Modules other than English, and Web Services are not installed as part of a typical install. To install them, select Full or Custom install. Or, you can install them later using the custom option.

- 5 If you select Custom, the Products and Features Selection window displays. Indicate the products you want to install by checking the box.

Note Some features are dependent on other features; therefore, you cannot deselect some items without first deselecting others.

After you have made your selection, click Next. Before proceeding to the next window, InstallShield verifies the selections, and checks for dependencies and available disk space.

- 6 The Product Selection Summary window displays the selections that you have made.
- Verify that you have selected the correct type of installation, and that you have enough disk space to complete the process. Click Next to proceed.
- 7 The Install Progress window shows the progress of the installation.
- 8 The Install Status window displays the result of the installation process.
- Click Next to configure the software.

9 The Configure New Servers window asks if you want to configure new servers, depending upon the products you installed. If you choose to configure the new servers, the Custom Configure New Server Options window displays next. Select the servers you want to configure. If you do not configure the new servers at this point, deselect the item and click Next.

10 The Custom Configure New Server Options window allows you to select servers to configure. If you do not select any servers in this window, InstallShield configures all servers using default value.

If you choose the default values, InstallShield chooses everything including the server name, port number, and master device location. InstallShield does this for the System Procedure device. It also installs Backup Server, Monitor Server, and the XP Server, choosing the name, port number, and error log.

If you configure the servers with default values, the Configure Server Attributes Summary window displays next.

If you select to configure the server with custom values, the Custom Configure Input window displays next.

11 The Custom Configure Input window prompts you for the custom Adaptive Server configuration information.

- Server name
- Port numbers
- Page size
- Error log
- Master device
- Master device size (MB)
- Master database size (MB)
- System procedure device
- System procedure device size (MB)
- System procedure database size (MB)

Once you have customized the Adaptive Server configuration, select Next to record the input fields.

12 The Custom Configure Backup Server Input window prompts you for the Backup Server information.

Once you have entered the appropriate information, click Next to record the information.

- 13 The Custom Configure Monitor Server Input window prompts you to enter the Monitor Server configuration information.

Once you have entered the appropriate information, click Next to record the information.

- 14 The Custom Configure XP Server Input window prompts you to enter the XP Server configuration information.

Once you have entered the appropriate information, click Next to record the information.

- 15 The Configure Server Attributes Summary window displays a summary of the values that are used to configure the servers. These values are either the default or custom values. After verifying the information, click Next, and InstallShield proceeds with the server configuration.

- 16 The Configure Server Progress window displays the progress of the server configuration.

- 17 The Logout or Reboot window displays only when required. It reminds you to either log out or restart your machine to complete the installation process.

- 18 The Installation Complete window is the last window. Sybase strongly recommends that you check the Sybase Web site at <http://www.sybase.com/downloads> for software updates.

If you are installing the Developer's Edition, the installation is complete. If you are installing the Small Business Edition or Enterprise Edition, proceed to the next section to enter the SySAM certificates to enable the server and any optional features purchased.

If you encounter any errors, see the *Troubleshooting Guide*.

Sybase Software Asset Manager (SySAM)

If you install any components without the appropriate license information, only Adaptive Server, without licensed features, is enabled.

Warning! The following SySAM license manager instructions are for the installation of Adaptive Server on the primary license host.

- 1 Source *SYBASE.csh*.
- 2 Go to *SYBASE/SYSAM-1_0/bin* and run *lmgr*. The *lmgr* program prompts, “Do you have any Sybase Software Asset Management Certificates to register?”
Click Yes.
- 3 Enter information from the Sybase License Certificate for each Adaptive Server feature you have purchased. Entries are case sensitive.
 - Order Number – enter your Sybase order number.
 - Feature Name – enter the name of the Adaptive Server feature. Valid Adaptive Server feature names include ASE_SERVER and ASE_EFTS.
 - Feature Count – enter your license count number.
 - Software Version – enter the Adaptive Server software version.

Warning! You must enter the license information exactly as it appears on the certificate.

The license certificates for the base server and some of the options indicate version 12.0, although the software is at version 12.5. The server and all features are considered to belong to the same “Version 12 Product Family.”

- Authorization Code – enter the license key for the purchased feature.
- The *lmgr* program records the information for the current feature in the license file and prompts you to enter information for an additional feature.
- 4 Click More. . . if you have purchased additional licensed features. The installer records the information for the current feature in the license file and prompts you to enter information for an additional feature.
 - 5 After entering the license key information the *lmgr* program automatically stops and then restarts the license daemon.

SySAM LicenseManager scripts

SySAM LicenseManager runs in four modes:

- GUI mode – this is default, corresponding to the parameter -G.
- Interactive Console mode – where user is asked information, interactively. -I.

- Console mode – this is same as Interactive mode, but takes only one entry and quits -C.
- Silent mode – this best suits silent installation, when updating multiple machines at a single time which use networked SYSAM. This corresponds to the parameter -S.

Use the LicenseManager with the following options and arguements:

Options:

- -H – displays help files
- -V – prints version and copyright
- -G – run application in GUI mode
- -I – run application in Interactive Console Mode
- -S – run application in Silent Mode
- -C – run application in Console Mode

Arguements are only applicable with the -C or -S options:

- sybase=sybase directory
- host=hostname
- port=port number
- feature=feature name
- count=feature count
- order=order number
- version=software version
- code=authorization code

Adaptive Server and related products have been successfully installed, and minimally configured for use. See “Installing sample databases” on page 23, to begin experimenting with your servers, or see the *System Administration Guide* at <http://www.sybase.com/support/manuals> for more advanced topics.

Adaptive Server

You have a running server, as well as various system databases and system tables. Some references that may help you get started using your new Adaptive Server include:

- “Initializing Database Devices” and “Creating User Databases” in the *System Administration Guide* – information about creating an Adaptive Server user database and its devices

- *Transact-SQL User's Guide* – learn how to write queries

Backup Server	For information on developing a backup and recovery plan and backing up and restoring user databases, see the <i>System Administration Guide</i> .
Monitor Server	Monitor Server requires some additional configuration after installation. See the <i>Monitor Server User's Guide</i> .
XP Server	For information on using extended stored procedures, see the <i>Transact-SQL User's Guide</i> .
EFTS	For information on using full-text search capabilities, see the <i>Full-Text Search Specialty Data Store User's Guide</i> .

After the installation process, you have a minimally configured Adaptive Server. This chapter describes post-installation tasks to administer Adaptive Server and install stored procedures and sample databases. For more information, see *Configuring Adaptive Server Enterprise* for your platform.

Topic	Page
Verifying that servers are running	21
Verifying that you can connect to servers	21
Connecting to Adaptive Server via Sybase Central	22
Setting the System Administrator password	23
Installing sample databases	23

Verifying that servers are running

To determine whether the servers you installed are running, enter:

```
$SYBASE/$SYBASE_ASE/install/showserver
```

showserver shows all Adaptive Server-related processes that are on the system.

Verifying that you can connect to servers

Use isql to perform a quick test. Source *SYBASE.csh*. Then, use isql to connect to servers:

- 1 At the command prompt, enter:

```
isql -Usa -Ppassword -Sserver_name
```

where *server_name* is the Adaptive Server name.

The command prompt is displayed if the login is successful.

- 2 To display the Adaptive Server version number, enter:

```
1> select @@version
2> go
```

Adaptive Server's version number is displayed. The output should show Adaptive Server at version 12.5.1.

If you encounter errors, see the *Troubleshooting Guide*.

Connecting to Adaptive Server via Sybase Central

Sybase Central provides a graphical user interface where you can perform Adaptive Server administrative tasks. The Sybase Central interface provides a hierarchical list of servers in the left pane and a details list of the selected server in the right pane. To select a server, click on it in the left pane.

- 1 From a UNIX command line, enter:

```
source $SYBASE/SYBASE.csh
```

- 2 Then enter:

```
$SYBASE/ASEP/bin/aseplugin
```

- 3 Select Tools | Connect, then select the server to which you want to connect from the drop-down list.
- 4 In the Login window, enter, the System Administrator's user name and password.

You must log in as the System Administrator to perform administrative tasks.

- 5 Click OK.

Warning! The first time you log in to Adaptive Server, use the default "sa" user name and leave the password blank. After you log in for the first time, change the System Administrator's password. See "Setting the System Administrator password" on page 23.

The Adaptive Server plug-in to Sybase Central does not display all servers listed in the *interfaces* file. Instead, Sybase Central lists only those servers that you connected to earlier, or those servers that are started as Windows services.

To access a new server for the first time, select Tools | Connect to select a server listed in the *interfaces* file.

Setting the System Administrator password

A user account called “sa” is created for the Sybase System Administrator when you install the Sybase software. A user logged in as “sa” can use any database on Adaptive Server, including master, with full privileges.

Immediately after a new installation, there is no password on the “sa” account. The initial default value for the password is NULL. In a production environment, the Sybase System Administrator should always use a non-default password.

The Sybase System Administrator should log in to the new Adaptive Server as “sa” and set a password using `sp_password`:

```
$$SYBASE/$SYBASE_OCS/bin/isql -Usa -P -Sserver_name
1> sp_password null, new_password
2> go
```

where `null` is the default password and `new_password` is the password that you are assigning to the “sa” account.

For greatest security, Sybase recommends setting the password to at have at least six characters, with a combination of letters and numbers.

Installing sample databases

This section describes how to install the U.S. English and international language sample databases. For installation instructions specific to each sample database, see the following sections:

- “Running the database scripts” on page 25
- “Installing the interpubs database” on page 26
- “Installing the jpubs database” on page 26

The sample databases contain information about a fictitious business. You can use this information to learn about the Sybase products, without affecting essential data while learning.

Table 3-1 lists the scripts that you can use to install the sample databases.

Table 3-1: Sample database scripts

Script	Description
<i>installpubs2</i>	Installs the pubs2 sample database. This database contains data that represents a publishing operation. Use this database to test your server connections and to learn Transact-SQL. Most of the examples in the Adaptive Server documentation query the pubs2 database.
<i>installpubs3</i>	Installs the pubs3 sample database. This updated version of pubs2 uses referential integrity. In addition, its tables are slightly different than the tables used in pubs2. Where noted, the Adaptive Server documentation uses the pubs3 database in its examples.
<i>installpix2</i>	Installs the image data that is used with the pubs2 database. Note The master device size should be at least 30MB to install the full pubs2 database, including the image data. Run the <i>installpix2</i> script after you run <i>installpubs2</i> .

Default devices for sample databases

The `$$SYBASE/$SYBASE_ASE/scripts` directory contains scripts for installing the us_english sample database, foreign language sample databases, and the image data associated with the U.S. English pubs2 sample database.

If you have not used `sp_diskdefault` to change the status of the master device or to specify another default device, the scripts install the sample databases on the master device. Sybase does not recommend this configuration because it uses valuable space that is best used for system tables. Each sample database requires 3MB on a 2K server, and multiples of 3MB on a 4K, 6K, 8K, and 12K server on your database device.

To avoid installing sample databases on the master device, either:

- Use `sp_diskdefault` to specify a default device other than the master device. For information on `sp_diskdefault`, see the *Reference Manual*.
- Modify each sample database installation script to specify a different device.

❖ **Running the database scripts**

- 1 Start Adaptive Server.
- 2 Determine the type (raw partition, logical volume, operating system file, and so on) and location of the device where you will be storing the pubs2 and pubs3 databases. You will need to provide this information later.
- 3 Make a copy of the original *installpubs2* and *installpubs3* scripts. Be sure you can access the copies, in case you have problems with the edited scripts.
- 4 Use a text editor to edit the script, if necessary, to specify a default device other than the master device, or use `sp_diskdefault`.

From the Adaptive Server scripts directory (`$$SYBASE/$SYBASE_ASE/scripts`), use `isql` to log in to Adaptive Server and run the script:

```
isql -Usa -P***** -Sserver_name -iscript_name
```

where *server_name* represents the destination server for the database and *script_name* is the full path to and file name of the script to run.

For example, to install pubs2 on a server named VIOLIN, enter:

```
isql -Usa -P***** -SVIOLIN \  
-i $$SYBASE/$SYBASE_ASE/scripts/installpubs2
```

- 5 To install the image data associated with pubs2 (pubs3 does not use image data), run:

```
bin/ isql -Usa -Ppassword -Sservername \  
-i $$SYBASE/$SYBASE_ASE/scripts/installpix2
```

Note The image data requires a fair amount of space—there are six pictures, two each in the PICT, TIFF, and Sun raster file formats. Run *installpix2* script only to use or test the image datatype. Sybase does not supply any tools for displaying image data. You must use appropriate window graphics tools to display the images after you have extracted them from the database.

For more information about running these scripts, see *Configuring Adaptive Server Enterprise*.

***interpubs* database**

interpubs is a database similar to *pubs2* that contains French and German data. This data contains 8-bit characters and is available for use at Adaptive Server installations using the ISO 8859-1 (*iso_1*), ISO 8859-15 (*iso15*), *Roman8*, or *Roman9* (for HP-UX) character set. To display the French and German data correctly, you must set up your terminal to display 8-bit characters.

❖ **Installing the *interpubs* database**

- 1 Be sure *iso_1*, *iso_15*, *Roman8*, *Roman 9*, or UTF-8 is installed as the default character set or as an additional character set.
- 2 Determine the type (raw partition, logical volume, operating system file, and so on) and location of the device where you will be storing the *interpubs* database. You will need to provide this information later.
- 3 Make a copy of the original *installintpubs* script. Be sure you can access this copy, in case you experience problems with the edited script.
- 4 Use a text editor to edit the script, if necessary, to specify a default device other than the master device, or use *sp_diskdefault*.
- 5 Execute the script, using the *-J* flag to ensure that the database is installed with the correct character set:

```
isql -Usa -Ppassword -Sservername -Jiso_1 \  
-i $SYBASE/$SYBASE_ASE/scripts/iso_1/installintpubs
```

For more information on the *-J* option in *isql*, see the *Utility Guide*.

***jpubs* database**

If you installed the Japanese Language Module with your Adaptive Server, the scripts file contains the *installjpubs* script for installing the *jpubs* database. *jpubs* is a database similar to *pubs2* that contains Japanese data. *installjpubs* uses either the EUC-JIS (*eucjis*), UTF-8 (*utf8*), or the Shift-JIS (*sjis*) character sets.

❖ **Installing the *jpubs* database**

- 1 Set your terminal to display 8-bit characters.
- 2 Verify that either the EUC-JIS, Shift-JIS, or the UTF-8 character set is installed as Adaptive Server's default character set or as an additional character set.

- 3 Determine the type (raw partition, logical volume, operating system file, and so on) and location of the device where you will be storing the jpubs database. You will need to provide this information later.
- 4 Make a copy of the original *installjpubs* script. Be sure that you can access this copy, in case you experience problems with the edited script.
- 5 Use a text editor to edit the script, if necessary, to specify a default device other than the master device, or use `sp_diskdefault`. See “Default devices for sample databases” on page 24.
- 6 Execute the *installjpubs* script, using the `-J` flag to ensure that the database is installed with the correct character set:

```
isql -Usa -Ppassword -Sservername -Jeucjis \  
-i $SYBASE/$SYBASE_ASE/scripts/eucjis/installjpubs
```

or:

```
isql -Usa -Ppassword -Sservername -Jsjis \  
-i $SYBASE/$SYBASE_ASE/scripts/sjis/installjpubs
```

For more information on the `-J` option in `isql`, see the *Utility Guide*.

Maintaining the sample databases

Note Sybase recommends that you remove the guest user from user databases in production systems.

The sample databases contain a guest user that allows access to the database by any authorized Adaptive Server user. The guest user has a wide range of privileges, including permissions to select, insert, update, and delete user tables. For more information about the guest user and a list of guest permissions, see the *System Administration Guide*.

If possible, and if space allows, give each new user a clean copy of the sample databases so that she or he is not confused by other users' changes.

If space is a problem, you can instruct the user to issue the `begin transaction` command before updating a sample database. After the user has finished updating one of the sample databases, he or she can issue the `rollback transaction` command to undo the changes.

Installing Sybase PC-Client Products

Your UNIX-based Adaptive Server also includes PC-client products that you install on a PC and connect, via the *interfaces* file, with your Adaptive Server.

This chapter describes how to install client products on Windows Operating Systems.

Topic	Page
Overview	29
Before you install the PC-client products	30
Installing PowerDesigner, PowerTransfer, and InfoMaker	32
Configuring network connections for client products	33

Overview

Clients, such as Sybase Central and Open Client, are used to access Adaptive Server. See the *Open Client/Server Configuration Guide for Desktop Platforms*.

Sybase Central and ASE plug-in

Sybase Central allows you to connect to Adaptive Server via client connections. You can use Sybase Central to connect to remote servers, local servers (installed on the same machine), and multiple servers. See “Configuring network connections for client products” on page 33. Before you use the plug-in, restart your computer to implement changes made to the PATH and CLASSPATH environment variables during installation.

Open Client runtime

The Sybase PC-Client CD includes Open Client software for Windows. Several products, such as the Adaptive Server plug-in and SQL Advantage, require Open Client runtime. Monitor Client Library requires Open Client/C with the SDK option.

ODBC/OLEDB

Some applications do not connect to Adaptive Server directly through the Open Client software but through the Open Database Connectivity (ODBC) driver, or the jConnect driver instead. For example, PowerDesigner connects through the ODBC driver.

See *Configuring Adaptive Server Enterprise* for more information.

ODBC and OLEDB require the Microsoft Data Access Component (MDAC). You can download it from Microsoft's Web site at <http://www.microsoft.com/data>.

Before you install the PC-client products

Before starting the installation process for PC-client products, be sure that you have at least an extra 5MB of disk space, a `\temp` directory and TEMP environment variable.

The installation program uses the extra space and directory to write files temporarily during the installation. The installation program frees this space after installation is complete.

Installing PC-client products

The PC-Client CD contains several products that are each packaged with their own installer. When you insert the PC-Client CD, a menu program launches automatically. The menu program presents the list of products that can be installed from the CD and allows you to install them one at a time. The major products on the CD are described in Chapter 1, "Overview."

There are 7 selections on the menu:

- View *Readme.txt*
- Install PC-client components 12.5.1
- Install PowerDesigner 9.5.2
- Install PowerTransfer 9.5.2
- Install InfoMaker 9.0
- View our Web site
- Exit

Before installing any products, review the *readme.txt* file, which contains a brief description of each of the products, lists dependencies, and contains any last-minute instructions or changes.

In general, some portion of the PC-client components are queried by the other products so it is best to install the PC-client components first.

Table 4-1: PC-client system requirements

Hardware	Operating system
Windows 2000 Professional, Server, Advanced Server, and Data Center Editions	Service Pack 3
Windows XP Professional (32-bit)	None; Sybase recommends using latest service pack from Microsoft for best security protection
Windows NT 4.0 Workstation and Server Editions	Service Pack 6a

❖ Installing client products on Windows

- 1 Verify that your computer has sufficient RAM for each product.
- 2 If you are unloading components on Windows, log in using an account with Windows administrator privileges.
- 3 Close any open applications or utilities to free memory and system resources.
- 4 Insert the PC-Client CD in to the drive. The menu program should start automatically.

Alternatively, you can start the menu program from the Windows Start menu, select Start | Run, and enter:

```
X:\autorun.exe
```

where *X* is your CD drive.

- 5 Select Install PC Client Components 12.5.1 from the menu.
- 6 When InstallShield starts, it prompts you for an installation directory. Click Next.
- 7 Select the type of installation to be performed.
 - Typical Install – installs the default components a user needs.
 - Full Install – installs every component on the CD.

- Customized Install – allows you to select the components to install. Certain components are automatically installed if they are required to run other selected components.
- 8 If you select Customized Install, the next window is the Component Selection window, which allows you to specify which components to install.

Components that would be installed in a typical installation appear with a check in the check box to the left of the product name. You may select or deselect components from this list.

- 9 Click Next.

The Summary window displays every component to be installed by the InstallShield Installer, the required disk space, and the available disk space.

If the target directory does not have enough free space, the available space appears in red. Clicking Next without sufficient hard disk space results in an error and stops the installation.

- 10 Click Next.

Note Optionally, you can select Save on the Summary window to save all the installation information into a *cmdfile* to proceed with the installation in a noninteractive, silent install. See Appendix A, “Alternative Installation Methods.”

- 11 If the target directory does not exist, InstallShield prompts: “OK to create directory?” Click Yes.

InstallShield installs the components and displays a progress indicator.

To configure client network connections to Adaptive Server, see *Configuring Adaptive Server Enterprise* for your platform.

Installing PowerDesigner, PowerTransfer, and InfoMaker

Install PowerDesigner by selecting Install PowerDesigner 9.5.2 from the menu program. Install PowerTransfer by selecting Install PowerTransfer 9.5.2. Select InstallInfoMaker 9.0, to install InfoMaker.

You must install PowerDesigner and the PC-Client components before installing PowerTransfer. You must also have the Microsoft .NET framework installed.

Note The PC Client CD contains a zip file for InfoMaker 9.0 on the top level of the CD (*InfoMaker90.zip*). This zip file must be copied off the CD to a local disk and unzipped or it can be opened directly from the CD and unzipped. Once the zip file is unzipped into a local directory, change to that directory and execute *setup.exe* to launch the InfoMaker installer and install the product.

Configuring network connections for client products

Adaptive Server communicates with other Adaptive Servers, Open Server applications (such as Backup Server), and client software on your network. Clients can talk to one or more servers, and servers can communicate with other servers by remote procedure calls.

For Sybase products to interact with one another, each product needs to know where the others reside on the network. This information is stored in the *interfaces* file (*sql.ini* on Windows).

Adding a server to the *sql.ini* file

During installation, the *srvbuild* process adds entries to the *interfaces* file for your new Adaptive Server, Backup Server, Monitor Server, and XP Server.

To access a Sybase server through the *interfaces* file, each server must be included in the *interfaces* file on the client computer.

To add a server entry to the *sql.ini* file on your PC-client computer:

- 1 From the Microsoft Windows task bar, select Start | Programs | Sybase | dsedit.
- 2 Click OK on the first window to open the InterfacesDriver window.
- 3 Select ServerObject from the menu, and click Add.
- 4 In the Input Server Name box, enter the name of the server for which you are creating an entry.

Click OK.

- 5 In the Attributes column, double-click the server address row you just added.
- 6 In the ProtocolNetwork Address, click Add.
- 7 From the drop-down list in the Protocol box, select TCP, NAMEPIPE, or SPX.

By default, connections from client products to Adaptive Server are enabled through the Named Pipes and Winsock network protocols.

- 8 In the Network Address box, you can enter either the server name or the IP address, along with the server port number. For example:

```
machine_name, 4100
```

where *machine_name* is the name of the computer, and *4100* is the port number the server is using to “listen” for clients.

Note Windows now accepts TCP-style connection information:

```
[SERVER]
MASTER=NLWNSCK, huey, 2222
QUERY=NLWNSCK, huey, 2222
```

or

```
[SERVER]
MASTER=TCP, huey, 2222
QUERY=TCP, huey, 2222
```

The preferred format is to use TCP and a space between the *host_name* and *port_number*, because it is supported across all platforms. You can edit the *sql.ini* with any standard ASCII text editor.

- 9 To find the IP address for a machine, use `ypmatch` on a UNIX box.

Note To connect to a UNIX server, the entries you add to *sql.ini* must match the entries in the *interfaces* file on the UNIX system.

For instructions on using `dsedit` or `dscp` to modify *interfaces* file entries or to create new *interfaces* file entries for existing servers, see the *Utility Guide*.

For additional information on using `dsedit` on the client computer, see the *Open Client/Server Configuration Guide for Desktop Platforms* and the *Open Client/Server Supplement*.

For specific information about entries for connections to Monitor Server and Historical Server, see:

- *Monitor Server User's Guide*
- *Historical Server User's Guide*

Testing the Sybase Central installation

After you install Adaptive Server, Sybase Central, and the Java Runtime Environment, it is a good idea to test the installation and network connections:

- 1 Select Start | Programs | Sybase | Sybase Central Java Edition from the Windows task bar to start Sybase Central.
- 2 Select Tools | Connect from the Sybase Central menu bar to activate a Sybase Adaptive Server login window.
- 3 Log in using the default user ID, "sa", without a password. If you changed the password for Adaptive Server according to the post-installation instructions, you need to use the new password.
- 4 From the drop-down list, select the Adaptive Server to which you want to connect.

If Sybase Central is installed on the same computer as the server, click the icon for the server.

If prompted to start Adaptive Server, click OK. When the traffic light icon representing the server is green, the server is running.

Warning! Do not start XP Server from Sybase Central. Adaptive Server starts XP Server automatically when Adaptive Server receives the first request for an extended stored procedure.

- 5 To disconnect from a server, select Tools | Disconnect.
- 6 Exit Sybase Central.

If Adaptive Server fails any of these tests, see Chapter 6, "Troubleshooting." Before retrying the installation, follow the instructions in Chapter 3, "Post-Installation Tasks."

Migrating from 32-bit to 64-bit versions of Adaptive Server

This chapter describes how to migrate an Adaptive Server installation built on 32-bit Adaptive Server to run on a 64-bit Adaptive Server after an upgrade.

Migrating from 32-bit to 64-bit versions

sqlupgrade upgrades Adaptive Server only from one version to another. This section describes how to migrate a 32-bit version of Adaptive Server to a 64-bit version of Adaptive Server.

To migrate Adaptive Server from the 32-bit to the 64-bit version, you must first install and configure the 64-bit operating system.

Method #1: Dump and load

- 1 Run dbcc checks on all databases in the 32-bit Adaptive Server and make sure they run cleanly.
- 2 Create a 64-bit Adaptive Server in a new directory.
- 3 Create devices and databases to match those in the 32-bit server. Make sure that the sysusages mapping is correct. See document ID #1324 at <http://my.sybase.com/detail?id=1324>.

Note Allow 10 percent additional space for the sybssystemprocs database.

- 4 Dump the databases on the 32-bit server.
- 5 Load the databases to the 64-bit server.
- 6 If you have partitioned tables, update partition statistics.
- 7 Run dbcc checks on the 64-bit server and make sure they run cleanly.

Method #2: BCP data out and in

If you have DDL scripts to create devices, databases, tables, rules, stored procedures, triggers, and views, you can use bcp to move data out of the old database and into the new.

If you do not have DDL scripts, use the ddngen utility to re-create the schema for the Adaptive Server you are about to upgrade. See the *Utility Guide*.

- 1 Run dbcc checks on databases to verify data integrity.
- 2 Use bcp to extract all the data from all the tables in the databases.
- 3 Create a new 64-bit Adaptive Server in a new directory.
- 4 Create devices, databases, and tables.
- 5 Use bcp to bulk copy data into tables.
- 6 Re-create all views, triggers, stored procedures.
- 7 Run dbcc checks on the 64-bit server and make sure they run cleanly.

Troubleshooting

This chapter provides instructions for troubleshooting installation error messages.

If this chapter does not describe the error message you are encountering, see the *Error Messages and Troubleshooting Guide*.

Topic	Page
Overview	39
Error log locations	40
Solutions to common installation problems	41
Troubleshooting SySAM	48

Overview

For Sybase server products, there are two categories of errors:

- Errors generated by the installation, upgrade, and setup utilities
- Errors generated by the server (Adaptive Server, Backup Server, and so on)

To determine the cause of an error, first look in the log file of the utility being used, to identify the task the utility was performing when it failed. Then check the server error log. See “Error log locations” on page 40.

Table 6-1 lists possible causes and solutions for common problems that you might encounter during a first-time installation or upgrade. If you continue to have problems, retry the installation or upgrade.

If the installation program or svrbuild unexpectedly quits, or if you cannot correct the problem, see the *Error Messages and Troubleshooting Guide*.

Table 6-1: Troubleshooting guidelines

Problem	Possible cause and solution
The installation program cannot start Adaptive Server.	<p>Failure to start Adaptive Server is generally caused by a lack of available RAM or disk space.</p> <p>Make sure you meet RAM requirements. If you have the required RAM, remove, then reinstall all applications to the hard drive and restart the installation process.</p> <p>After Adaptive Server is installed, there should be 25MB of free disk space left in the disk drive. Adaptive Server needs approximately 18MB for creating shared memory files.</p> <p>Verify that you are logged in as System Administrator. You must log in as an administrator to start Adaptive Server.</p> <p>Shut down Monitor Server before restarting Adaptive Server.</p>
After upgrading Adaptive Server, you cannot use svrbuild.	After you begin upgrading a server, you may be unable to use the same svrbuild session for other tasks. Exit and restart svrbuild.
The installation program cannot connect to the upgraded Adaptive Server.	After you begin upgrading a server, you may be unable to use the same svrbuild session for other tasks. Exit and restart svrbuild.
The installation program detects reserved word conflicts.	“Stopping Adaptive Server after a failure” on page 44.
The upgrade fails.	See “Recovering from a failed upgrade” on page 45.

Error log locations

The information in the error logs helps you determine the reason and possible solution for an error message.

For installation utilities

Table 6-2 lists the default error log locations for the installation, upgrade, and setup utilities.

Table 6-2: Error log locations for installation utilities

Utility	Error log location
InstallShield	<code>\$\$SYBASE/log.txt</code>
srvbuild srvbuildres	<code>\$\$SYBASE/\$\$SYBASE_ASE/init/logs/srvbuildMMDD.NNN</code> where <i>MM</i> is the month, <i>DD</i> is the date, and <i>NNN</i> is a three-digit number identifying the srvbuild session
sqlloc sqllocres	<code>\$\$SYBASE/\$\$SYBASE_ASE/init/logs/sqllocMMDD.NNN</code>
sqlupgrade sqlupgraderes	<ul style="list-style-type: none"> <code>\$\$SYBASE/\$\$SYBASE_ASE/init/logs/sqlupgradeMMDD.NNN</code> <code>\$\$SYBASE/\$\$SYBASE_ASE/upgrade/upgrade.NNN</code> (a temporary file created by the upgrade process)

For Sybase servers

Table 6-3 lists the default error log locations for each Sybase server.

Table 6-3: Error log locations for Sybase servers

Server	Default error log path and file name
Adaptive Server	<code>\$\$SYBASE/\$\$SYBASE_ASE/install/servername.log</code>
Backup Server	<code>\$\$SYBASE/\$\$SYBASE_ASE/install/servername_back.log</code>
Monitor Server	The directory from which Monitor Server is started. The error log file name is <i>ms.log</i> .
XP Server	The Adaptive Server error log.

Solutions to common installation problems

If this section does not describe the problem you are experiencing, see the *Error Messages and Troubleshooting Guide*.

Unable to use X-Windows

If the setup and configuration utilities do not display correctly, you may have to adjust the resolution on your monitor.

To change to a smaller font size, issue the following UNIX commands:

```
% cd $$SYBASE/ASE-12_5
```

```
% chmod +w xappdefaults
% cd xappdefaults
% chmod +w *
% foreach i(*)
? cat $i | sed -e "s/140/100/g" | sed -e "s/^#D/D/g" | sed -e "s/^#S/S/g" > p
? mv p $i
? end
%
```

The installation utilities will now use approximately 25 percent less window space.

Cannot eject the CD from the drive

If you cannot eject the CD from the drive:

- Check to see whether the CD drive path is the current directory (pwd) in a UNIX terminal window. If it is, change (cd) to another directory.
- Check for sybhelp processes. If these processes exist, kill them using the UNIX kill command.

DISPLAY environment variable not set correctly

This error message means that the DISPLAY environment variable on the *remote* machine is not set correctly to display InstallShield to your *local* machine:

The DISPLAY environment variable is not set correctly.

To correct the problem, enter the following command at the UNIX prompt of the *remote* machine:

For C shell:

```
setenv DISPLAY host_name:0.0
```

For Bourne shell:

```
DISPLAY=host_name:0.0; export DISPLAY
```

where *host_name* is the name of the machine on which you want InstallShield to appear (that is, on your *local* machine).

Client not authorized to connect to server

If you run InstallShield and you get this error message, it means the remote machine does not have permission to display the user interface on the local machine where you start working::

```
Xlib: connection to "host_name" refused by server
Xlib: Client is not authorized to connect to Server
xhost: unable to open display "host_name"
```

To correct the problem, enter the following command at the UNIX prompt of your *local* machine:

```
xhost +remote_machine
```

where *remote_machine* is the machine on which you are running InstallShield.

Restart InstallShield.

Address already in use

The following message from *srvbuild* means you entered a port number that is already in use:

```
kernel: ninit: bind, Address already in use
```

To correct the problem, enter a different port number on the *srvbuild* window. The command `netstat -a` produces a list of port numbers in use.

Adaptive Server fails to start

The shared memory of the operating system may not be set high enough.

To correct the problem, see Chapter 2, “Installing Adaptive Server” for instructions on adjusting the shared memory value. Restart the installation or upgrade process.

InstallShield fails to start

If InstallShield does not start, restart it, using:

```
"-is:javaconsole"
```

This displays any error messages to the console which user can then correct.

Cannot start XP Server

You may receive the following message from XP Server, when it is invoked by `xp_cmdshell` or some other extended stored procedure:

```
Msg 11018, Level 16, State 1:  
Procedure "xp_cmdshell", Line 2:  
XP Server must be up for ESP to execute.  
(return status = -6)
```

Verify that there is an XP Server entry in Adaptive Server's `sys.servers` table. If you created XP Server in a different `srvbuild` session than Adaptive Server and you did not specify a related Adaptive Server, `srvbuild` cannot update the `sys.servers` table.

Use `sp_addserver` to add an entry to the `sys.servers` table.

Stopping Adaptive Server after a failure

If the installation or upgrade session fails after you start Adaptive Server, use the shutdown command:

- 1 Log on as "sa".
- 2 Shut down Adaptive Server using the shutdown with `nowait` command. Using the `with nowait` option stops the Adaptive Server immediately, without waiting for currently executing SQL statements to finish:

```
1> shutdown with nowait  
2> go
```

Recovering from a failed installation

If the installation does not succeed, the installation program displays error messages. Review the error messages and your Adaptive Server error log to determine the cause of the installation failure. For default error log locations, see Table 6-3 on page 41.

If installation fails after files are created

If the installation program quits while you are configuring Adaptive Server:

- 1 View the contents of the log file generated by Adaptive Server. For default error log locations, see Table 6-3 on page 41.

- 2 Take any suggested actions to correct the problem.
- 3 If the installation fails *after* the installation program has created any operating system files, such as the master device or system procedures device files, delete those files.
- 4 If the installation fails *after* the installation program starts the Adaptive Server that you are attempting to install, shut down that server.
- 5 Use `asecfg` to restart the configuration.

Troubleshooting resource file installations

If you encounter problems during the build, configuration, or upgrade process of Adaptive Server using the `srvbuild[res]`, `sqlloc[res]`, or `sqlupgrade[res]`, it may be that these utilities did not allow enough time for Adaptive Server to shut down properly.

You can set the environment variable `SYBSHUTWAIT` to force the utilities to wait for Adaptive Server to shut down. For example, this command forces the utility to wait for 2 minutes to allow Adaptive Server to shut down before proceed with the next task:

```
% setenv SYBSHUTWAIT 120
```

If Adaptive Server fails the pre-upgrade test, `sqlupgrade` displays:

```
Server SERVER_NAME failed preupgrade eligibility test.  
See log for more information.
```

- 1 From the Upgrade window, select Exit.
- 2 Examine the log file created in the `$SYBASE/$SYBASE_ASE/init/logs` directory to find out why Adaptive Server or SQL Server failed the pre-upgrade eligibility test.

After you resolve any problems, shut down Adaptive Server or SQL Server and use `sqlupgrade` to complete the upgrade session.

Recovering from a failed upgrade

If the upgrade process fails, the installation program displays error messages. Review the error messages and the Adaptive Server error log to determine the cause of the upgrade failure. For default error log locations, see Table 6-2 on page 41.

Restoring from backup

You may need to restore your databases due to a failed upgrade.

If you think the upgrade failure or its cause may have damaged your databases, restore the databases from backups. For information on restoring databases, see the *System Administration Guide*.

If you are concerned about the possible corruption of your databases, exit `sqlupgrade`, but do not attempt to restart the upgrade session until you have restored the databases from backup. After restoration is complete, retry the upgrade.

Re-running the upgrade

Whether you can safely re-run the upgrade depends on when the failure occurred in the upgrade process. If the failure occurs while the message: “Starting to upgrade Adaptive Server” is displayed, it is safe to re-run the upgrade program.

- 1 Try to fix the problem that caused the upgrade to fail.
- 2 Run the upgrade again.

If the upgrade fails:

- *Before* returning the message “Setting upgrade version to 12.5,” you may need to restore your latest database backup, and restart the upgrade.
- *After* returning the message “Setting upgrade version to 12.5,” it is not necessary to restart the upgrade. The installation utility considers the upgrade to be complete.

Also, it is not necessary to restore a database from a backup unless that database failed during the upgrade.

Recording the upgrade manually

If Adaptive Server did not finish recording the upgrade in the `sysattributes` table before the failure occurred.

- 1 Fix the problem that caused the failure.

The first error message indicates the cause of the failure. If you can, solve the problem and proceed to step 2. For example, you can usually correct an 1105 error with a `dump transaction` command. However, you may need to refer more complex problems to Sybase Technical Support.

- 2 Execute the following SQL statements to allow Adaptive Server to complete recording the upgrade:

```
1> declare @dbname varchar(30)
2> select @dbname = min(name)
3> from sysdatabases
4> while @dbname is not null
5> begin
6> online database @dbname
7> select @dbname = min(name)
8> from sysdatabases
9> where name > @dbname
10> end
```

If the cause of the failure is known

If the error logs or messages clearly indicate the cause of failure, and you do not believe your databases were damaged, you can attempt to fix the problem and re-run the upgrade immediately.

- 1 Exit the sqlupgrade program.
- 2 Perform the necessary actions to fix the problem.

For example, if the error log indicates that the upgrade failed because your existing databases do not contain enough space, use the alter database command to increase the available space.

- 3 You may need to shut down Adaptive Server.

Shutting down the server enables the installation program to start the server and re-run the upgrade session.

- 4 Start sqlupgrade again.
- 5 Select Upgrade Adaptive Server, and proceed with the upgrade.

If the cause of the failure is unknown

If the upgrade process fails again, and you cannot determine the cause of failure, check the error log file to find out when and where the upgrade failed, and contact Sybase Technical Support.

By default, the log file is located in `$$SYBASE/$SYBASE_ASE/install/errorlog`.

Troubleshooting SySAM

When you start Adaptive Server with SySAM support, problems acquiring licenses or contacting the asset management software appear in the Adaptive Server error log file, *lmgrd.log* (*\$SYBASE/\$SYBASE_SYSAM/log*).

Table 6-4 describes the SySAM error messages and suggests ways to correct common problems.

Table 6-4: SySAM error messages

Message	Description	Action
Use license file <i>filename</i> .	This message identifies the license file that Adaptive Server uses.	This is a normal start-up message; no action is required.
Feature <i>feature_name</i> is not licensed.	There is no license available for the specified optional feature.	You must purchase and install a valid license for the feature before it can be used.
There is no valid license for ASE server product. Server is starting with all the optional features disabled.	Adaptive Server cannot find a valid license file, or it cannot contact the asset management software to check out an ASE_SERVER license.	When Adaptive Server cannot check out an ASE_SERVER license, the server starts but does not enable any optional features. If you have purchased an ASE_SERVER license, make sure it has been installed. Also, make sure the license file exists and has been defined in <i>LM_LICENSE_FILE</i> .
License manager initialization fails.	The asset management software did not initialize.	See the <i>Configuration Guide</i> for instructions on how to resolve failed licen manager initialization issues.
Feature <i>feature_name</i> is over drafted <i>n</i> times.	All licenses for the specified feature have already been checked out by other servers.	Adaptive Server enables the optional feature, even though all available licenses have been used by other servers. Contact your authorized Sybase reseller to purchase an additional license for the feature.
Warning: there is no valid license for ASE <i>feature</i> and therefore feature <i>feature</i> is not initialized.	There is no license available for the configured feature.	Adaptive Server does not enable the optional feature until it can obtain a valid license. Purchase and install a license for the feature. Contact your authorized Sybase reseller.

Fixing license certificate input errors

When you purchase licenses for Sybase Adaptive Server products, you are issued a Sybase Software Asset Management Certificate. The certificate has the following information for each product:

- Order Number
- Feature Name

- Feature Count
- Software Version
- Authorization Code
- Product Description

This information is used by SySAM to build the license file, with new licensed features appended to the end of the file. If license keys are not working, it may be that the information entered on the License Entry application (lmgr) was typed incorrectly. In this case, you can check the license key in question (for example, ASE_HA) to make sure the information is correct. If an error was made, you can correct it using a text editor.

Here is a sample license key entry from a *license.dat* file with information on how to map the information in the license file to the information that appears on the Sybase Software Asset Certificate.

```
INCREMENT ASE_HA SYBASE 12.5 permanent 5A234B567C890\  
OVERDRAFT=10000 ck=0 SN=30181-4
```

- INCREMENT indicates that the count of this license key will be added to the count of any other license keys for the same feature (all SYBASE license keys use INCREMENT).
- ASE_HA is the Feature Name entered.
- SYBASE identifies this license key as belonging to the SYBASE vendor daemon (case sensitive, must be uppercase).
- 12.5 is the Feature Version entered.
- permanent indicates this license has no expiration date (some license keys have a date instead.)
- 5 is the Feature Count entered.
- A234B567C890 is the Authorization Code entered.
- OVERDRAFT=10000 indicates that you can check out more features than you are licensed for, but you will be warned that you have overused your license (case sensitive, must be uppercase)
- ck=0 is the checksum (it is not used and is usually 0).
- SN=30181-4 is the Order Number entered (case sensitive, the SN part must be uppercase.)

Many of the fields in the license key are case sensitive; you must take care when editing a license key. The only time you should edit a license key is when the values have been entered incorrectly and the key is reported as invalid. Making any change to a license key that is valid makes the license key invalid.

The file is located in `$$SYBASE/$SYBASE_SYSAM/licenses/license.dat`.

Removing Adaptive Server

With this version of Adaptive Server, the installation technology has changed from that used for Adaptive Server 12.0 and 12.5. The current installer is based on InstallShield Multi-Platform Edition and uses the built-in uninstall capability. The basic premise of the uninstaller is that only actions that were done by InstallShield are removed during an uninstallation process. This means that files or registry entries created after installation are not removed by the uninstaller and must be removed by the customer after the uninstall is completed. Where possible these actions are identified in this chapter.

Topic	Page
Uninstalling Adaptive Server 12.5.1	51
Removing an existing Adaptive Server	52

Uninstalling Adaptive Server 12.5.1

- 1 Shut down all servers prior to running the uninstall program. See “Starting and Stopping Servers” in the *Configuration Guide*.
- 2 Launch the uninstall program by executing the following steps:
 - a Change to the *SYBASE* directory.
 - b Source the *SYBASE.csh* or *SYBASE.sh* as appropriate.
 - c Execute the uninstall program by entering:


```
./uninstall/ASESuite/uninstall
```
- 3 Once the Uninstall Welcome window displays, click Next to continue.
- 4 The component selection window displays with everything selected. Deselect components by clicking the check box and erasing the check mark. Click Next to continue.

- 5 A summary window displays what is about to be uninstalled. Click Next to continue.
- 6 A window displays indicating that the uninstallation process is being performed. There is no progress bar.

Note One or more pop-up displays may occur indicating that a file was modified after it was installed and requesting confirmation that it should be deleted.

- 7 When the uninstall process has completed a final window displays. Click Finish to exit the uninstall program.

There is one directory that the uninstall program cannot delete. This is *uninstall* (the uninstall program). You must delete the directory manually. The uninstall program does not delete database devices which may be in the SYBASE directory or elsewhere. Unless you are planning to reinstall Adaptive Server and re-use the database devices, you should delete them.

Removing an existing Adaptive Server

- 1 To remove an existing Adaptive Server, from a command line prompt, enter:

```
rm servername.*
```

- 2 Change to the directory `$$SYBASE/$SYBASE_ASE/install` and run the following commands:

```
rm RUN_servername.*
```

```
rm servername.*
```

- 3 Edit `$$SYBASE/interfaces`, to remove all references to the Adaptive Server.
- 4 If you used operating system files for database devices, remove those.

Alternative Installation Methods

Topic	Page
Installation on consoles (no-GUI mode)	53
Silent installation	54
Configuration using resource files	55

Installation on consoles (no-GUI mode)

In cases where there is no graphics display device available, or for some other reason you wish to run the installer without the graphical user interface (GUI) InstallShield can be launched in console or no-GUI mode. When invoking the installer setup program add the `-console` command line argument. In cases where InstallShield launches automatically, select Cancel to cancel the GUI install and then launch the setup program from a terminal or console. Then:

- 1 Change the default directory to the CD.
- 2 Run the setup program with the `-console` command line argument:

```
setup -console -is:javaconsole
```

The flow of the installation is identical to a regular GUI installation, except that the display is written to a terminal window and responses are entered using the keyboard.

Silent installation

A silent installation (sometimes referred to as an unattended install) is done by running InstallShield and providing a response file that contains answers to all of InstallShield's questions. There are two methods of generating a response file for InstallShield. The first method is to run InstallShield in GUI mode and record all of the responses into a response file. This response file then be edited with an editor to customize the responses if needed.

The second method is to run InstallShield and have it write out a template through the file in an editor and provide responses for each question. InstallShield is then invoked with the response file and all questions that would be been asked are answered by reading from the response file.

To perform the silent installation using the resource file that you created by running InstallShield through the installation process:

- 1 Change default directory to the CD.
- 2 Run the setup program with the `-options-record filename:`

```
setup -options-record <absolute path>session1.txt
```
- 3 Run through the installation saving all of the responses.
- 4 Edit the response file to customize it for your needs.
- 5 Run the setup program with the `-option filename` and `-silent` command line arguments. Additionally you must include the `-W` argument that indicates that you accept the license agreement.

```
Setup -options <absolute path>session1.txt -silent -W  
SybaseLicense.agree=true -is:javaconsole
```

To use a template response file, skip step three and alter step two above to do the following:

```
Setup -options-template <absolute path of response  
file> -is:javaconsole
```

In either case it is possible to custom configure the servers as well as being able to select a typical install and use the default configuration values.

Except for the absence of the GUI screens all actions of InstallShield are the same and the result of an installation in silent mode is exactly the same as one done in GUI mode with the same responses.

Configuration using resource files

You can create an Adaptive Server or Backup Server, using values specified in a resource file that defines the attributes for the server.

Resource files are ASCII format template files that contain configuration variables. To use the template files, edit the resource file, replace variables with desired values, and execute the `svrbuidres` utility. The `svrbuidres` utility uses the variables to create servers.

Resource files allow you to create servers in batch mode. You can create servers on multiple systems from the same resource file by editing a few values in that file. Within a single resource file, you can create only one server at a time.

The server files must already exist on the computer before the servers can be created. Use procedures in Chapter 2, “Installing Adaptive Server.”

Note You cannot install Monitor Server, XP Server or the full-text search engine using resource files.

To install an Adaptive Server or Backup Server using resource files:

- 1 Edit a resource file as described in “Configuring from a resource file” on page 55.
- 2 Execute the `svrbuidres` utility, using the edited resource file as described in “Using `svrbuidres`” on page 58.

Configuring from a resource file

You can install Adaptive Server via a resource file. You can use either:

- The sample resource file provided with the software, or
- The resource file that is created by the `svrbuid` utility.

Editing a sample resource file

Sample resource files for creating Adaptive Server and Backup Server are included in your Adaptive Server distribution in:

`$SYBASE/$SYBASE_ASE/init/sample_resource_files.`

Edit these files to specify the attributes for the servers you want to create.

Note the following:

- If you use USE-DEFAULT as the Adaptive Server name, the utility substitutes the name of the computer on which it is running for the server name. If you use USE-DEFAULT, do not create Backup Server entries in the resource file. They are created automatically using the default name.
- To create a server with a different name, change the Adaptive Server name and use the new name with the “_BK” extensions for Backup Server. For example, the Backup Server for PIANO should be PIANO_BK.
- The master device size must be at least 30MB.
- The system procedure device and sybserverprocs database sizes must be at least 112MB.
- The auditing entries in the resource file are not supported and will not be processed by the utility. To enable auditing, see *Configuring Adaptive Server Enterprise*.

Editing a resource file created by *srvbuild*

You can create a resource file by running the *srvbuild* utility. A new file containing the values you specified for the Adaptive Server or Backup Server is written to:

```
$$SYBASE/$$SYBASE_ASE/init/logs/srvbuildMMDD.VVV-servername.rs.
```

Edit these files to specify the attributes for the servers you want to create.

Warning! Be sure to edit the resource file generated by *srvbuild* to change attributes, such as device names, that may be different on another system.

Resource file attributes for Adaptive Server

Table A-1 shows the Adaptive Server resource file attributes, their default values, and other options.

The attributes in bold type are *required*.

All alpha values are case sensitive.

The prefix of the attribute name varies, depending on whether the resource file was created by *srvbuild* or by *sybinit* (from a pre-11.5 SQL Server). The prefix is ignored by *srvbuildres* when processing the resource file.

The attribute names in Table A-1 are the attribute names provided in the sample resource file included in your Adaptive Server distribution.

Table A-1: Resource file attributes for Adaptive Server

Attribute	Default value [other options]
sybinit.release_directory	The value of \$SYBASE at your site
sybinit.product	sqlsrv
sqlsrv.server_name	<i>server_name</i>
sqlsrv.new_config	yes (required value)
sqlsrv.do_add_server (to <i>interfaces</i> file)	yes [no]
sqlsrv.network_protocol_list	tcp [spx]
sqlsrv.network_hostname_list	<i>hostname</i>
sqlsrv.network_port_list	<i>port_number</i>
sqlsrv.master_device_physical_name	<i>path_and_name_of_master_device</i>
sqlsrv.master_device_size	30 (MB)
sqlsrv.master_database_size	5 (MB)
sqlsrv.errorlog	\$SYBASE/\$SYBASE_ASE/install/server_name.log
sqlsrv.do_upgrade	no (required value)
sqlsrv.sybssystemprocs_device_physical_name	<i>path_and_name_of_sybssystemprocs_device</i>
sqlsrv.sybssystemprocs_device_size	100 (MB)
sqlsrv.sybssystemprocs_database_size	100 (MB)
sqlsrv.sybssystemdb_device_physical_name	<i>path_and_name_of_sybssystemdb_device</i>
sqlsrv.sybssystemdb_device_size	5 (MB)
sqlsrv.sybssystemdb_database_size	5 (MB)
sqlsrv.default_backup_server	<i>server_name_back</i>

Resource file attributes for Backup Server

Table A-2 shows the Backup Server resource file attributes, their default values, and other options.

The attributes in bold type are *required*.

All values are case sensitive.

The prefix of the attribute name varies, depending on whether the resource file was created by `srvbuild` or by `sybinit` (from a pre-11.5 Adaptive Server). The prefix is ignored by `srvbuildres` when processing the resource file.

The attribute names in Table A-2 are the attribute names provided in the sample resource file included in your Adaptive Server distribution.

Table A-2: Resource file attributes for Backup Server

Attribute	Default value [other options]
sybinit.release_directory	\$SYBASE
sybinit.product	bsrv
bsrv.server_name	<i>server_name_back</i>
bsrv.do_add_backup_server (to <i>interfaces</i> file)	yes [no]
bsrv.network_protocol_list	tcp [spx]
bserve.network_hostname_list	<i>hostname</i>
bsrv.network_port_list	<i>port_number</i>
bsrv.language	us_english [chinese, french, german, japanese, spanish]
bsrv.character_set	iso_1 [iso_1, cp850, cp437, dekanji, ascii_8, eucgb, eucjis, mac, roman8, sjis, utf8]
bsrv.tape_config_file	\$SYBASE/\$SYBASE_ASE/ <i>backup_tape.cfg</i>
bsrv.errorlog	\$SYBASE/\$SYBASE_ASE/ <i>server_name_back.log</i>

Using *srvbuildres*

To execute *srvbuildres* at the UNIX prompt enter:

```
$SYBASE/$SYBASE_ASE/bin/srvbuildres -r resource_file
```

where *resource_file* specifies the resource file containing the attributes that describe the server to build.

Note Unlike *srvbuild*, the *srvbuildres* utility does not require any X libraries.

When you have completed resource file installation, go to Chapter 3, “Post-Installation Tasks.”

Creating Raw Partitions

Adaptive Server version 12.5.1 has been released on kernel 2.4.7-10 in addition to kernel 2.2.14, and multiCPU kernel 2.2.17. Sybase recommends that you upgrade to this new release since 2.4.7-10 provides:

- More stable support for raw devices.
- Support for large file systems.
- Support for asynchronous I/O.
- Support for LDAP.
- Backup directly to tape devices.

Topic	Page
Overview	59
Creating the partitions	61
Red Hat Raw device administration	62
Accessing raw devices from Adaptive Sever	63

Overview

Adaptive Server 12.5 and later allows you to create and mount its database devices on raw bound devices for raw disk I/O. Raw disk I/O has performance advantages since it enables direct memory access from user address space to the physical sectors on the disk, omitting needless memory copy operations from the user address space to the kernel buffers.

Raw disk I/O also assumes that logical and physical I/O are simultaneous, and writes are guaranteed to flush to the disk when the system write() call returns.

For Red Hat 6.2 distributions, you must use a distribution with kernel 2.2.18, at minimum. Correct kernel errata packages can be downloaded from the Red Hat Web site at <http://www.redhat.com>.

When preparing a raw partition device, follow these guidelines:

- Do not initialize a database device on the partition that contains your Sybase installation software. Doing so destroys all existing files on that partition.
- A raw partition designated for use by Sybase cannot be mounted for use by the operating system for any other purpose, such as for file systems or swap space.
- After a Sybase configuration utility or the disk init command has initialized a portion of a partition as a database device, the entire partition cannot be used for any other purpose. Any space left on the partition beyond the size specified for the device becomes inaccessible, unless you drop and re-create the device.
- For best performance, place the Sybase software and all disk devices, including the master device, on the same machine.
- To avoid any possibility of using a partition that contains the partition map, do not use cylinder 0.
- Place the database device on a character device, because the Adaptive Server recovery system needs unbuffered system I/O.

To determine whether a device is a block device or a character device, run this command on the */dev/raw* directory:

```
ls -l
```

“b” (block) or “c” (character) appears in the left-most column.

❖ **Choosing a raw partition**

- 1 Determine which raw partitions are available.
- 2 Determine the sizes of the raw partitions.
- 3 From the list of available raw partitions, select a raw partition for each device.
- 4 Verify with the operating system administrator that the partition you have chosen is available.
- 5 Make sure the “sybase” user has read and write privileges to the raw partition.

Note For more information on choosing a raw partition, see your operating system documentation.

Creating the partitions

Specific system administration is required before raw devices can be enabled and used. The available tools to configure devices depend on the distribution.

Physical disk space needs to be allocated in partitions on the disks where you want to set up raw devices. The physical I/O subsystem can be on either SCSI or EIDE devices.

Note Creating the partitions can be done with the Linux default `fdisk(8)` utility. You must have “root” privileges to use the command `fdisk`. Refer to the `fdisk(8)` man pages for a complete description of the command.

This example shows how to set up partitions as raw devices, on four SCSI disks in the system—`sda`, `sdb`, `sdc`, and `sdd`.

- Start `fdisk` on `/dev/sdd`:

```
# fdisk /dev/sdd
```

The system returns:

```
The number of cylinders for this disk is set to 8683
....
Command (m for help):
```

- Enter “p” to print the current partition lay-out. The output is:

```
Disk /dev/sdd: 64 heads, 32 sectors, 8683 cylinders
Units = cylinders of 2048 * 512 bytes
Device Boot Start End Blocks Id System
/dev/sdd1 1 7499 7678960 83 Linux
/dev/sdd2 7500 8012 525312 82 Linux swap
/dev/sdd4 8013 8683 687104 5 Extended
```

This sample shows the extended partition (`sdd4`) has 687104 free blocks, starting from 8013 and ending at 8683. The remaining partitions can be assigned later.

The next example assigns an additional partition for raw bound disk I/O:

- 1 Use the `n` command to create a new partition, and enter “l” at this prompt for logical.

```
Command (m for help):n
Command action
l logical (5 or over)
p primary partition (1-4)
```

- 2 Accept the default by pressing Enter on the keyboard when you are prompted:

```
First cylinder (8013-8683, default 8013):
```

- 3 Accept the default by pressing Enter on the keyboard when you are prompted:

```
Last cylinder or +size or +sizeM or +sizeK (8013-8683, default 8683): 8269
```

- 4 Use the `t` command, enter “5” at this prompt:

```
Partition number (1-8):5
```

- 5 Enter “60” at this prompt:

```
Hex code (type L to list codes): 60
```

- 6 The output is:

```
Changed system type of partition 5 to 60 (Unknown)
```

- 7 Repeat the above steps to create four partitions for raw device I/O.

Verify the setup using `p` to print the full partition table before writing it out. Make sure that there are no overlapping partitions and the type for the unassigned partitions is Unknown type 60.

The partition table can now be written to disk and you can quit the `fdisk(8)` utility.

Before continuing, restart your system to verify that the kernel running is in sync with the new disk partition layout. This is reported during system start when probing for disk spindles.

```
# /sbin/reboot
```

Red Hat Raw device administration

Red Hat 7.2 is fully equipped with the administration tools to set up raw devices and administrate them during system start. To set up a Red Hat 7.2 system the partitions are administrated in the file `/etc/sysconfig/rawdevices`.

This is a plain text file contains comments and examples for possible configurations, as follows:

```
# raw device bindings
```

```
# format: rawdev major minor
#         rawdev blockdev
# example: /dev/raw/raw1 /dev/sda1
#         /dev/raw/raw2 8 5
/dev/raw/raw1 /dev/sdd1
/dev/raw/raw2 /dev/sdd2
/dev/raw/raw3 /dev/sdd3
/dev/raw/raw4 /dev/sdd4
```

- 1 Once created, you need to bind the raw devices. This can be done by starting them from */etc/rc.d/init.d/rawdevices*.

```
[root@legolas init.d]# cd /etc/rc.d/init.d
[root@legolas init.d]# sh rawdevices start

Assigning devices:
/dev/raw/raw1 --> /dev/sdd5
    /dev/raw/raw1:    bound to major 3, minor 5
/dev/raw/raw2 --> /dev/sdd6
    /dev/raw/raw2:    bound to major 3, minor 6
/dev/raw/raw3 --> /dev/sdd7
    /dev/raw/raw3:    bound to major 3, minor 7
/dev/raw/raw4 --> /dev/sdd8
    /dev/raw/raw4:    bound to major 3, minor 8
done
```

- 2 To guarantee that the raw device binding occurs during any restart, use the *chkconfig(8)* utility.

```
# /sbin/chkconfig rawdevices on
```

Accessing raw devices from Adaptive Server

Once the partitions are created and the devices are bound for raw disk I/O, Adaptive Server is able to use them. If Adaptive Server is running as user *sybase*, then apply read, write, and owner permissions to the */dev/raw/raw#* device entries and the raw bound control device */dev/rawctl* for user *sybase*.

See the *chown(1)*, *chgrp(1)*, and *chmod(1)* commands to apply correct permissions.

- To verify your settings, query the device binding using the raw command, enter:

```
$ raw -qa
```

The output should be:

```
/dev/raw/raw1: bound to major 3, minor 5
```

```
/dev/raw/raw2: bound to major 3, minor 6
```

```
/dev/raw/raw3: bound to major 3, minor 7
```

```
/dev/raw/raw4: bound to major 3, minor 8
```

- To verify your settings, query the device binding using the permissions command, enter:

```
<username@servername.sybase.com:4> raw -qa
```

The output should be:

```
Cannot open master raw device '/dev/rawctl'  
(Permission denied)
```

Using the raw devices, Adaptive Server and the installation and configuration utility, `srvbuild`, detects and presents their size automatically. Just enter the absolute path to the raw device when creating the master, `sybtempprocs`, `sybtempdb`, or any other device.

Using sybssystemprocs

Topic	Page
Increasing the size of the sybssystemprocs database	66
Increasing device and database capacity for system procedures	67

Note sysprocsdev is the default system name for this device. However, it is frequently referred to as the sybssystemprocs device, as in the Adaptive Server attribute window, since it stores the sybssystemprocs database.

Verify that the sybssystemprocs database is large enough. For an upgrade, the recommended minimum size for sybssystemprocs is the larger of 120MB, or enough free space to accommodate the existing sybssystemprocs database, and the largest catalog that is to be upgraded, plus an additional 10 percent of the largest catalog's size. The additional 10 percent is for logging upgrade changes.

You may need more space if you are adding user-defined stored procedures. 120MBs accommodate additional internal data structures, but does not account for the possibility of a large number of user-defined system procedures.

If your sybssystemprocs database does not meet these requirements and you have enough room on the device to expand the database to the required size, use the alter database command to increase the database size.

Use sp_helpdb to determine the size of the sybssystemprocs database:

```
1> sp_helpdb sybssystemprocs
2> go
```

Use sp_helpdevice to determine the size of the sysprocsdev device:

```
1> sp_helpdevice sysprocdev
2> go
```

If the db_size setting is less than the required minimum, you must increase the size of sysprocdev.

Increasing the size of the sybsystemprocs database

If your current sybsystemprocs database does not have the minimum space required, there are two options for creating a new database with sufficient space for the upgrade:

- You can drop the old database and the device and create a new sysprocsdev device, or
- You can leave the database and old device alone and add a new device large enough to hold the additional megabytes, and alter the sybsystemprocs onto the new device. Sybase recommends that you expand the current device.

❖ Enlarging the sybsystemprocs database

- 1 If you do not have a current backup, create one.
- 2 In isql, use alter database to increase the size of the sybsystemprocs database. For example:

```
1> use master
2> go
1> alter database sybsystemprocs on sysprocsdev=40
2> go
```

In this example, “sysprocsdev” is the logical name of the existing system procedures device and “40” is the number of megabytes of space to add.

If the system procedures device is too small, you may receive a message similar to the following when you try to increase the size of the sybsystemprocs database:

```
Could not find enough space on disks to extend
database sybsystemprocs
```

If there is space available on another device, you can expand sybsystemprocs to a second device, or initialize another device that is large enough. For instructions on creating a larger sybsystemprocs device, see “Increasing device and database capacity for system procedures” on page 67.

- 3 To verify that Adaptive Server has allocated more space to sybsystemprocs, issue:

```
1> sp_helpdb sybsystemprocs
2> go
```


When the system procedures database is large enough to accommodate the increased size of the sybsystemprocs database, continue with the other pre-upgrade tasks.

Increasing device and database capacity for system procedures

If you cannot fit the enlarged sybsystemprocs database on the system procedures device, increase the size of the device and create a new database.

This procedure involves dropping the database. For more information on drop database, see the *Reference Manual*.

Warning! This procedure removes all stored procedures you have created at your site. Before you begin, save your local stored procedures using the defncopy utility. See the *Utility Guide* for more information.

❖ Creating a larger system procedures device (*sysprocsdev*)

- 1 Determine which device or devices you need to remove.

Warning! Do *not* remove any device that is in use by database other than sybsystemprocs, or you will destroy that database.

```
select d.name, d.phyname
from sysdevices d, sysusages u
where u.vstart between d.low and d.high
and u.dbid = db_id("sybsystemprocs")
and d.status & 2 = 2
and not exists (select vstart
from sysusages u2
where u2.dbid != u.dbid
and u2.vstart between d.low and d.high)
```

where *d.name* is the list of devices to remove from sysdevices and *d.phyname* is the list of files to remove from your computer.

The “not exists” clause in this query excludes any devices that are used both by sybsystemprocs and other databases.

Note the names of the devices; you will need them in the steps.

- 2 Drop subsystemprocs:

```
use master
go
drop database subsystemprocs
go
```

- 3 Remove the device or devices using sp_configure:

```
sp_configure "allow updates", 1
go

delete sysdevices
where name in ("devname1", "devname2", ...)
go

sp_configure "allow updates", 0
go
```

The where clause contains the list of device names returned by the query in step 1.

Note Each device name must have quotes. For example, “*devname1*”, “*devname2*”, and so on.

If any of the named devices are OS files rather than raw partitions, use the appropriate OS commands to remove those files.

- 4 Remove all files for the list of *d.phyname* returned in step 1.

Note File names cannot be complete path names. If they are relative paths, they are relative to the directory from which your server was started.

- 5 Find another existing device that meets the requirements for additional free space, or use a disk init command similar to the following to create an additional device for subsystemprocs:

```
1> use master
2> go

1> disk init
2> name = "sysprocsdev",
3> physname = "/sybase/work/sysproc.dat",
4> size = 51200
5> go
```

where `/sybase/work/` is the full, absolute path to your system procedures device.

Note Server versions 12.0.x and later accept but do not require "`vdevno=number`". In server versions earlier than 12.0.x, the number for `vdevno` must be available. For information about determining whether `vdevno` is available, see the *System Administration Guide*.

The size you provide should be the number of megabytes of space needed for the device multiplied by 512. `disk init` requires the size to be specified in 2K pages. In this example, the size is 112MB (112 x 512 = 57344). For more information on `disk init`, see the *Reference Manual*.

- 6 Create a `sybsystemprocs` database of the appropriate size on that device, for example:

```
1> create database sybsystemprocs on sysprocsdev =
112
2> go
```

- 7 Run the `installmaster` script in the *old* Sybase installation directory, as follows:

```
isql -Usa -Ppassword -Sserver_name -i/old_dir/
scripts/installmaster -oinstallmaster.out
```


Index

A

- Adaptive Server
 - described 7
 - installing multiple 55
 - installing via resource file 55
 - language, changing 20
 - more information about 19
 - RAM required by 12
 - System Administrator 23
- Administrator
 - Sybase System 12
- alter database command 65
- authorization code
 - troubleshooting 48

B

- Backup Server
 - installing via resource file 55
 - more information about 20
- batch installation of servers 55

C

- character devices
 - located in /dev directory 60
- commands
 - alter database 65
 - showserver 21
- connection problems
 - analyzing 13
- connectivity 34
- conventions
 - used in this manual xii

D

- database devices 24
 - raw partitions for, preparing 60
- databases
 - image data for sample 25
 - interpubs 26
 - jpubs 26
 - optional 24
 - sample 27
- default
 - network protocols 33
- directories
 - installation 30
- disk init command 60
- drivers
 - ODBC 30
- dscp utility 33
- dsedit utility 33

E

- Enterprise Edition package 5
- environment variables
 - PATH 29
 - TEMP 30
- error log files
 - troubleshooting and 44
- extended stored procedures (ESPs) 20

F

- feature licenses
 - troubleshooting 48

Index

G

- guest user
 - in pubs2 and pubs3 databases 27

H

- hardware requirements 6

I

- installation directory
 - for unloading products 12
- installing
 - Open Client/C 11.9.2 for Windows 29
 - Sybase products 21, 25
- installinpubs script 26
- installjpubs script 26
- installpix script 25
- installpubs2 script 25
- installpubs3 script 25
- interfaces file 33
- interpubs sample database 26

J

- jpubs sample database 26

L

- license files
 - sample license file 49
- listen port number
 - finding 34
- login
 - “sybase” 12
 - administrator, Windows NT 31

M

- Monitor Server

- more information about 20

N

- named pipe network protocol 34
- network protocols
 - named pipes 33
 - SPX 12
 - TCP/IP 12
 - Winsock 33
- network software configuration
 - verifying 13

O

- ODBC 30
- Open Client/C
 - for Windows 29
- Open Database Connectivity
 - See ODBC
- operating system
 - kernel patches 12
- option packages 4–6
 - Content Management Edition 4
 - descriptions 4
 - determining editions 5
 - e-business Edition 4
 - Enterprise Edition 5
 - Security and Directory Services package 4
 - Small Business Edition 6
 - XML Management edition 4
- optional databases 24
- optional features
 - authorization code input error 48
 - sample license file 49
- ownership
 - of files and directories 12

P

- partition map, avoiding damage to 60
- password
 - setting System Administrator 23

PATH environment variable 29
 privileges 60

R

raw partitions
 availability of 60
 minimum size for database devices 60
 recovering from a failed installation 44
 resource files 55
 installation using 55

S

xd2 saxd3 user 23
 sample databases 23, 27
 scripts
 installintpubs 26
 installjpubs 26
 installpix 25
 installpubs2 25
 installpubs3 25
 servers
 including in sql.ini files 33
 showserver command 21
 size
 recommended for database devices 65
 Small Business Edition package 6
 SPX network protocol 12
 sql.ini file 33
 srvbuild utility 33
 stored procedures
 recommended database device size if adding user-
 defined 65
 Sybase installation directory 12
 Sybase products
 installing 21, 25
 Open Client/C for Windows 29
 sybssystemprocs database
 preparing for upgrade 67
 syntax
 conventions for, in this manual xiii
 SySAM
 troubleshooting 48

SySAM certificate
 sample license file 49
 sysprocsdev device
 preparing for upgrade 67
 System Administrator
 setting password 23

T

TCP/IP network protocol 12
 TEMP environment variable 30
 troubleshooting
 by using error log files 44
 common installation problems and solutions 40
 feature licenses 48
 SySAM 48
 SySAM authorization codes 48

U

utilities
 dscp 33
 dsedit 33
 srvbuild 33

W

Windows
 client product installation on 30
 Windows Socket network protocol 34

X

XP Server
 more information about 20
 starts automatically with first ESP request 35

