

User Guide - Sybase *iDataAgent*

TABLE OF CONTENTS

OVERVIEW

- Introduction
- Key Features
- Terminology

NEW FEATURES

SYSTEM REQUIREMENTS

SUPPORTED FEATURES

GETTING STARTED

DEPLOYMENT ON WINDOWS

- Interactive Install
- Install Software from CommCell Console

DEPLOYMENT ON UNIX

DEPLOYMENT ON UNIX CLUSTER

CONFIGURATION

BACKUP

RESTORE

ADVANCED

CONFIGURATION

- Understanding the CommCell Console
- Managing Sybase Server
- Managing Subclients
- Redirecting the Databases to Another Subclient
- Configuring User Accounts for Backups
- Configuring Streams for Backups
- Command Line Operations
- Modifying an Agent, Instance, or Subclient
- Deleting an Agent, Instance, or Subclient

BACKUP

- Full Backups
- Transaction Log Backups
- Command Line Backups
- Scheduling a Backup
- Managing Jobs
- Additional Options

BROWSE DATA

Understanding the Browse Window

Browse Data

Browse from Copies

List Media

Browse Using MediaAgent

RESTORE

Restoring the Sybase Server

Restoring System Databases

Restoring Databases to a Point in Time

Recovering a Database

Restoring a Database to Current State (Step-by-Step Restore)

Renaming a Database

Performing an Out-of-Place Restore

Restoring the Database to a Different Location

Command Line Operations

Scheduling a Restore

Managing Restore Jobs

Additional Restore Options

DATA AGING

Getting Started

Extended Retention Rules

DISASTER RECOVERY

Overview

Planning for a Disaster Recovery

Browse Databases

Performing a Full System Restore

ADDITIONAL OPERATIONS

Audit Trail

Auxiliary Copy

License Administration

Operating System and Application Upgrades

Operation Window

Schedule Policy

Storage Policy

Uninstalling Components

BEST PRACTICES

FREQUENTLY ASKED QUESTIONS

BACKUP TROUBLESHOOTING

RESTORE TROUBLESHOOTING

Overview - Sybase iDataAgent

TABLE OF CONTENTS

Introduction

Key Features

- Full Range of Backup Options
- Efficient Job Management and Reporting
- Backup and Recovery Failovers
- Block Level Deduplication

Terminology

INTRODUCTION

The Sybase iDataAgent provides an unique, simplified end-to-end backup and recovery solution for Sybase system and user databases in your enterprise. In addition to complete protection of the system databases which contain user database characteristics, file locations etc., it also provides more granular backup and recovery of your enterprise's data, related administration files and transaction logs.

KEY FEATURES

FULL RANGE OF BACKUP AND RECOVERY OPTIONS

The Sybase iDataAgent provides the flexibility to backup the Sybase server which consists of system and user databases in different environments. This is very essential since the Sybase system and user databases are always subject to constant changes.

You can perform a full or transaction log backup of the entire Sybase Server at any point of time. The following section describes the backups that can be performed in different environments.

DATABASE BACKUPS

You can backup both the system and user-defined databases. You can comprehensively backup all the databases in an instance or schedule backups for the individual databases. You can also auto-discover new databases to comprehensively manage the backup of all databases in your environment.

TRANSACTION LOG BACKUPS

You also have the facility to backup only the transaction logs when the database is online. These logs can be applied to an online backup and recover the database to the current point-in-time. A transaction log backup contains only the new changes since the full or another transaction log backup. Each time a transaction log is backed up it is truncated to the exact time of the backup. No checkpoint is issued at this time, therefore dirty pages are not written to disk before or after a transaction log backup. Any transactions that are not completed at the time a transaction log backup is performed are rolled back during a restore involving a transaction log backup.

TRANSACTION LOG BACKUP OF A DAMAGED DATABASE

If a database fails and any data is lost, you will want to restore it to the point of failure. Sybase iDataAgent allows you to capture all transaction log events that occurred after the last backup job was performed.

You can also protect the non-database files and profiles using the appropriate File System iDataAgent.

BACKUP AND RECOVERY FAILOVERS

In the event that a MediaAgent used for the backup or recovery operation fails, it is automatically resumed on alternate MediaAgents. In such cases, the backup or restore job will not restart from the beginning, but will resume from the point of failure. This is especially useful for backups and restores of large amount of data.

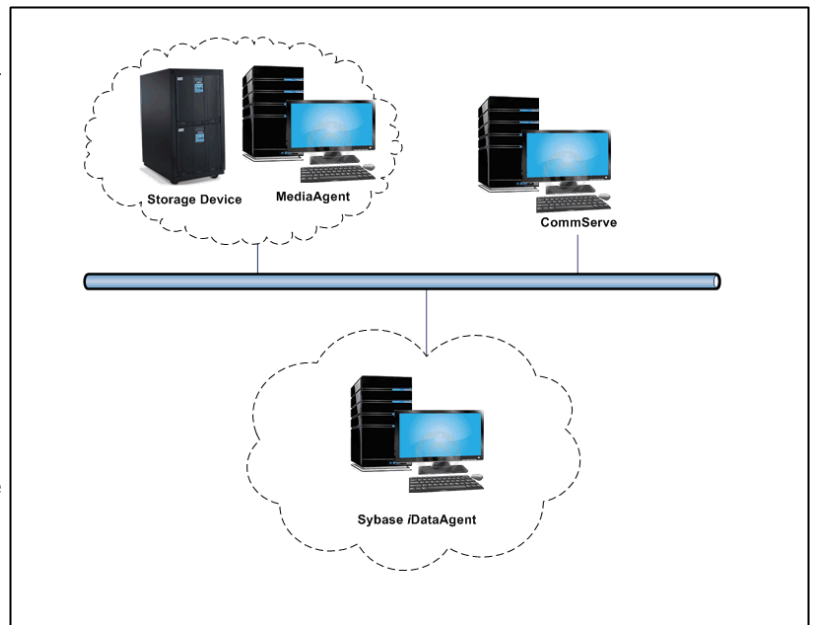
In the event, that a network goes down, the backup and recovery jobs are resumed on alternate data paths. Similarly, in the event of a device failure, the jobs are automatically switched to alternate disk and tape drives.

EFFICIENT JOB MANAGEMENT AND REPORTING

WHERE TO GO NEXT

Install the Sybase iDataAgent

Walks you through the process of installing the Sybase iDataAgent.



You can view and verify the status of backup and recovery operations from the Job Controller and Event Viewer windows within the CommCell Console. You can also track the status of the jobs using Reports, which can be saved and easily distributed. Reports can be generated for different aspects of data management. You also have the flexibility to customize the reports to display only the required data and save them to any specified location in different formats. For example, you can create a backup job summary report to view at-a-glance the completed backup jobs.

In addition, you can also schedule these reports to be generated and send them on email without user intervention.

BLOCK LEVEL DEDUPLICATION

Deduplication provides a smarter way of storing data by identifying and eliminating the duplicate items in a data protection operation.

Deduplication at the data block level compares blocks of data against each other. If an object (file, database, etc.) contains blocks of data that are identical to each other, then block level deduplication eliminates storing the redundant data and reduces the size of the object in storage. This way dramatically reduces the backup data copies on both the disk and tapes.

TERMINOLOGY

The Sybase iDataAgent documentation uses the following terminology:

CLIENT	The computer in which the iDataAgent is installed and contains the data to be secured.
INSTANCE	The Sybase Server to be used for the backup and restore operations.
SUBCLIENT	The Sybase databases to be backed up.
DEVICE	A physical storage locations in a disk such as a partition that is dedicated to holding the Sybase database.

[Back to Top](#)



New Features - Sybase iDataAgent

NEW COMMCELL FEATURES SUPPORTED FOR SYBASE IDATAAGENT

DEPLOYMENT

CUSTOM PACKAGE

The Custom Package feature is now extended to almost all products in the Calypso suite. Using Custom Packages, you no longer have to push the entire software DVD through a network, which is especially useful for reducing WAN/LAN payload while installing remote clients.

It is also possible to create Custom Packages using a customized `.xml` file.

When used in conjunction with the Install Software from the CommCell Console and Automatic Updates features, WAN bandwidth can be drastically reduced during remote site installations. [Learn more...](#)

INSTALL FROM THE COMMCELL CONSOLE

The software installation for this component can be initiated and managed from the CommCell Console, which facilitates the building of your CommCell and eliminates the need to manually install the software. Additionally, the installation of this component can be scheduled to occur at a time suitable for your environment. For more information, see [Install Software from the CommCell Console](#).

UNINSTALL FROM THE COMMCELL CONSOLE

This component can be uninstalled using the CommCell Console. The Uninstall Software utility allows you to quickly see a list of the software packages installed on the selected computer, from which you can then select the components to uninstall. With this, you can easily manage removing software components from client computers and MediaAgents in your CommCell without having to directly access each computer. For more information, see [Uninstall Components using the CommCell Console](#).

UPGRADES

After upgrading the underlying application of Sybase, Informix, or DB2 iDataAgent, the new version of the application will be updated in Instance Properties once a full backup is run. This provides the facility to track application versions from the CommCell Console as opposed to tracking them from each application. For more information, see [Operating System and Application Upgrades](#).

SCHEDULE POLICY

A data protection schedule policy can now be created for this specific agent. For more information, see [Agent-Specific Data Protection Schedule Policy](#).

System Requirements - Sybase iDataAgent

System Requirements | Supported Features

The following requirements are for the Sybase iDataAgent:

APPLICATION/OPERATING SYSTEM		PROCESSOR
SYBASE ASE 15.7 64-BIT ON:		
AIX	AIX 7.1	Power PC (Includes IBM System p)
	AIX 6.1	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v3 (11.31)	PA-RISC
LINUX	RED HAT ENTERPRISE LINUX	
	Red Hat Enterprise Linux 5.5, 5.6, 5.7 and 5.8	
	RED HAT ENTERPRISE LINUX/CENTOS	
	Red Hat Enterprise Linux/CentOS 6.x	x64
	SUSE LINUX (SLES)	
	SuSE Linux 11.x with glibc 2.9.x and above	Intel Pentium, Itanium, x64 or compatible processors
SOLARIS	Solaris 9 with a minimum of Service Packs 111711-16, 117560-06 and 111722-05	Sparc5 or higher recommended
	Solaris 10.x	x64
WINDOWS	WINDOWS 2008	
	Microsoft Windows Server 2008 R2 Editions	All Windows-compatible processors supported
SYBASE ASE 15.7 32-BIT ON:		
WINDOWS	WINDOWS 2008	
	Microsoft Windows Server 2008 R2 Editions	All Windows-compatible processors supported
SYBASE ASE 15.5 64-BIT ON:		
AIX	AIX 7.1	Power PC (Includes IBM System p)
	AIX 6.1	Power PC (Includes IBM System p)
	AIX 5.3 with technology level 6 (or higher) and runtime library xIC.rte 8.0.0.0 or higher	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v3 (11.31)	PA-RISC
	HP-UX 11i v2 (11.23)	PA-RISC
	HP-UX 11i v2 (11.23)	Itanium
LINUX	RED HAT ENTERPRISE LINUX/CENTOS	
	Red Hat Enterprise Linux/CentOS 6.x	x64
	Red Hat Enterprise Linux/CentOS 5.x	x64
	Red Hat Enterprise Linux/CentOS 4.x	x64
	SUSE LINUX (SLES)	

	SuSE Linux 11.x with glibc 2.6.x	x64
	SuSE Linux 10.x with glibc 2.4.x	x64
SOLARIS	Solaris 9 with a minimum of Service Packs 111711-16, 117560-06 and 111722-05	Sparc5 or higher recommended
	Solaris 10.x	x64
WINDOWS	WINDOWS 2008	
	Microsoft Windows Server 2008 R2 Editions	All Windows-compatible processors supported

SYBASE ASE 15.5 32-BIT ON:

LINUX	RED HAT ENTERPRISE LINUX/CENTOS	
	Red Hat Enterprise Linux/CentOS 6.x	Intel Pentium or compatible processors
	Red Hat Enterprise Linux/CentOS 5.x	Intel Pentium or compatible processors
	Red Hat Enterprise Linux/CentOS 4.x	Intel Pentium or compatible processors
	SUSE LINUX (SLES)	
	SuSE Linux 11.x with glibc 2.6.x	Intel Pentium or compatible processors
	SuSE Linux 10.x with glibc 2.4.x	Intel Pentium or compatible processors
SOLARIS	Solaris 9 with a minimum of Service Packs 111711-02	Sparc5 or higher recommended
WINDOWS	WINDOWS 2008	
	Microsoft Windows Server 2008 R2 Editions	All Windows-compatible processors supported
	WINDOWS 2003	
	Microsoft Windows Server 2003 32-bit Editions with a minimum of Service Pack 2	All Windows-compatible processors supported

SYBASE ASE 15.0.X 32-BIT/64-BIT ON:

AIX	AIX 6.1 64-bit	Power PC (Includes IBM System p)
	AIX 5.3 64-bit with technology level 6 and runtime library xLC.rte 8.0.0.0 or higher	Power PC (Includes IBM System p)
HP-UX	HP-UX 11i v3 (11.31)	Itanium
	HP-UX 11i v3 (11.31)	PA-RISC
	HP-UX 11i v2 (11.23)	PA-RISC
	HP-UX 11i v2 (11.23)	Itanium
LINUX	RED HAT ENTERPRISE LINUX/CENTOS	
	Red Hat Enterprise Linux/CentOS 5.x	Intel Pentium, x64 or compatible processors
	Red Hat Enterprise Linux/CentOS 4.x	Intel Pentium, x64 or compatible processors
	SUSE LINUX (SLES)	
	SuSE Linux 11.x with glibc 2.6.x	Intel Pentium, x64 or compatible processors
	SuSE Linux 10.x with glibc 2.4.x	Intel Pentium, x64 or compatible processors
SOLARIS	Solaris 9 with a minimum of Service Packs 111711-02	Sparc5 or higher recommended
	Solaris 10.x with a minimum of SunOS (Sparc) Patch 119963-14	Sparc5 or higher recommended
WINDOWS	WINDOWS 2008	
	Microsoft Windows Server 2008 Editions	All Windows-compatible processors supported
	WINDOWS 2003	

CLUSTER - SUPPORT

The software can be installed on a Cluster if clustering is supported by the above-mentioned operating systems.

For information on supported cluster types, see Clustering - Support.

HARD DRIVE

WINDOWS

674 MB minimum of hard disk space for Calypso and Job Results

10 MB of additional hard disk space for log file growth

4 KB for Job Results

LINUX

584 MB minimum of hard disk space for Calypso and Job Results

1 MB for Job Results

SOLARIS

2.73 GB minimum of hard disk space for Calypso and Job Results

34 MB for Job Results

MEMORY

64 MB RAM per stream/drive minimum required beyond the requirements of the operating system and running applications

Swap space = 2*RAM size

SOLARIS ZONES/CONTAINERS SUPPORT

Data Protection of data residing on global and non-global zones is supported.

For a comprehensive list of supported components, see Unix Virtualization.

MISCELLANEOUS

The File System iDataAgent will be automatically installed during installation of this software, if it is not already installed. For System Requirements and install information specific to the File System iDataAgents, refer to:

- System Requirements - AIX File System iDataAgent
- System Requirements - HP-UX File System iDataAgent
- System Requirements - Linux File System iDataAgent
- System Requirements - Solaris File System iDataAgent

The operating system must have been installed with at least the `user level software` option selected.

NETWORK

TCP/IP Services configured on the computer.

SELINUX

If you have SELinux enabled on the client computer, create the SELinux policy module as a root user before performing a backup. The SELinux Development package must be installed on the client.

To create an SELinux policy module, perform the following steps as user "root":

1. Create the following files in the `/usr/share/selinux/devel` directory:

File Name	Content of the File
<pre><directory>/<file_name>.te where: <directory> is /usr/share/selinux/devel</pre>	<pre>The content of the file should be as follows: policy_module(<name>,<version>) #####</pre>

<p><file_name> is the name of the Unix file, created to save the policy module statement. It is a good idea to use the same name for policy module and the file.</p> <p>For example: When you are creating a policy module for backup_IDA application, you can use the following file name: backup_IDA.te</p>	<p>where:</p> <p><name> is the name of the policy module. You can give any unique name to the policy module, such as a process or application name.</p> <p><version> is the version of the policy module. It can be any number, such as 1.0.0.</p> <p>For Example: While creating a policy module for the backup_IDA application, you can use the following content.</p> <pre>policy_module(backup_IDA,1.0.0)</pre>
<p><directory>/<file_name>.fc</p> <p>where:</p> <p><directory> is /usr/share/selinux/devel</p> <p><file_name> is the name of the Unix file, created to save the policy module statement. It is a good idea to use the same name for policy module and the file.</p> <p>For example: When you are creating a policy module for backup_IDA application, you can use the following file name: backup_IDA.fc</p>	<p>The content of the file should be as follows:</p> <p>Note that the following list of files is not exhaustive. If the process fails to launch, check /var/log/messages. Also, if required, add it to the following list of files.</p> <pre>/opt/<software installation directory>/Base/libCTreeWrapper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libCVMAGuiImplgso -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libdb2locale.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libdb2osse.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libDb2Sbt.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libdb2trcapi.so.1 -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libDrDatabase.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libIndexing.so -- gen_context (system_u:object_r:texrel_shlib_t,s0) /opt/<software installation directory>/Base/libSnooper.so -- gen_context (system_u:object_r:texrel_shlib_t,s0)</pre>

2. Create the policy file from command line. Use the following command. Ensure that you give the following commands in the /usr/share/selinux/devel directory.

```
[root]# make backup_IDA.pp
Compiling targeted backup_IDA module
/usr/bin/checkmodule: loading policy configuration from tmp/backup_IDA.tmp
/usr/bin/checkmodule: policy configuration loaded
/usr/bin/checkmodule: writing binary representation (version 6) to tmp/backup_IDA.mod
Creating targeted backup_IDA.pp policy package
rm tmp/backup_IDA.mod tmp/backup_IDA.mod.fc
[root]# semodule -i backup_IDA.pp
[root]#
```

3. Execute the policy module. Use the following command:

```
[root]# restorecon -R /opt/<software installation directory>
```

SELinux is now configured to work with this application.

SUPPORTED FILE SYSTEMS

All the File Systems that are supported by your Operating system

The raw devices supported by your Operating system

DISCLAIMER

Minor revisions and/or service packs that are released by application and operating system vendors are supported by our software but may not be individually listed in our System Requirements. We will provide information on any known caveat for the revisions and/or service packs. In some cases, these revisions and/or service packs affect the working of our software. Changes to the behavior of our software resulting from an application or operating system revision/service pack may be beyond our control. The older releases of our software may not support the platforms supported in the current release. However, we will make every effort to correct the behavior in the current or future releases when necessary. Please contact your Software Provider for any problem with a specific application or operating system.

Additional considerations regarding minimum requirements and End of Life policies from application and operating system vendors are also applicable

Supported Features - Sybase iDataAgent

System Requirements | Supported Features

The following table lists the features that are supported by this Agent.

FEATURE	SUB-FEATURE	SUPPORT	COMMENTS
ADVANCED BACKUP/ARCHIVE OPTIONS	Data tab - Catalog		
	Data tab - Create New Index	✓	
	Data tab - Verify Synthetic Full		
	Job Retry tab	✓	
	Media tab - Allow other Schedule to use Media Set	✓	
	Media tab - Mark Media Full on Success	✓	
	Media tab - Reserve Resources Before Scan		
	Media tab - Start New Media	✓	
	Startup tab	✓	
	VaultTracking tab	✓	
ADVANCED FILE SYSTEM IDATAAGENT OPTIONS	Comments		
	Automatic File System Multi-Streaming		
	On Demand Data Protection Operation		
	Restore by Jobs		
	Restore Data Using a Map File		
ALERTS AND MONITORING	Comments		
	Global Alerts	✓	
	Job-Based Alerts*	✓	
AUTOMATIC UPDATES	Comments		
	Automatic Updates	✓	
BACKUP/ARCHIVE OPTIONS	Differential Backup		
	Full Backup	✓	
	Incremental Backup		
	Other Backup Types		
	Synthetic Full Backup		
	Comments	✓	Transaction Log Do Not Truncate Log
BACKWARD COMPATIBILITY	Version 7	✓	
	Version 8	✓	
	Version 9		
	Comments		
BROWSE	Browse from Copy Precedence	✓	
	Browse the Latest Data	✓	
	Exclude Data Before	✓	
	Find		
	Full Backup Transparent Browse		
	Image Browse		
	No Image Browse		
	Page Size		
	Specify Browse Path		
	Specify Browse Time	✓	
Subclient Browse			

	Use MediaAgent		
	View All Versions		
	Comments		
CLUSTERING	Netware cluster		
	Unix Cluster	✓	
	Windows - Microsoft Cluster (MSCS)		
	Windows - Non-Microsoft Cluster		
	Comments		
COMMAND LINE INTERFACE	Command Line Interface	✓	
	Comments		
COMMAND LINE INTERFACE - SPECIFIC COMMANDS	Qcreate - Backup set/SubClient		
	Qcreate - Instance		
	Qdelete - Backup set/Subclient	✓	
	Qdelete - Client/Agent	✓	
	Qlist globalfilter		
	Qmodify - instance		
	Qoperation - Backup	✓	
	Qoperation - move		
	Qoperation - Restore		
	Comments	✓	Qdelete backupset is not supported.
COMMCELL MIGRATION	CommCell Migration	✓	
	Comments		
CONTENT INDEXING	Offline Content Indexing		
	Comments		
DATA AGING	Basic Retention Rules	✓	
	Extended Retention Rules	✓	
	Unique Data Aging Rules	✓	
	Comments		
DATA CLASSIFICATION ENABLER	Data Classification Enabler		
	Comments		
DATA COMPRESSION	Client Compression	✓	
	Hardware Compression	✓	
	MediaAgent Compression	✓	
	Comments		
DATA ENCRYPTION	Data Encryption Support	✓	
	Third-party Command Line Encryption Support		
	Comments		
DATA MULTIPLEXING	Multiplexing	✓	
	Comments	✓	For Data Multiplexing , Sybase does not support the multiplexing of streams "with each other" on to the same media when a data protection operation is performed using the CommCell Console. However, the streams will be multiplexed when the operation is performed using the Command Line Interface or RMAN commands.
DEDUPLICATION	MediaAgent Deduplication	✓	
	Source Deduplication	✓	
	Comments		
ERASE BACKUP/ARCHIVED DATA	Erase Data by Browsing		
	Erase Stubs		
	Comments		
GLOBAL FILTERS	Global Filters		
	Comments		
INSTALLATION	Custom Package	✓	
	Decoupled Install		
	Remote Install	✓	
	Restore Only Agents		

	Silent Install	✓	
	Comments		
INSTALLING 32-BIT COMPONENTS ON A MICROSOFT WINDOWS X64 PLATFORM	Install 32-bit On x64		
	Comments		
JOB RESTART - DATA PROTECTION	Not Restartable	✓	
	Restarts from the Beginning		
	Restarts from the Beginning of the Database		
	Restarts from the Point-of-Failure		
	Comments		
JOB RESTART - DATA RECOVERY	Not Restartable	✓	
	Restarts from the Beginning		
	Restarts from the Beginning of the Database		
	Restarts from the Point-of-Failure		
	Comments		
LIST MEDIA	List Media Associated with a Specific Backup Set or Instance	✓	
	List Media Associated with Index		
	List Media Associated with Specific Files and/or Folders		
	List Media Associated with Specific Jobs		
	Comments		
MULTI INSTANCING	Multi Instance	✓	
	Comments	✓	Available on Unix only. See warning in Multi Instancing.
PRE/POST PROCESSES	Pre/Post Process with Data Protection and Recovery	✓	
	Comments		
RESTORE/RECOVER/RETRIEVE DESTINATIONS	Cross-Application Restores (Different Application version)		
	Cross-Platform Restores - Different Operating System		
	Cross-Platform Restores - Same Operating System - Different Version	✓	
	In-place Restore - Same path/ destination - Same Client	✓	
	Out-of-place Restore - Different path/ destination	✓	
	Out-of-place Restore - Same path/ destination - Different Client	✓	
	Restore Data Using a Map File		
	Restore to Network Drive /NFS-Mounted File System		
	Comments	✓	See Advanced Restore for this iDataAgent.
RESTORE/RECOVER/RETRIEVE OPTIONS	Automatic Detection of Regular Expressions		
	Filter Data From Recover Operations		
	Rename/ Redirect Files on Restore		
	Restore Data Using Wildcard Expressions		
	Restore Data with Pre/Post Processes		
	Restore from Copies	✓	
	Skip Errors and Continue		

	Use Exact Index		
	Use MediaAgent		
	Comments		
RESTORE/RECOVER/RETRIEVE OVERWRITE OPTIONS	Overwrite Files		
	Overwrite if file on media is newer		
	Restore only if target exists		
	Unconditional Overwrite		
	Unconditionally overwrite only if target is a DataArchiver stub		
	Comments		
SCHEDULE POLICY	Agent Specific Data Protection Schedule Policy	✓	
	All Agent Types Schedule Policy	✓	
	Comments		
STORAGE POLICIES	Incremental Storage Policy*	✓	
	Standard Storage Policies	✓	
	Comments		
STORAGE POLICY COPIES	Data Verification	✓	
	Job Based Pruning	✓	
	Manual Retention	✓	
	Mark Job Disabled	✓	
	Selective Copy	✓	Selective Copies for full backups is allowed
	Comments		
SUBCLIENT POLICIES	SubClient Policy		
	Comments		
UPGRADE	Netware - Local		
	Unix - Remote (Push)		
	Unix/Linux/Macintosh - Local	✓	
	Unix/Linux/Macintosh - Silent		
	Upgrade from CommCell Console	✓	
	Windows - Local	✓	
	Windows - Remote (Push)		
	Windows - Silent		
	Comments		
USER ADMINISTRATION AND SECURITY	Backup Set/Archive Set		
	Subclient		
	Comments		

Additional features are listed below:

Activity Control	Auxiliary Copy
CommCell Console	Deconfiguring Agents
GridStor	Languages
Log Files	MediaAgent
Operation window	QR Volume Creation Options
Robust Network Layer	Scheduling
SnapProtect Backup	Snapshot Engines
VaultTracker Enterprise	VaultTracker
Report Output Options	Restore/Recover/Retrieve - Other Options
Cloud Storage	Job Restart - Data Collection

Getting Started Deployment on Windows - Sybase iDataAgent

◀ Previous Next ▶

WHERE TO INSTALL

Install the Sybase iDataAgent on a computer on which the Sybase server resides, and satisfies the minimum requirements specified in the System Requirements.

PLANNING YOUR INSTALLATION

The Sybase iDataAgent installation may require a system reboot if a pending rename operation from a previously installed application is found in the operating system, hence, plan your installation at a convenient time.

INSTALLATION

The software can be installed using one of the following methods:

METHOD 1: INTERACTIVE INSTALL

Use this procedure to directly install the software from the installation package or a network drive.

METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

Use this procedure to install remotely on a client computer.

METHOD 1: INTERACTIVE INSTALL

1. Log on to the client computer as Administrator or as a member of the Administrator group on that computer.
2. Run **Setup.exe** from the **Software Installation Package**.
If you are installing on Windows Server Core editions, navigate to Software Installation Package through command line, and then run **Setup.exe**.
3. Select the required language.
Click **Next**.

4. Select the option to install software on this computer.
The options that appear on this screen depend on the computer in which the software is being installed.

5. Select **I accept the terms in the license agreement**.
Click **Next**.

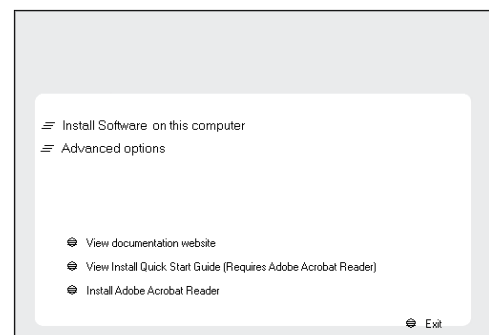
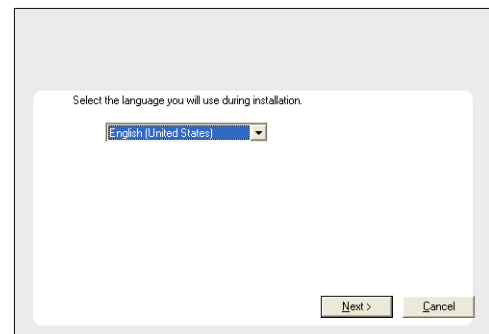
BEFORE YOU BEGIN

Download Software Packages

Download the latest software package to perform the install.

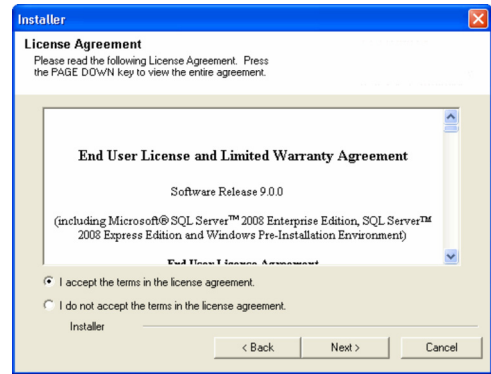
Verify System Requirements

Make sure that the computer in which you wish to install the software satisfies the System Requirements.



- Expand **Client Modules | Backup and Recovery | Database**, and then click **Sybase iDataAgent**.

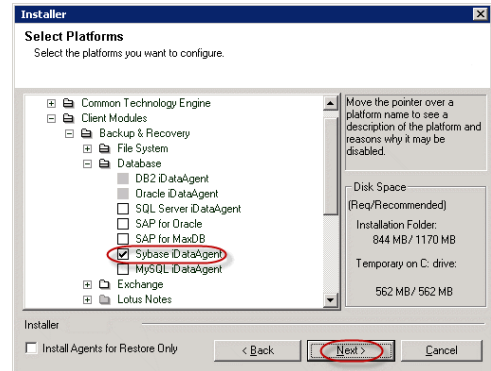
Click **Next**.



- If this computer and the CommServe is separated by a firewall, select the **Configure firewall services** option and then click **Next**.

For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

If firewall configuration is not required, click **Next**.

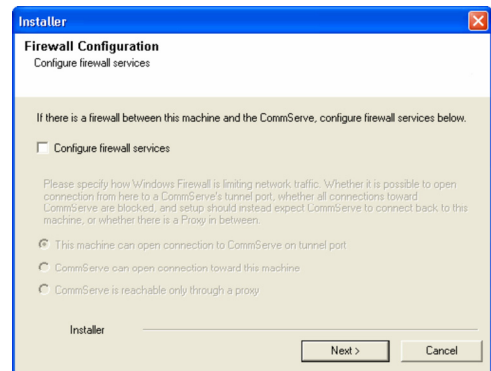


- Enter the fully qualified domain name of the **CommServe Host Name**.

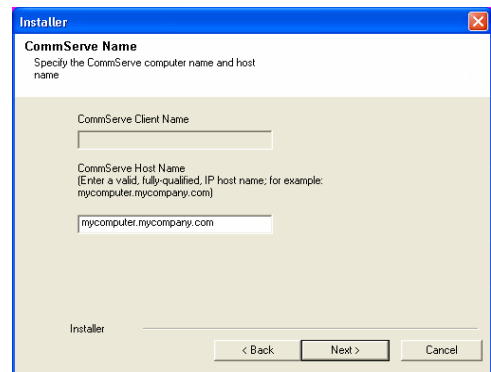
Click **Next**.

Do not use space and the following characters when specifying a new name for the CommServe Host Name:

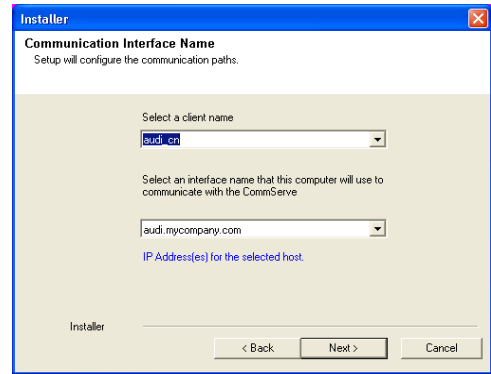
`\\ ` ~ ! @ # $ % ^ & * () + = < > / ? , [] { } ; ; ; "`



Click **Next**.



- Click **Next**.

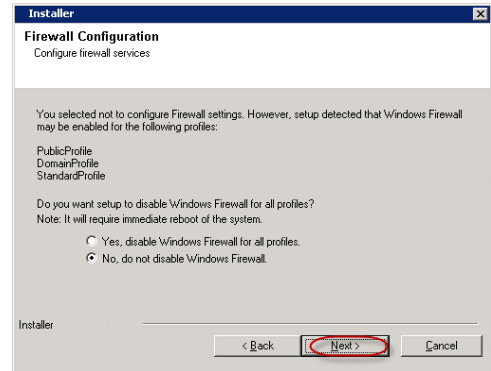


- Select **Add programs to the Windows Firewall Exclusion List**, to add CommCell programs and services to the Windows Firewall Exclusion List.

Click **Next**.

This option enables CommCell operations across Windows firewall by adding CommCell programs and services to Windows firewall exclusion list.

It is recommended to select this option even if Windows firewall is disabled. This will allow the CommCell programs and services to function if the Windows firewall is enabled at a later time.



- Verify the default location for software installation.

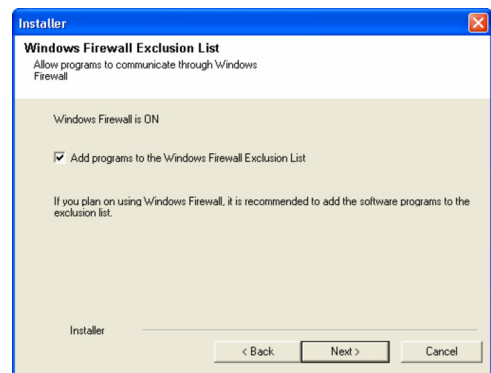
Click **Browse** to change the default location.

Click **Next**.

- Do not install the software to a mapped network drive.
- Do not use the following characters when specifying the destination path:

/ : * ? " < > | #

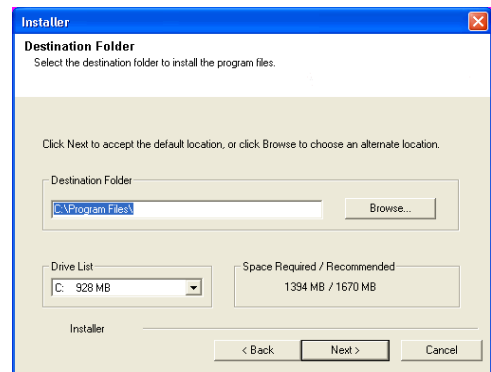
It is recommended that you use alphanumeric characters only.



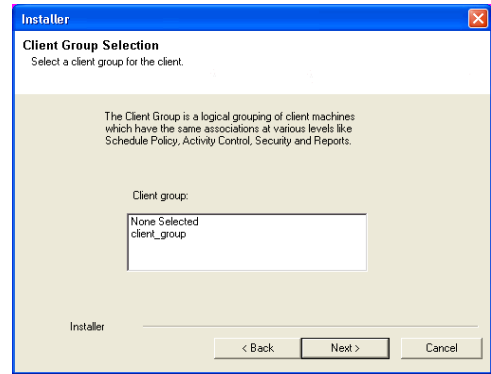
- Select a Client Group from the list.

Click **Next**.

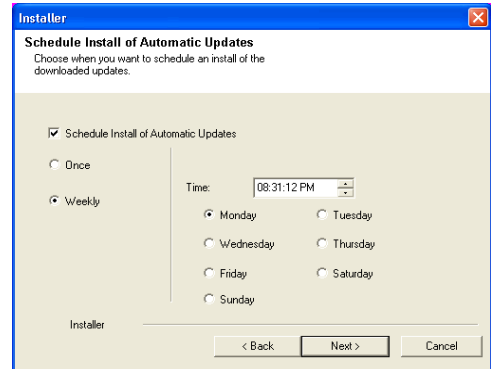
This screen will be displayed if Client Groups are configured in the CommCell Console.



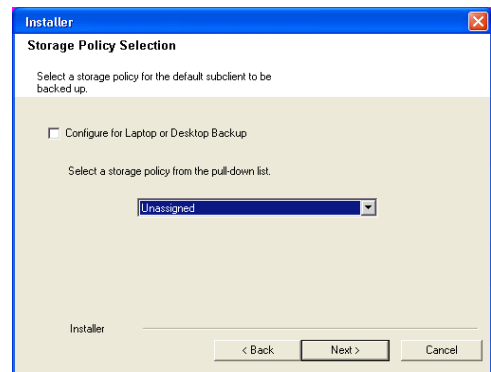
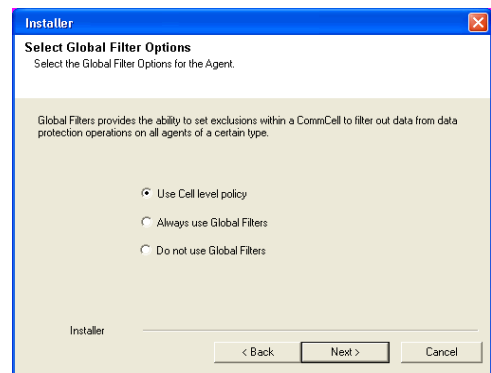
14. Click **Next**.



15. Click **Next**.



16. Select a **Storage Policy** from the drop-down list.
Click **Next**.



If you do not have Storage Policy created, this message will be displayed.

Click **Next**.

You can create the Storage Policy later in step 21.


17. Click **Browse** to select the path to **Sybase ASE Library Path**.
The Sybase ASE (Adaptive Server Enterprise) server library is generally located under the Sybase ASE server install directory.

Click **Next**.

18. Click **Next**.

19. Click **Next** to continue.

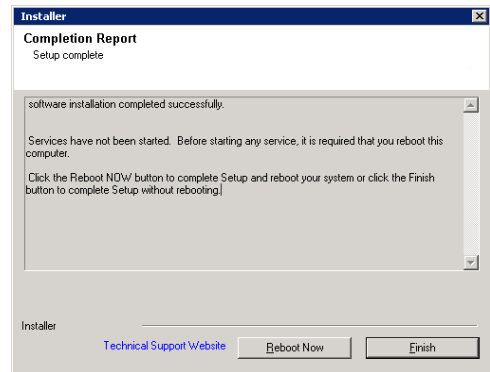
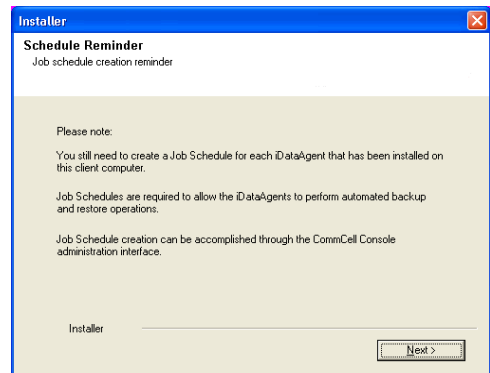
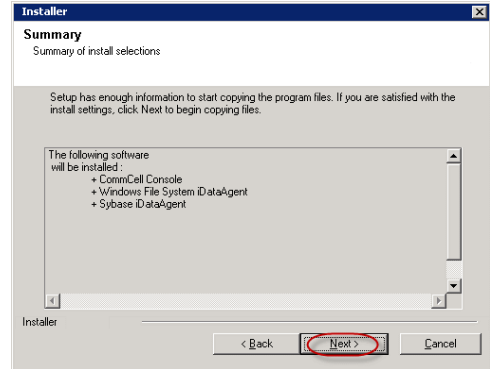
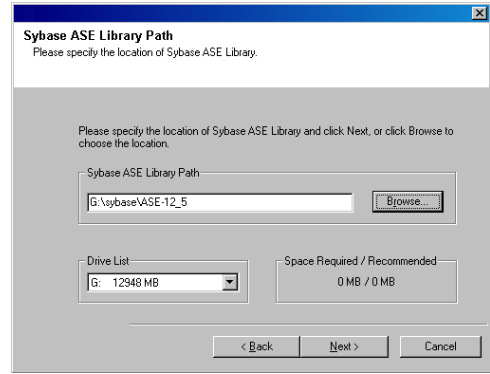
20. Click **Reboot Now** to reboot the computer.

 If you already have a storage policy selected in step 16, proceed to the **Configuration** section.

If you do not have Storage Policy created, continue with the following step.

21. To create a storage policy, you must have configured a library in the CommCell.
- If you do not already have a library configured, go to Disk Library Creation.
 - If you have a library configured, go to Storage Policy Creation.

DISK LIBRARY CREATION:



1. From the CommCell Console, click the **Backup Target** button on **EZ Operations Wizard**.
2. Click **Disc Library (For backup to disc)** and click **Next**.
3. Click **Use Local Disk**.

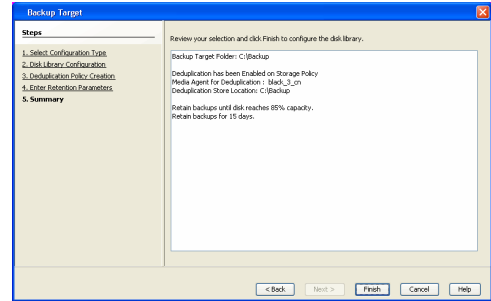
Type the name of the folder in which the disc library must be located in the **Enter backup destination folder** box or click the **Browse** button to select the folder.

Click **Next**.

If you click the **Use Network Share** option, you will be prompted for the credentials (user name and password) to access the share.

4. Click **Next**.
5. Click **Finish**.

This will create a library and Storage Policy. Click the **Next** button available at the bottom of the page to continue.



STORAGE POLICY CREATION:

1. From the CommCell Browser, navigate to **Policies**.
2. Right-click the **Storage Policies** and then click **New Storage Policy**.
3. Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:

- o Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
- o Enter the name in the **Storage Policy Name** box and click **Next**.
- o From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.

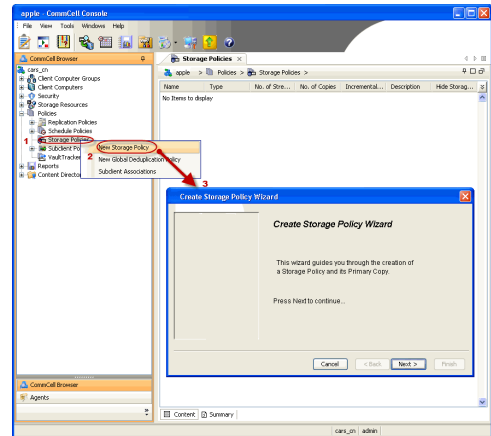
Ensure that you select a library attached to a MediaAgent operating in the current release.

- o From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
- o For the device streams and the retention criteria information, click **Next** to accept default values.
- o Select **Yes** to enable deduplication for the primary copy.
- o From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication store.

Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the Browse button to select the folder and then click **Next**.

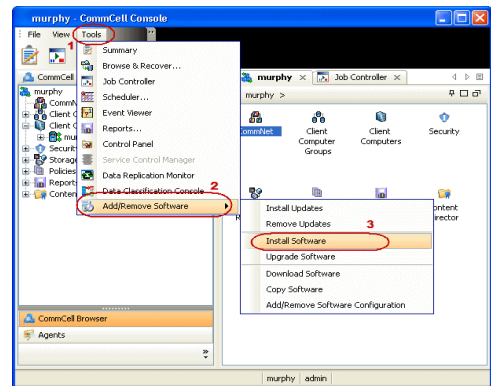
- o Review the details and click **Finish** to create the Storage Policy.

This will create a storage policy. Click the **Next** button available at the bottom of the page to continue.



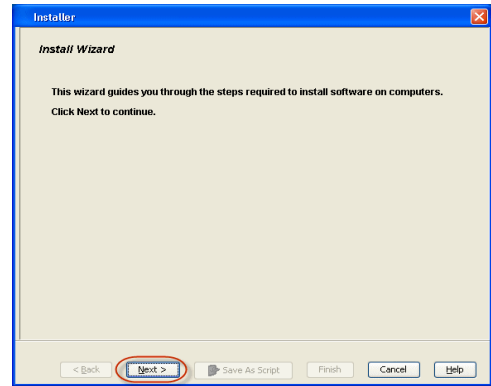
METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

1. From the CommCell Browser, select **Tools | Add/Remove Software | Install Software**.

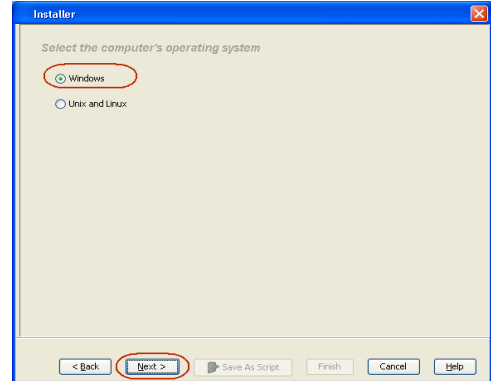


2. Click **Next**.

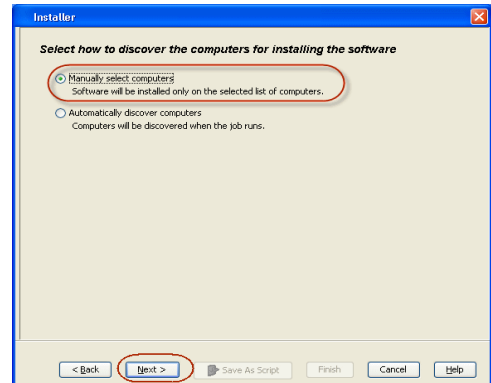
3. Select **Windows**.
Click **Next**.



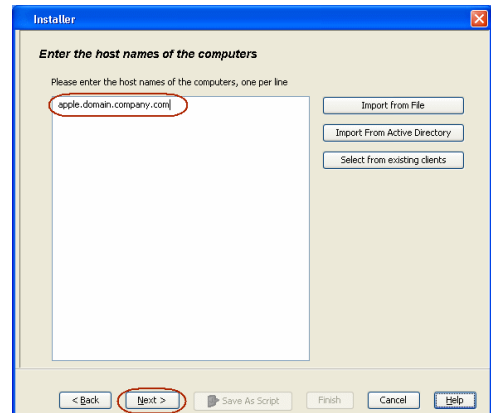
4. Select **Manually Select Computers**.
Click **Next**.



5. Enter the fully qualified domain name of the computer on which SQL Server resides.
For example: apple.domain.company.com
Click **Next**.



6. Click **Next**.



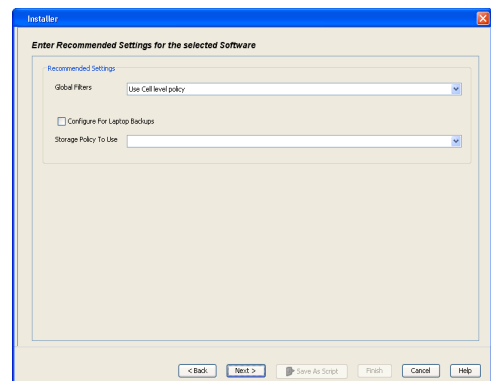
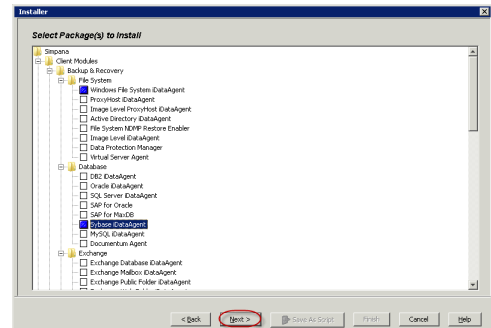
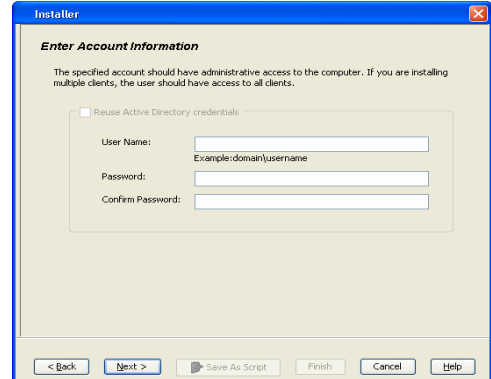
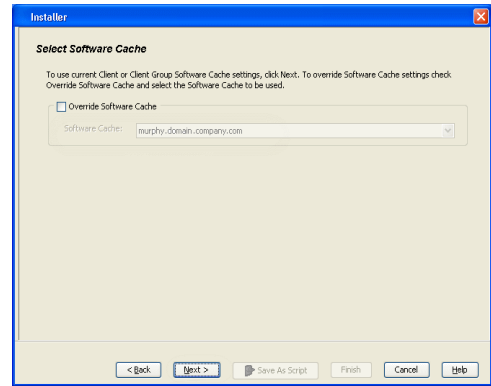
- Specify **User Name** and **Password** that must be used to access the client computer.
Click **Next**.

The user must be an Administrator or a member of the Administrator group on that computer.

- Select **Sybase iDataAgent**.
Click **Next**.

- From **Storage Policy to use** list, click storage policy.
Click **Next**.

- In the **Sybase ASELibrary Path** box, type the path to the Sybase ASE Library.
The Sybase ASE(Adaptive Server Enterprise) server library is generally located under the Sybase ASE server install directory.
Click **Next**.



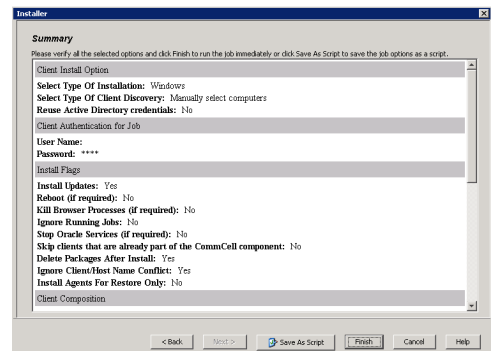
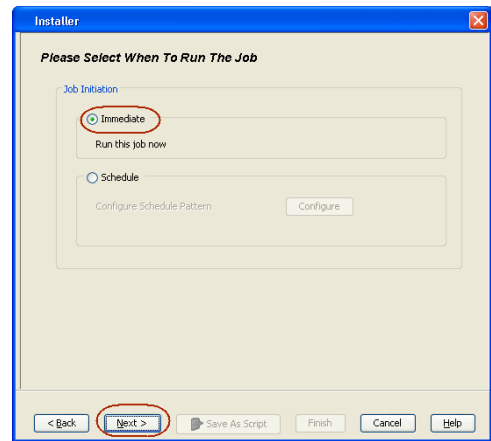
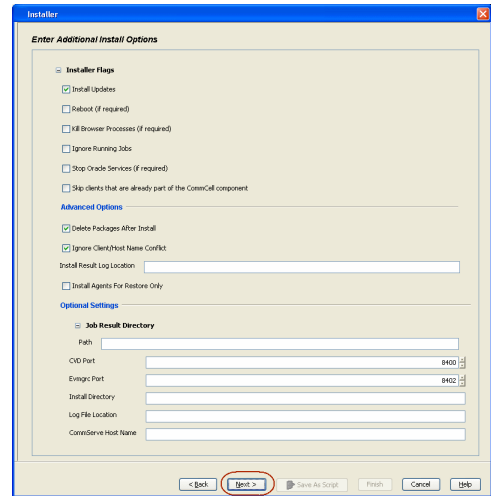
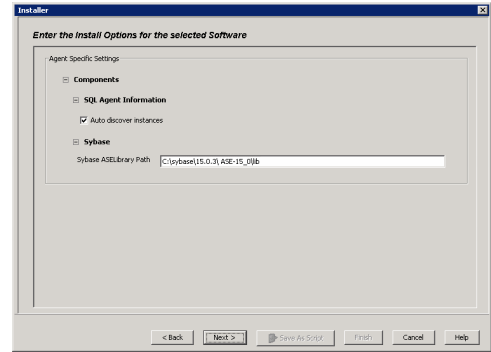
- Click **Reboot (if required)** and then click **Next**.

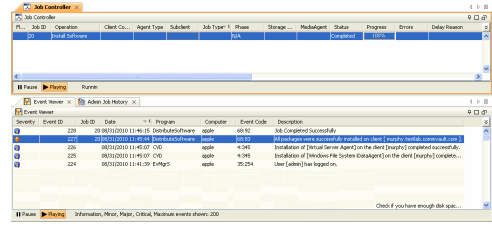
When **Reboot (if required)** is selected, the install program will automatically reboot the client computer and resume the installation.

- Click **Immediate**.
Click **Next**.

- Click **Finish**.

- You can track the progress of the job from the **Job Controller** or **Event Viewer** window.





ADDITIONAL INSTALLATION METHODS

Custom Package

Create a compact software package for quick deployment to multiple clients

Remote Install

Deploy the software from CommCell Console on multiple clients.

Silent Install

Deploy the software silently on multiple clients.

Getting Started Deployment on a UNIX Computer - Sybase iDataAgent

◀ Previous Next ▶

SKIP THIS PAGE IF YOU ARE NOT INSTALLING THIS AGENT ON A UNIX COMPUTER.

Click **Next** ▶ to continue with the deployment.

WHERE TO INSTALL

Install the software on a UNIX computer on which the Sybase server resides, and satisfies the minimum requirements specified in the System Requirements.

For Solaris, software can be installed on one of the following:

- Unix computer hosting the global zone on which Sybase server resides, and satisfies the minimum requirements specified in the System Requirements.
- Unix computer in a non global zone on which Sybase server resides, and satisfies the minimum requirements specified in the system requirements.

INSTALLATION

The software can be installed using one of the following methods:

METHOD 1: INTERACTIVE INSTALL

Use this procedure to directly install the software from the installation package or a network drive.

METHOD 2: INSTALL SOFTWARE FROM COMMCCELL CONSOLE

Use this procedure to remotely install the software on a client computer.

BEFORE YOU BEGIN

Download Software Packages

Download the latest software package to perform the install.

Verify System Requirements

Verify that the computer in which you wish to install the software satisfies the System Requirements.

METHOD 1: INTERACTIVE INSTALL

1. Logon to the client computer as **root** or as a sudo user.

If you are installing the software using a sudo user account, make sure that sudo user account is configured on this computer. For more information, see FAQ - Install.

- 2.

Use the following options depending upon on your environment:

- On Global Zone or Unix machine, run the following command to mount the cd:

```
mount -t iso9660,udf /dev/cdrom /mnt/cdrom
```

Run the following command from the Software Installation Package or mount point:

```
./cvpkgadd
```

- On a Non-Global Zone, run the following commands to mount the cd:

```
mkdir <Non-Global Zone root location>/<Non-Global Zone local directory>
```

```
mount -F lofs <Global zone software Install package mount point> <Non-Global Zone root location>/<Non-Global Zone local directory>
```

Connect to Non-Global Zone terminal

Run the following command from the Software Installation Package or mount point:

```
./cvpkgadd
```

3. The product banner and other information is displayed.
Press **Enter**.
4. Read the license agreement. Type **y** and press **Enter**.
5. Press **Enter**.

Please select a setup task you want to perform from the list below:

Advance options provide extra setup features such as creating custom package, recording/replaying user selections and installing External Data Connector software.

- 1) Install data protection agents on this computer
- 2) Advance options

6. Press **Enter**.

3) Exit this menu

Your choice: [1]

Certain Calypso packages can be associated with a virtual IP, or in other words, installed on a "virtual machine" belonging to some cluster. At any given time the virtual machine's services and IP address are active on only one of the cluster's servers. The virtual machine can "fail-over" from one server to another, which includes stopping services and deactivating IP address on the first server and activating the IP address/services on the other server.

You now have a choice of performing a regular Calypso install on the physical host or installing Calypso on a virtual machine for operation within a cluster.

Most users should select "Install on a physical machine" here.

1) Install on a physical machine

2) Install on a virtual machine

3) Exit

Your choice: [1]

7. If you have only one network interface, press **Enter** to accept the default network interface name and continue.

If you have multiple network interfaces, enter the interface name that you wish to use as default, and then press **Enter**.

The interface names and IP addresses depend on the computer in which the software is installed and may be different from the example shown.

We found one network interface available on your machine. We will associate it with the physical machine being installed, and it will also be used by the CommServe to connect to the physical machine. Note that you will be able to additionally customize Datapipe Interface Pairs used for the backup data traffic later in the Calypso Java GUI.

Please check the interface name below, and make connections if necessary:

Physical Machine Host Name: [angel.company.com]

Please specify the client name for this machine.

It does not have to be the network host name: you can enter any word here without spaces. The only requirement is that it must be unique on the CommServe.

Physical Machine Client name: [angel]

8. Press **Enter**.

9. Type the number associated with the **Sybase iDataAgent** and press **Enter**.

Install Calypso on physical machine 172.19.99.62

Please select the Calypso module(s) that you would like to install.

[] 1) MediaAgent [1301] [CVGxMA]

[] 2) UNIX File System iDataAgent [1101] [CVGxIDA]

[] 3) Sybase iDataAgent [1202] [CVGxSybIDA]

[a=all n=none r=reverse q=quit d=done >=next <=previous ? =help]

Enter number(s)/one of "a,n,r,q,d,>,<," here:3

10. A confirmation screen will mark your choice with an "X".

Type **d** for **Done**, and press **Enter**.

Install Calypso on physical machine 172.19.99.62

Please select the Calypso module(s) that you would like to install.

[] 1) MediaAgent [1301] [CVGxMA]

[X] 2) UNIX File System iDataAgent [1101] [CVGxIDA]

[X] 3) Sybase iDataAgent [1202] [CVGxSybIDA]

[a=all n=none r=reverse q=quit d=done >=next <=previous ? =help]

Enter number(s)/one of "a,n,r,q,d,>,<," here:3

11. Press **Enter**.

Do you want to use the agents for restore only without consuming licenses? [no]

12. Type the appropriate number to install the latest software scripts and press **Enter**.

- Select **Download from the software provider website** to download the latest software scripts. Make sure you have internet access.
- Select **Use the one in the installation media** to install the software scripts from the package or share from which the installation is currently being performed.
- Select **Use the copy I already have by entering its unix path**, to specify the path if you have the software script in an alternate location.

Installation Scripts Pack provides extra functions and latest support and fix performed during setup time. Please specify how you want to get this pack.

If you choose to download it from the website now, please make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

1) Download from the software provider website.

2) Use the one in the installation media

3) Use the copy I already have by entering its unix path

Your choice: [1] 2

13. Press **Enter**.

Keep Your Install Up to Date - Latest Service Pack

14. Press **Enter** to accept the default path.
- If you want to specify a different path, type the path and then press **Enter**.
 - If you want to install the software binaries to an NFS shared drive, specify the directory on which you have mounted the NFS file system and then press **Enter**.
- In order to make sure that the client computer has `read/write` access to NFS shared drive, review the steps described in *Installing Software Binaries to an NFS Shared Drive*.

Do not use the following characters when specifying the path:

!@#\$%^&*():/?\

15. Press **Enter** to accept the default location.
- Enter a path to modify the default location and press **Enter**.
 - All the modules installed on the computer will store the log files in this directory.

16. Type **Yes** and press **Enter**.
- If you do not want to assign a group to software, type **no**, press **Enter** and proceed to step 18.

17. Type the **Group name** and then press **Enter**.

18. Type **d** for done with the selection and press **Enter**.
- This screen is displayed if you do not assign any group to the software and type **no** in step 16.

19. This prompt is relevant only when you install on Solaris. Press **Enter** to accept the default value for **Number of Streams**.

You can type the **Number of Streams** that you plan to run at the same time and then press **Enter**.

Latest Service Pack provides extra functions and latest support and fix for the packages you are going to install. You can download the latest service pack from software provider website.

If you decide to download it from the website now, please make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

Do you want to download the latest service pack now? [no]

Please specify where you want us to install Calypso binaries.

It must be a local directory and there should be at least 176MB of free space available. All files will be installed in a "calypso" subdirectory, so if you enter "/opt", the files will actually be placed into "/opt/calypso".

Installation Directory: [/opt]

Please specify where you want to keep Calypso log files.

It must be a local directory and there should be at least 100MB of free space available. All log files will be written to by both kinds of processes we can either make such files world-writeable or we can grant write access only to processes belonging to a particular group, e.g. a "calypso" or a "dba" group.

Log Directory: [/var/log]

Most of Software processes run with root privileges, but some are launched by databases and inherit database access rights. To make sure that registry and log files can be written to by both kinds of processes we can either make such files world-writeable or we can grant write access only to processes belonging to a particular group, e.g. a "calypso" or a "dba" group.

We highly recommend now that you create a new user group and enter its name in the next setup screen. If you choose not to assign a dedicated group to Software processes, you will need to specify the access permissions later.

If you're planning to backup Oracle DB you should use "dba" group.

Would you like to assign a specific group to Software? [yes]

Please enter the name of the group which will be assigned to all Software files and on behalf of which all Software processes will run.

In most of the cases it's a good idea to create a dedicated "calypso" group. However, if you're planning to use Oracle iDataAgent or SAP Agent, you should enter Oracle's "dba" group here.

Group name: dba

REMINDER

If you are planning to install Calypso Informix, DB2, PostgreSQL, Sybase or Lotus Notes iDataAgent, please make sure to include Informix, DB2, etc. users into group "dba".

Access Permissions for Other Users. Installer will assign full access rights to root user and its belonging group for all installed Calypso files and its processes. For any other users, you can specify the access permissions now. However, since you chose not to assign a dedicated group in previous step, make sure you specify sufficient access rights for other users if you are also planning to install Calypso agents involving third party software protection.

[X] 1) Allow read permission to other users
[X] 2) Allow write permission to other users
[X] 3) Allow execute permission to other users

a=all n=none r=reverse q=quit d=done >=next <=previous ?=help]

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: d

Number of Streams

IMPORTANT : Please read install document "Configure Kernel Parameters - Unix/Macintosh" from "Books Online" before you start configuring kernel parameters. Please enter the total number of streams that you plan to run at the same time. We need to make sure that you have enough semaphores

20. Press **Enter** if you do not want the changes to be updated automatically.
- If you want the changes to be made automatically, type **Yes** and then press **Enter**.
 - You will come across this prompt when you install the software on the earlier versions of Solaris.

21. Press **Enter**.

22. Press **Enter**.
You will see this prompt if you have accepted the default **no** and pressed **Enter** in step 20.

23. Type a network TCP port number for the Communications Service (CVD) and press **Enter**.
Type a network TCP port number for the Client Event Manager Service (EvMgrC) and press **Enter**.

24. If you do not wish to configure the firewall services, press **Enter**.

If this computer is separated from the CommServe by firewall(s), type **Yes** and then press **Enter**.
For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

25. Type the fully qualified CommServe host name and press **Enter**.

Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.

26. Press **Enter**.

27. Type the number associated with the Client Group and press **Enter**.

This screen will be displayed only if Client Groups are configured for the CommCell.

28. A confirmation screen will mark your choice with an "X".

```

and shared memory segments configured in /etc/system.
Number of streams [10]

We now need to modify the /etc/system configuration file
on this computer. It is done to make sure that there will
be enough shared memory and semaphores available for
Calypto programs. Please review the changes below and
answer "yes" if you want us to apply them to
the /etc/system file. Otherwise, the installation will
proceed, the changes will be saved to some other file, and
you will have to apply them manually.

set shmsys:shminfo_shmnni=8570 (was 7930)
set shmsys:shminfo_shmsegs=8420 (was 7780)
set semsys:seminfo_semmns=10320 (was 9680)
set semsys:seminfo_semmni=8570 (was 7930)
set semsys:seminfo_semmsl=8570(was 7930)
Do you want us to apply these changes now? [no]

Changes saved into /etc/system.gal.1744

Press <ENTER> to continue.

Although a 'no' answer can be selected to this question
during install, the user should make sure the min
requirements (below) for shared memory are met, otherwise
the backups may fail (the message in logs is 'could not
start the pipeline').

set shmsys:shminfo_shmmax=4199304
set shmsys:shminfo_shmmin=1
set semsys:shminfo_shmnni=640
set semsys:shminfo_shmsegs=640
set semsys:seminfo_semmns=640
set semsys:seminfo_semmni=640
set semsys:seminfo_semmsl=640
set maxusers=256
Press <ENTER> to continue.

Every instance of Calypso should use a unique set of
network ports to avoid interfering with other instances
running on the same machine.

The port numbers selected must be from the reserved port
number range and have not been registered by another
application on this machine.

Please enter the port numbers.

Port Number for CVD : [8400]
Port Number for EvMgrC: [8402]

Is there a firewall between this client and the CommServe?
[no]

Please specify hostname of the CommServe below. Make sure
the hostname is fully qualified, resolvable by the name
services configured on this machine.

CommServe Host Name: mycommserve.company.com

Commcell Level Global Filters are set through Calypso
GUI's Control Panel in order to filter out certain
directories or files from backup Commcell-widely. If you
turn on the Global filters, they will be effective to the
default subclient. There are three options you can choose
to set the filters.

1) Use Cell level policy
2) Always use Global filters
3) Do not use Global filters

Please select how to set the Global Filters for the
default subclient? [1]

Client Group(s) is currently configured on CommServe
cs.company.com. Please choose the group(s) that you want
to add this client client.company.com to.

[ ] 1) Unix
[ ] 2) DR

[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: 1

Client Group(s) is currently configured on CommServe
cs.company.com. Please choose the group(s) that you want

```

Type **d** for done with the selection, and press **Enter** to continue.

29. Enter the number associated with the storage policy you want use and press **Enter**.

If you do not have Storage Policy created, this message will be displayed.
You may not be prompted for user input.

You can create the Storage Policy later in step 37.

30. Type the Sybase user ID and press **Enter**
 31. Type the name of the user group for Sybase and press **Enter**.
 32. Type the name of the Sybase Adaptive server and press **Enter**.
 33. Type the name of the Sybase home directory and press **Enter**.
 34. Type the name of the Sybase ASE directory and press **Enter**.

The Sybase ASE (Adaptive Server Enterprise) server library is generally located under the Sybase ASE server install/home directory.

35. Type the name of the Sybase OCS variable and press **Enter**.

You can view the location of this variable in sybase.env file residing in home directory.

Listing the values that you entered.

36. Type **3** to the **Exit** option and press **Enter**.

The installation is now complete.

```

to add this client client.company.com to.
[X ] 1) Unix
[ ] 2) DR
[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]
Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: d
Please select one storage policy for this IDA from the
list below:
1) SP_StandAloneLibrary2_2
2) SP_Library3_3
3) SP_MagLibrary4_4
Storage Policy: [1]
There seem to be no Storage Policies configured on the
CommServe. Before you can run any backups of this IDA, you
will need to install a MediaAgent, create a Storage Policy
and assign it to all subclients..
Adjusting modes and permissions of files
Successfully installed Calypso
Please enter SYBASE user ID [sybase]:
Please enter user group for sybase [sybase]:
Please enter SYBASE home
directory: /test2/sybase/sybase12.5_64
Please enter the SYBASE SERVER Name: cross_mc
Please enter the SYBASE_ASE directory: ASE-12_5
Please enter the SYBASE_OCS variable: OCS-12_5
    
```

```

Values input are:
SYBASE_USER=sybase
SYBASE_GRP =sybase
CXDIR =/opt/Calypso/Base
SYBASE_SERVER =cross_mc
SYBASE =/test2/sybase/sybase12.5_64
SYBASE_ASE =/test2/sybase/sybase12.5_64/ASE-12_5
SYBASE_OCS =/test2/sybase/sybase12.5_64/OCS-12_5
SYBLIBPATH =/test2/sybase/sybase12.5_64/ASE-12_5/lib
    
```


Certain Calypso packages can be associated with a virtual IP, or in other words, installed on a "virtual machine" belonging to some cluster. At any given time the virtual machine's services and IP address are active on only one of the cluster's servers. The virtual machine can "fail-over" from one server to another, which includes stopping services and deactivating IP address on the first server and activating the IP address/services on the other server.

Currently you have Calypso installed on physical node angel.company.com.

Now you have a choice of either adding another package to the existing installation or configure Calypso on a virtual machine for use in a cluster.

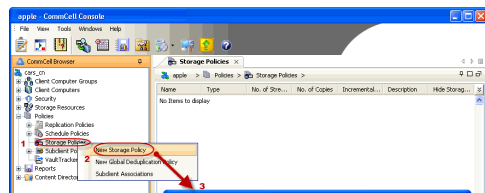
```

1) Add another package to angel.company.com
2) Install Calypso on a virtual machine
3) Exit
Your choice: [1] 3
    
```

 If you already have a storage policy selected in step 29, proceed to the **Configuration** section.

If you do not have Storage Policy created, follow the procedure given below.

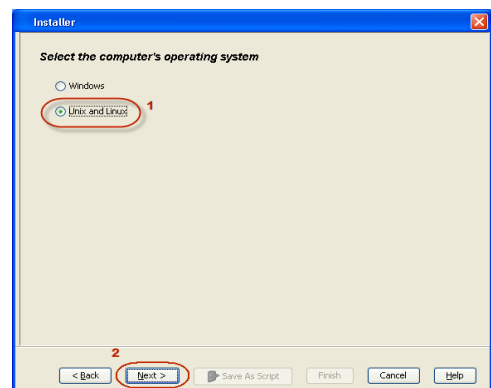
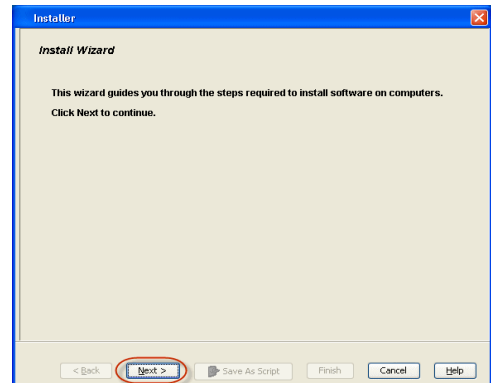
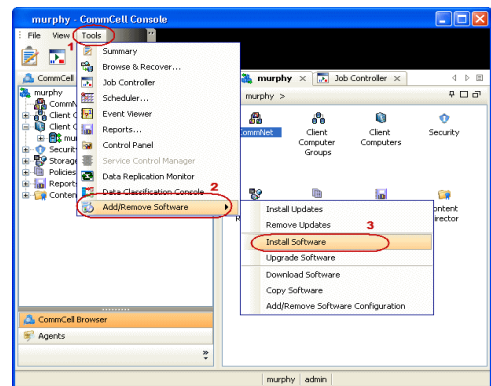
- 37.
1. From the CommCell Browser, navigate to **Policies**.
 2. Right-click the **Storage Policies** and then click **New Storage Policy**.
 3. Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:
 - o Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.



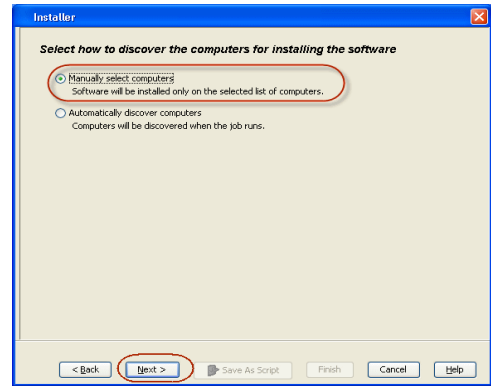
- Enter the name in the **Storage Policy Name** box and click **Next**.
- From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.
Ensure that you select a library attached to a MediaAgent operating in the current release.
- From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
- For the device streams and the retention criteria information, click **Next** to accept default values.
- Select **Yes** to enable deduplication for the primary copy.
- From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication store.
Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the Browse button to select the folder and then click **Next**.
- Review the details and click **Finish** to create the Storage Policy.

METHOD 2: INSTALL SOFTWARE FROM COMMCELL CONSOLE

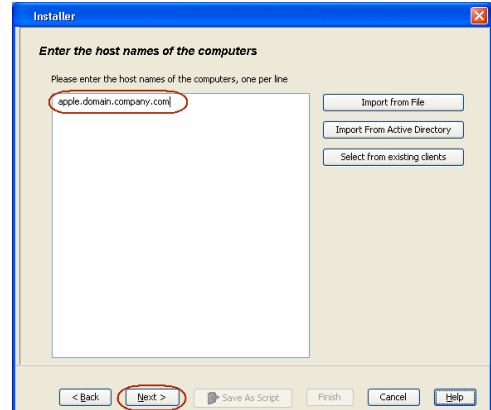
1. From the CommCell Browser, select **Tools | Add/Remove Software | Install Software**.
2. Click **Next**.
3. Select **Unix** and **Linux**.
Click **Next**.
4. Select **Manually Select Computers**.
Click **Next**.



5. Enter the fully qualified domain name of the computer on which SQL Server resides.
For example: apple.domain.company.com
Click **Next**.

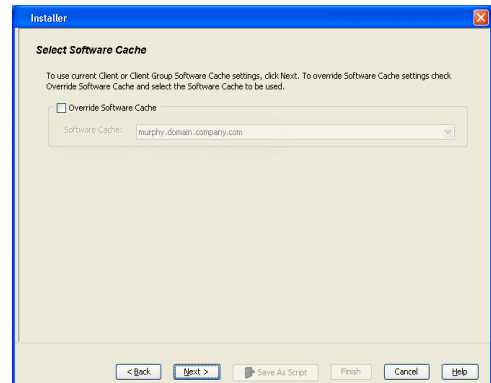


6. Click **Next**.

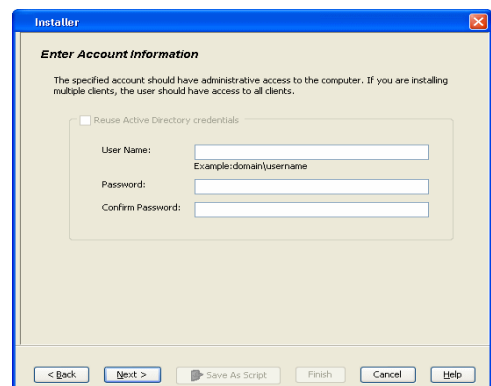


7. Specify **User Name** and **Password** that must be used to access the client computer.
Click **Next**.

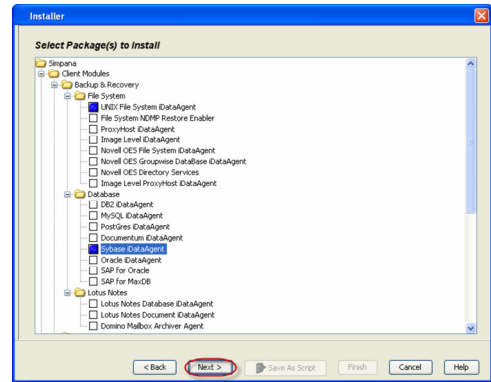
The user must be an Administrator or a member of the Administrator group on that computer.



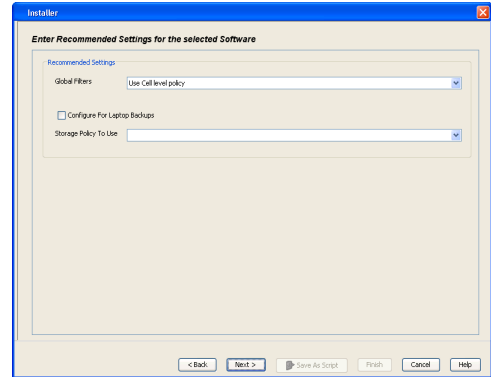
8. Select **Sybase iDataAgent**.
Click **Next**.



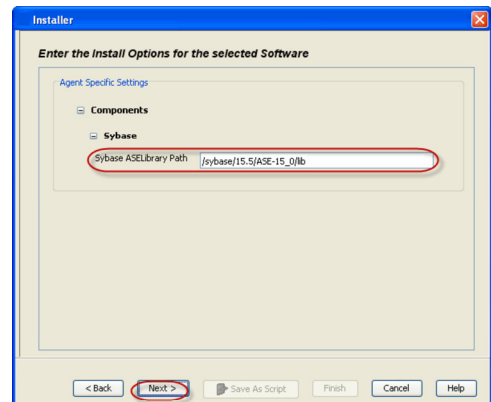
- From **Storage Policy to use** list, click storage policy.
Click **Next**.



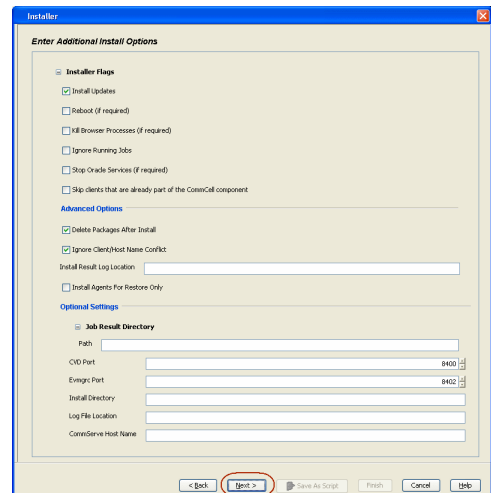
- In the **Sybase ASELibrary Path** box, type the path to the Sybase ASE Library.
The Sybase ASE (Adaptive Server Enterprise) server library is generally located under the Sybase ASE server install directory.
Click **Next**.



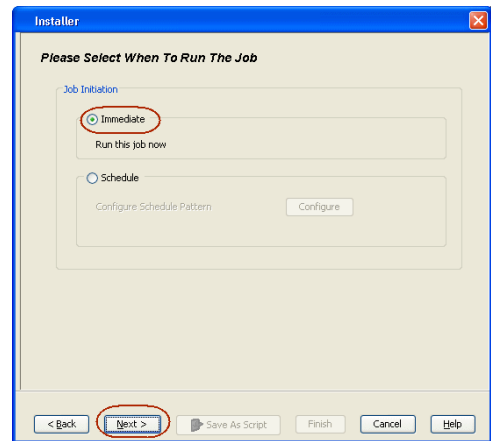
- Click **Reboot (if required)** and then click **Next**.
When **Reboot (if required)** is selected, the install program will automatically reboot the client computer and resume the installation.



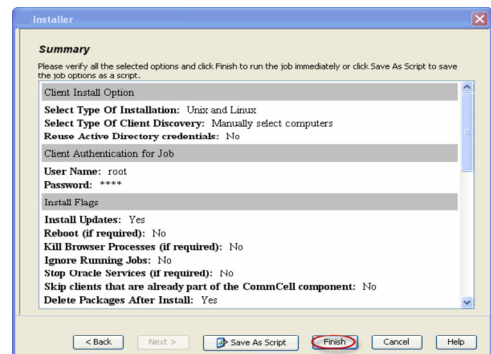
- Click **Immediate**.
Click **Next**.



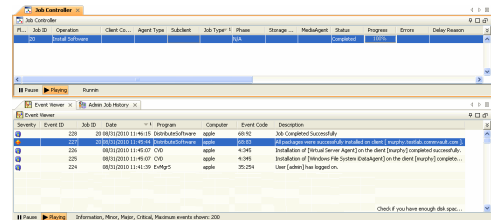
13. Click **Finish**.



14. You can track the progress of the job from the **Job Controller** or **Event Viewer** window.



15. Once the Sybase *iDataAgent* is installed from CommCell Console, run this command from `<calypso >/iDataAgent` on the client computer.



`Syb_install.sh`

For example:

```
root@clientlnx#./Syb_install.sh
```



ADDITIONAL INSTALLATION METHODS

Custom Package

Create a compact software package for quick deployment to multiple clients

Remote Install

Deploy the software from CommCell Console on multiple clients.

Silent Install

Deploy the software silently on multiple clients.

Getting Started Deployment on a UNIX Cluster - Sybase iDataAgent

◀ Previous Next ▶

SKIP THIS PAGE IF YOU ARE NOT INSTALLING THIS AGENT ON A UNIX CLUSTER.

Click **Next** ▶ to begin Configuration.

WHERE TO INSTALL

Install the software on a client computer that you want to protect and is part of a Cluster which satisfies the minimum requirements specified in the System Requirements.

BEFORE YOU BEGIN

Download Software Packages

Download the latest software package to perform the install.

Verify System Requirements

Make sure that the computer in which you wish to install the software satisfies the System Requirements.

INSTALLING THE SYBASE IDATAAGENT IN UNIX CLUSTERED ENVIRONMENT

1. Logon to the active node as **root**.
2. If you are installing the software from CD, run the following command to mount the CD:

```
mount -t iso9660,udf /dev/cdrom /mnt/cdrom
```

 Run the following command from the Software Installation Package or mount point:

```
./cvpkgadd
```
3. The product banner and other information is displayed.
Press **Enter**.
4. Read the license agreement. Type **y** and press **Enter**.
5. Press **Enter**.

6.
 - If your computer is 32-bit, or if you want to install 32-bit binaries on 64-bit computer, press **Enter**.
 - If your computer is 64-bit, and want to install 64-bit binaries, type **2**, and then press **Enter**.
 - This prompt is displayed only when you are installing on AIX, HP-UX, or Solaris computers.
 - You can determine this by verifying whether all the components that you wish to install in this computer are supported in 64-bit in System Requirements
 - Note that when the first component is installed using 64-bit binaries, you cannot subsequently install another component using 32-bit. (Or vice-versa.)
7. Type **2**, and press **Enter** to install on a computer which is part of a Cluster.

Please select a setup task you want to perform from the list below:

Advance options provide extra setup features such as creating custom package, recording/replaying user selections and installing External Data Connector software.

- 1) Install data protection agents on this computer
- 2) Advance options
- 3) Exit this menu

Your choice: [1]

32 or 64?

This machine supports both 32 bit and 64 bit binaries. By default, we will install 32 bit binary set that has full support for all the modules included in this package. Please note that 64 bit binary set currently only support limited modules.

- 1) All platforms(32 bit)
- 2) FS and MS only(64 bit)

Your choice: [1]

Certain Calypso packages can be associated with a virtual IP, or in other words, installed on a "virtual machine" belonging to some cluster. At any given time the virtual machine's services and IP address are active on only one of the cluster's servers. The virtual machine can "fail-over" from one server to another, which includes stopping services and deactivating IP address on the first server and activating the IP address/services on the other server.

You now have a choice of performing a regular Calypso install on the physical host or installing Calypso on a virtual machine for operation within a cluster.

Most users should select "Install on a physical machine" here.

- 1) Install on a physical machine

8. Type the name of the computer that you want to configure or its corresponding IP address and press **Enter**.

2) Install on a virtual machine

3) Exit

Your choice: [2]

Please enter the hostname or IP address of the virtual machine being installed. It can be either short or long; the only requirement is that it must be resolvable by the name services configured on this machine

WARNING: You should follow this path ONLY if this host participates in a cluster and you really want to install Calypso on the virtual machine. This is NOT how most people will use Calypso.

If you got into this screen by mistake, hit ^C and restart cvpkgadd.

Virtual Machine Host Name:devm.mycompany.com

Virtual Machine Client Name

Please specify the client name for this machine.

It does not have to be the network host name: you can enter any word here without spaces. The only requirement is that it must be unique on the CommServe.

Virtual Machine Client Name: [devm]

9. Press **Enter**.

10. Specify the network interface that you want to associate with the physical machine and press **Enter**.

This prompt appears only when the Unix File System iDataAgent is not installed on the physical node.

Even though it is a virtual machine that you are installing now, we still have to ask you to provide hostname and client name for the physical node.

Network interfaces with the following IPs are available on your system. Please select the one that you want to be associated with Calypso physical machine. The interface should be static, and should not get disabled in case of cluster failover.

1) mackrel171
2) mackrel
3) mackrell

Interface number: [1] 2

11. Verify the name of the physical interface and make any required changes. Then press **Enter**.

Please verify the physical interface name below. Make it as complete (with fully qualified domain name) as possible.

Physical Hostname: [mackrel]

12. Enter a node name for the physical machine and press **Enter**.

Even though you are installing Calypso on a virtual machine, we still need to ask you to provide a node name for the physical machine.

It does not have to be the network host name: you can enter any word here without spaces. The only requirement is that it must be unique on the CommServe.

Physical Machine Node Name: [mackrel]

13. Type the number associated with the **Sybase iDataAgent** and press **Enter**.

Install Calypso on physical machine mackrell

Please select the Calypso module(s) that you would like to install.

[] 1) MediaAgent [1301] [CVGxMA]

[] 2) UNIX File System iDataAgent [1101] [CVGxIDA]

[] 3) Sybase iDataAgent [1202] [CVGxSybIDA]

[a=all n=none r=reverse q=quit d=done >=next <=previous ? =help]

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here:3

14. A confirmation screen will mark your choice with an "X".

Type **d** for **Done**, and press **Enter**.

Install Calypso on physical machine mackrell

Please select the Calypso module(s) that you would like to install.

[] 1) MediaAgent [1301] [CVGxMA]

[X] 2) UNIX File System iDataAgent [1101] [CVGxIDA]

[X] 3) Sybase iDataAgent [1202] [CVGxSybIDA]

[a=all n=none r=reverse q=quit d=done >=next <=previous ? =help]

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here:d

15. Press **Enter**.

Do you want to use the agents for restore only without consuming licenses? [no]

16. Type the appropriate number to install the latest software scripts and press **Enter**.

- Select **Download from the software provider website** to download the latest software scripts. Make sure you have internet access.

Installation Scripts Pack provides extra functions and latest support and fix performed during setup time. Please specify how you want to get this pack.

If you choose to download it from the website now, please

- Select **Use the one in the installation media** to install the software scripts from the package or share from which the installation is currently being performed.
- Select **Use the copy I already have by entering its unix path**, to specify the path if you have the software script in an alternate location.

Enter a node name for the physical machine and press **Enter**.

17. Press **Enter**.

18. Press **Enter** to accept the default path.

- If you want to specify a different path, type the path and then press **Enter**.
- If you want to install the software binaries to an NFS shared drive, specify the directory on which you have mounted the NFS file system and then press **Enter**.

In order to make sure that the client computer has `read/write` access to NFS shared drive, review the steps described in *Installing Software Binaries to an NFS Shared Drive*.

Do not use the following characters when specifying the path:

!@#\$%^&*():/?\

19. Press **Enter** to accept the default location.

- Enter a path to modify the default location and press **Enter**.
- All the modules installed on the computer will store the log files in this directory.

20. Type **Yes** and press **Enter**.

If you do not want to assign a group to software, type **no**, press **Enter** and proceed to step 22.

21. Type the **Group name** and then press **Enter**.

22. Type **d** for done with the selection and press **Enter**.

This screen is displayed if you do not assign any group to software and type **no** in step 20.

make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

- 1) Download from the software provider website.
- 2) Use the one in the installation media
- 3) Use the copy I already have by entering its unix path

Your choice: [1] 2

Keep Your Install Up to Date - Latest Service Pack

Latest Service Pack provides extra functions and latest support and fix for the packages you are going to install. You can download the latest service pack from software provider website.

If you decide to download it from the website now, please make sure you have internet connectivity at this time. This process may take some time depending on the internet connectivity.

Do you want to download the latest service pack now? [no]

Please specify where you want us to install Calypso binaries.

It must be a local directory and there should be at least 176MB of free space available. All files will be installed in a "calypso" subdirectory, so if you enter "/opt", the files will actually be placed into "/opt/calypso".

Installation Directory: [/opt]

Please specify where you want to keep Calypso log files.

It must be a local directory and there should be at least 100MB of free space available. All log files will be created in a "calypso/Log_Files" subdirectory, so if you enter "/var/log", the logs will actually be placed into "/var/log/calypso/Log_Files".

Log Directory: [/var/log]

Most of Software processes run with root privileges, but some are launched by databases and inherit database access rights. To make sure that registry and log files can be written to by both kinds of processes we can either make such files world-writeable or we can grant write access only to processes belonging to a particular group, e.g. a "calypso" or a "dba" group.

We highly recommend now that you create a new user group and enter its name in the next setup screen. If you choose not to assign a dedicated group to Software processes, you will need to specify the access permissions later.

If you're planning to backup Oracle DB you should use "dba" group.

Would you like to assign a specific group to Software? [yes]

Please enter the name of the group which will be assigned to all Software files and on behalf of which all Software processes will run.

In most of the cases it's a good idea to create a dedicated "calypso" group. However, if you're planning to use Oracle iDataAgent or SAP Agent, you should enter Oracle's "dba" group here.

Group name: dba

REMINDER

If you are planning to install Calypso Informix, DB2, PostgreSQL, Sybase or Lotus Notes iDataAgent, please make sure to include Informix, DB2, etc. users into group "dba".

Access Permissions for Other Users

Installer will assign full access rights to root user and its belonging group

for all installed Calypso files and its processes.

For any other users, you can specify the access permissions now. However, since you chose not to assign a dedicated group in previous step, make sure you specify sufficient access rights for other users if you are also planning to install Calypso agents involving third party software protection.

23. This prompt is relevant only when you install on Solaris. Press **Enter** to accept the default value for **Number of Streams**.

You can type the **Number of Streams** that you plan to run at the same time and then press **Enter**.

24. Press **Enter** if you do not want the changes to be updated automatically.

- If you want the changes to be made automatically, type **Yes** and then press **Enter**.
- You will come across this prompt when you install the software on the earlier versions of Solaris.

25. Press **Enter**.

26. Press **Enter**.

You will see this prompt if you have accepted the default **no** and pressed **Enter** in step 24.

27. Type a network TCP port number for the Communications Service (CVD) and press **Enter**.

Type a network TCP port number for the Client Event Manager Service (EvMgrC) and press **Enter**.

28. If you do not wish to configure the firewall services, press **Enter**.

If this computer is separated from the CommServe by firewall(s), type **Yes** and then press **Enter**.

For firewall options and configuration instructions, see Firewall Configuration and continue with the installation.

29. Type the fully qualified CommServe host name and press **Enter**.

Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.

30. Press **Enter**.

```
[X] 1) Allow read permission to other users
[X] 2) Allow write permission to other users
[X] 3) Allow execute permission to other users

a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]
Enter number(s)/one of "a,n,r,q,d,>,<,<?" here: d

Number of Streams

IMPORTANT : Please read install document "Configure Kernel
Parameters - Unix/Macintosh" from "Books Online" before
you start configuring kernel parameters. Please enter the
total number of streams that you plan to run at the same
time. We need to make sure that you have enough semaphores
and shared memory segments configured in /etc/system.

Number of streams [10]

We now need to modify the /etc/system configuration file
on this computer. It is done to make sure that there will
be enough shared memory and semaphores available for
Calypso programs. Please review the changes below and
answer "yes" if you want us to apply them to
the /etc/system file. Otherwise, the installation will
proceed, the changes will be saved to some other file, and
you will have to apply them manually.

set shmsys:shminfo_shmmni=8570 (was 7930)
set shmsys:shminfo_shmseg=8420 (was 7780)
set semsys:seminfo_semmns=10320 (was 9680)
set semsys:seminfo_semmni=8570 (was 7930)
set semsys:seminfo_semm1=8570 (was 7930)
Do you want us to apply these changes now? [no]

Changes saved into /etc/system.gal.1744

Press <ENTER> to continue.

Although a 'no' answer can be selected to this question
during install, the user should make sure the min
requirements (below) for shared memory are met, otherwise
the backups may fail (the message in logs is 'could not
start the pipeline').

set shmsys:shminfo_shmmax=4199304
set shmsys:shminfo_shmm1=1
set semsys:shminfo_shmmni=640
set semsys:shminfo_shmseg=640
set semsys:seminfo_semmns=640
set semsys:seminfo_semmni=640
set semsys:seminfo_semm1=640
set maxusers=256
Press <ENTER> to continue.

Every instance of Calypso should use a unique set of
network ports to avoid interfering with other instances
running on the same machine.

The port numbers selected must be from the reserved port
number range and have not been registered by another
application on this machine.

Please enter the port numbers.

Port Number for CVD : [8400]
Port Number for EvMgrC: [8402]

Is there a firewall between this client and the CommServe?
[no]

Please specify hostname of the CommServe below. Make sure
the hostname is fully qualified, resolvable by the name
services configured on this machine.

CommServe Host Name: mycommserve.company.com

Commcell Level Global Filters are set through Calypso
GUI's Control Panel in order to filter out certain
directories or files from backup Commcell-widely. If you
turn on the Global filters, they will be effective to the
default subclient. There are three options you can choose
to set the filters.

1) Use Cell level policy
2) Always use Global filters
3) Do not use Global filters

Please select how to set the Global Filters for the
```

31. Type the number associated with the **Unix File System iDataAgent** and press **Enter**.

32. A confirmation screen will mark your choice with an "X".
Type **d** for **Done**, and press **Enter**.

33. Enter the number associated with the storage policy you want use and press **Enter**.

If you do not have Storage Policy created, this message will be displayed.

You may not be prompted for user input.

You can create the Storage Policy later in step 41.

34. Type the Sybase user ID and press **Enter**
 35. Type the name of the user group for Sybase and press **Enter**
 36. Type the name of the Sybase Adaptive server and press **Enter**.
 37. Type the name of the Sybase home directory and press **Enter**.
 38. Type the name of the Sybase ASE directory and press **Enter**.

The Sybase ASE (Adaptive Server Enterprise) server library is generally located under the Sybase ASE server install directory.

39. Type the name of the Sybase OCS variable and press **Enter**.

Listing the values that you entered.

40. Type **4** to the **Exit** option and press **Enter**.

The installation is now complete.

```

default subclient? [1]

Client Group(s) is currently configured on CommServe
cs.company.com. Please choose the group(s) that you want
to add this client client.company.com to.

[ ] 1) Unix
[ ] 2) DR

[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: 1

Client Group(s) is currently configured on CommServe
cs.company.com. Please choose the group(s) that you want
to add this client client.company.com to.

[X ] 1) Unix
[ ] 2) DR

[a=all n=none r=reverse q=quit d=done >=next <=previous ?
=help]

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: d

Please select one storage policy for this IDA from the
list below:

1) SP_StandAloneLibrary2_2
2) SP_Library3_3
3) SP_MagLibrary4_4

Storage Policy: [1]

There seem to be no Storage Policies configured on the
CommServe. Before you can run any backups of this IDA, you
will need to install a MediaAgent, create a Storage Policy
and assign it to all subclients..

Adjusting modes and permissions of files
Successfully installed Calypso

Please enter SYBASE user ID [sybase]:

Please enter user group for sybase [sybase]:

Please enter SYBASE home
directory: /test2/sybase/sybase12.5_64

Please enter the SYBASE SERVER Name: cross_mc

Please enter the SYBASE_ASE directory: ASE-12_5

Please enter the SYBASE_OCS variable: OCS-12_5

Values input are:

SYBASE_USER=sybase
SYBASE_GRP =sybase
CXDIR =/opt/Calypso/Base
SYBASE_SERVER =cross_mc
SYBASE =/test2/sybase/sybase12.5_64
SYBASE_ASE =/test2/sybase/sybase12.5_64/ASE-12_5
SYBASE_OCS =/test2/sybase/sybase12.5_64/OCS-12_5
SYBLIBPATH =/test2/sybase/sybase12.5_64/ASE-12_5/lib

Calypso is currently configured on virtual machine
devmc.company.com.

Now you have an option of installing Calypso on physical
machine, another virtual machine or you can add a new
package to devmc.company.com.

1) Add a new package to hpuxmcl1.company.com
2) Install Calypso on the physical machine
3) Install Calypso on another virtual machine
4) Exit

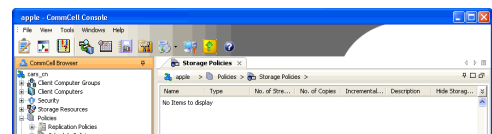
Your choice: [4]
    
```



If you already have a storage policy selected in step 33, proceed to the **Configuration** section.

If you do not have Storage Policy created, follow the procedure given below.

- 41.
1. From the CommCell Browser, navigate to **Policies**.
 2. Right-click the **Storage Policies** and then click **New Storage Policy**.
 3. Follow the prompts displayed in the Storage Policy Wizard. The required options



are mentioned below:

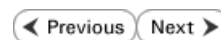
- Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
- Enter the name in the **Storage Policy Name** box and click **Next**.
- From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.

Ensure that you select a library attached to a MediaAgent operating in the current release.

- From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
- For the device streams and the retention criteria information, click **Next** to accept default values.
- Select **Yes** to enable deduplication for the primary copy.
- From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication store.

Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the Browse button to select the folder and then click **Next**.

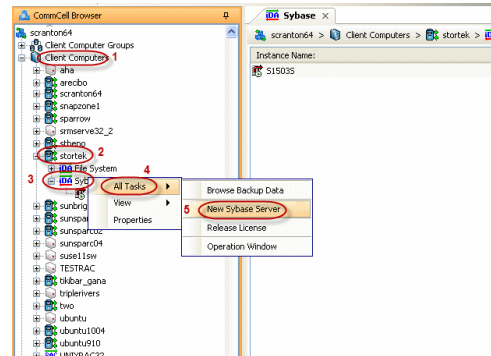
- Review the details and click **Finish** to create the Storage Policy.



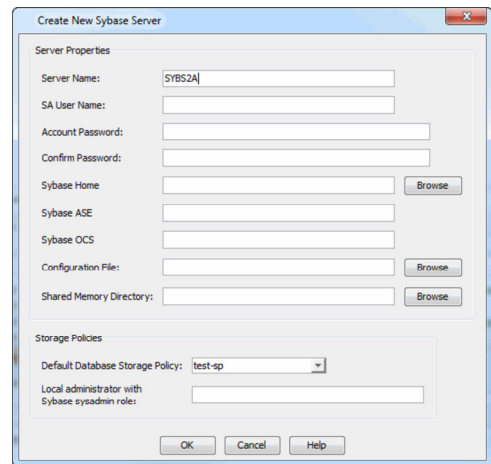
Getting Started Configuration - Sybase iDataAgent

Once the Sybase iDataAgent is installed, configure the Sybase Server and subclient as follows:

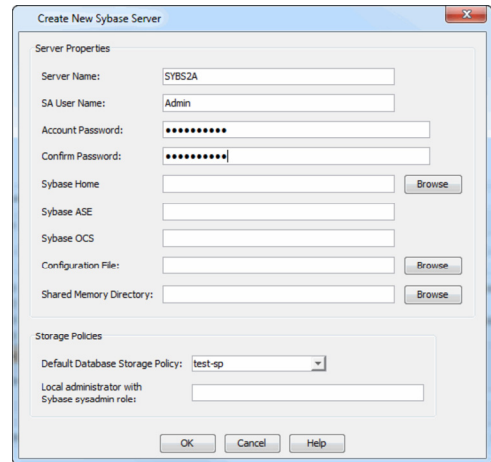
- From the CommCell Browser, navigate to **Client Computers | <Client>**.
 - Right-click **Sybase**, point to **All Tasks**, and then click **New Sybase Server**.



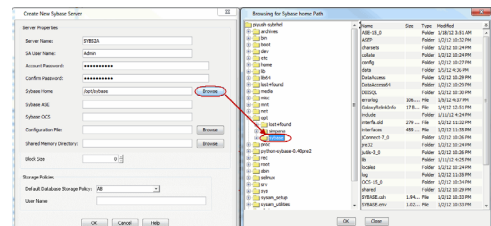
- In the **Server Name** box, type the Sybase server name.



- In the **SA User Name** box, type the Sybase administrator user name.
 - In the **Account Password** box, type the account password for the Sybase administrator user account.
 - In the **Confirm Password** box, re-type the password.

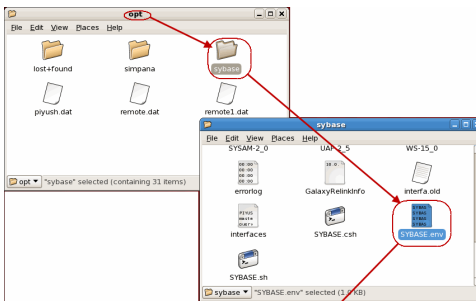
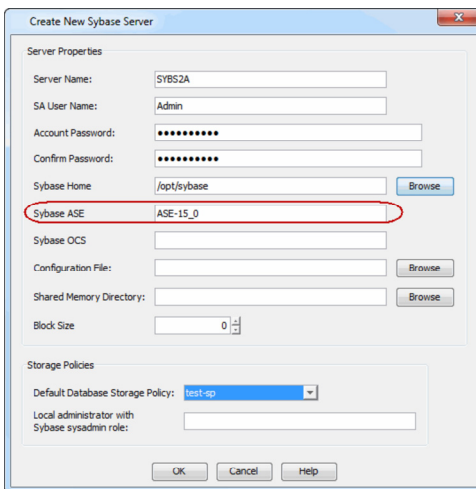


- In the **Sybase Home** box, type the path to the Sybase application. Alternatively, click **Browse** to select the location.



- In the **Sybase ASE** box, type the directory name where you installed Adaptive Server Enterprise (ASE) environment variable.

You can view the location of this directory in sybase.env file residing in home directory.

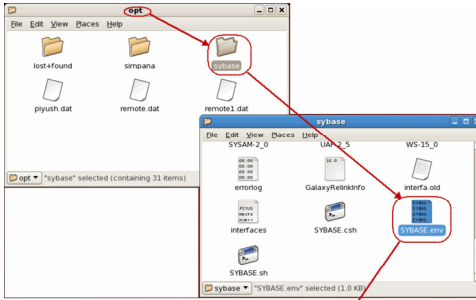
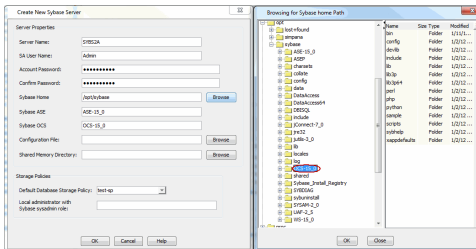


```
SYBASE_HOME=/opt/sybase/ohared/ASE-15_0_04_02BIT
SYBASE_SERVER=/opt/sybase/ohared/ASE-15_0_04_02BIT
SYBASE_OCS=/opt/sybase/ohared/ASE-15_0_04_02BIT
SYBASE_ASE=ASE-15_0
SYBASE_ASE_PATH=/opt/sybase/ASE-15_0/bin/EXEC
LIBRARY_PATH=/opt/sybase/ASE-15_0/lib/EXEC
PATH=/opt/sybase/ASE-15_0/bin:SPAWN
LD_LIBRARY_PATH=/opt/sybase/ASE-15_0/lib:/opt/sybase/ASE-15_0/lib/64:/opt/sybase/ASE-15_0/lib/32:$LD_LIBRARY_PATH
STRACE=/opt/sybase/ASE-15_0/bin/EXEC
SYBASE_PLATFORM=linux
LD_LIBRARY_PATH=/opt/sybase/DataAccess/ODBC/lib:$LD_LIBRARY_PATH
SYSCONF=/opt/sybase/ohared/sysover1600
PATH=/opt/sybase/ASE-15_0/bin:SPAWN
STRACE=/opt/sybase/ASE-15_0/bin/EXEC
SYBASE_ASE=ASE-15_0
SYBASE_ASE_PATH=/opt/sybase/ASE-15_0/bin/install.SPAWN
SYBASE_OCS_PATH=/opt/sybase/ASE-15_0/lib/EXEC_LIBRARY_PATH
LD_LIBRARY_PATH=/opt/sybase/ASE-15_0/lib/EXEC_LIBRARY_PATH
STRACE=/opt/sybase/ASE-15_0/bin/EXEC
PATH=/opt/sybase/ASE-15_0/jobcheduler/bin:SPAWN
```

6.

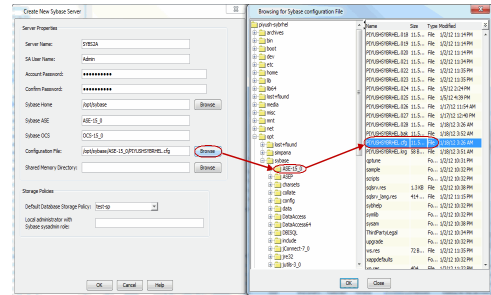
- In the **Sybase OCS** box, type the Sybase Open Client Server (OCS) environment variable.

You can view the path to this variable in sybase.env file residing in home directory.

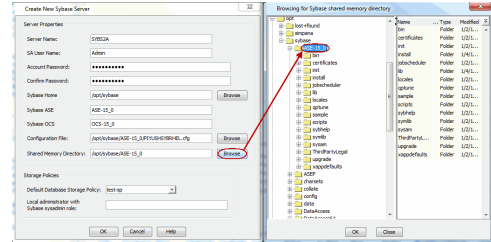


```
SYBASE_HOME=/opt/sybase/ohared/ASE-15_0_04_02BIT
SYBASE_SERVER=/opt/sybase/ohared/ASE-15_0_04_02BIT
SYBASE_OCS=/opt/sybase/ohared/ASE-15_0_04_02BIT
SYBASE_ASE=ASE-15_0
SYBASE_ASE_PATH=/opt/sybase/ASE-15_0/bin/EXEC
LIBRARY_PATH=/opt/sybase/ASE-15_0/lib/EXEC
PATH=/opt/sybase/ASE-15_0/bin:SPAWN
LD_LIBRARY_PATH=/opt/sybase/ASE-15_0/lib:/opt/sybase/ASE-15_0/lib/64:/opt/sybase/ASE-15_0/lib/32:$LD_LIBRARY_PATH
STRACE=/opt/sybase/ASE-15_0/bin/EXEC
SYBASE_PLATFORM=linux
LD_LIBRARY_PATH=/opt/sybase/DataAccess/ODBC/lib:$LD_LIBRARY_PATH
SYSCONF=/opt/sybase/ohared/sysover1600
PATH=/opt/sybase/ASE-15_0/bin:SPAWN
STRACE=/opt/sybase/ASE-15_0/bin/EXEC
SYBASE_ASE=ASE-15_0
SYBASE_ASE_PATH=/opt/sybase/ASE-15_0/bin/install.SPAWN
SYBASE_OCS_PATH=/opt/sybase/ASE-15_0/lib/EXEC_LIBRARY_PATH
LD_LIBRARY_PATH=/opt/sybase/ASE-15_0/lib/EXEC_LIBRARY_PATH
STRACE=/opt/sybase/ASE-15_0/bin/EXEC
PATH=/opt/sybase/ASE-15_0/jobcheduler/bin:SPAWN
```

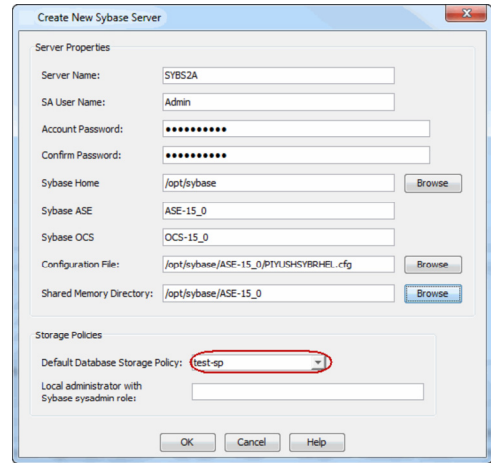

- In the **Configuration File** box, type the path to the configuration file. Alternatively, click **Browse** to select the location.



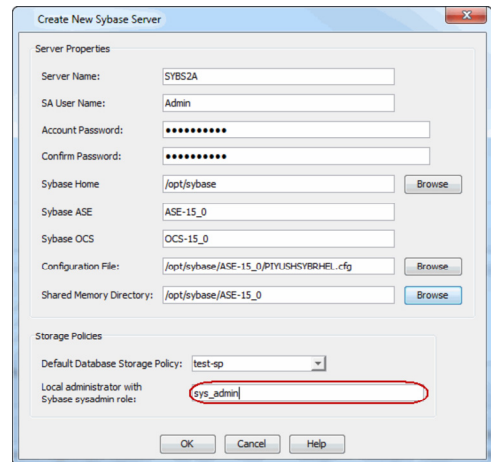
- In the **Shared Memory Directory** box, type the location of the directory where you specify the shared memory file name. When you start an Adaptive Server, it creates a shared memory file that resides in the home directory. for example: /opt/sybase/ASE-15_0. Alternatively, click **Browse** to select the location.



- In the **Default Database Storage Policy** box, select the storage policy name.



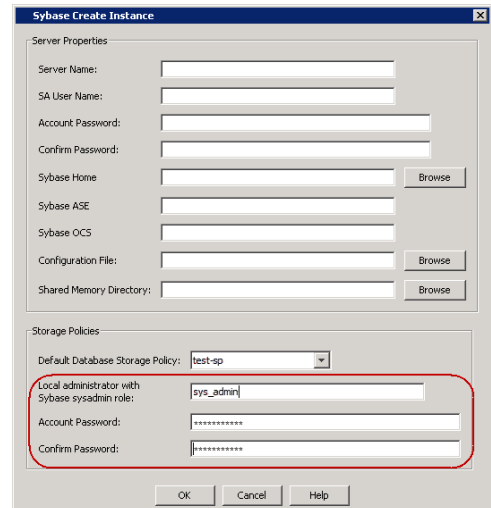
- For Unix:
 - In the **Local administrator with Sybase sysadmin role** box, type the user name of the local system administrator with Sybase sysadmin role privileges.
 - Click **OK**.



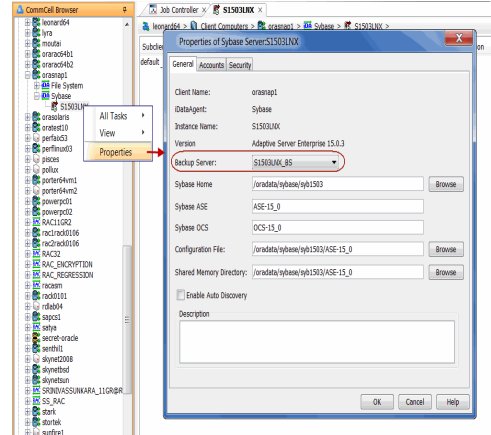
For Windows:

- In the **Local administrator with Sybase sysadmin role** box, type the user name of the local system administrator with Sybase sysadmin role privileges.
- In the **Account Password** box, type the password for the user account.
- In the **Confirm Password** box, re-type the password.
- Click **OK**.

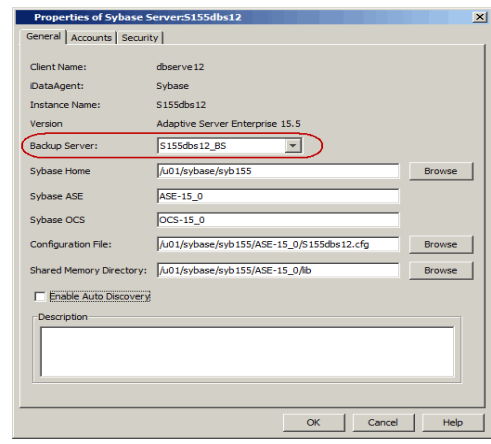
11.
 - From the CommCell Browser, navigate to **Client Computers** | **<Client>** | **Sybase iDataAgent**.
 - Right-click the **<Instance>**, and then click **Properties**.



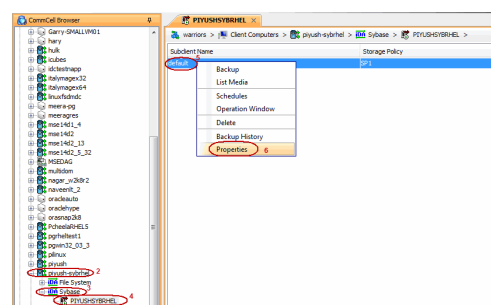
12.
 - Select the **Backup Server** from the list.
 - Click **OK**.



13.
 - From the CommCell Browser, navigate to **Client Computers** | **<Client>** | **Sybase** | **<Instance>**.
 - Right-click the **default Subclient**, and then click **Properties**.

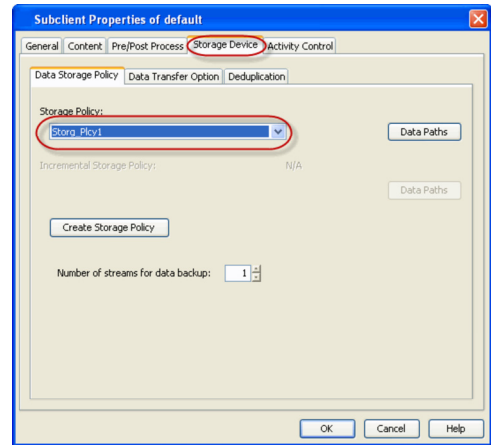


14.
 - Click the **Storage Device** tab.



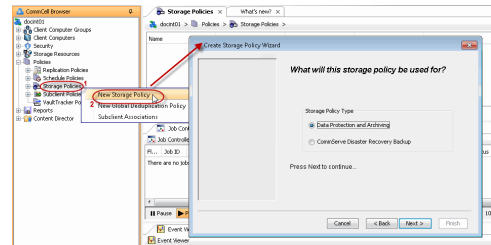
- In the **Storage Policy** box, select the storage policy.
- Click **OK**.

Click **Next** ► to continue. If you do not have Storage Policy created, follow the step given below to create a storage policy.



15.

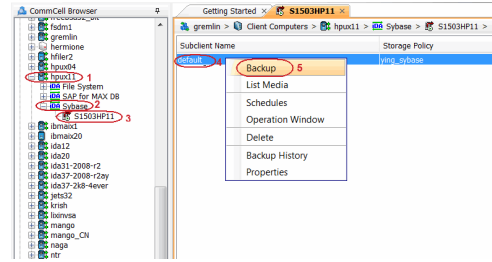
- Click **Create Storage Policy**.
- Follow the prompts displayed in the Storage Policy Wizard. The required options are mentioned below:
 - Select the Storage Policy type as **Data Protection and Archiving** and click **Next**.
 - Enter the name in the **Storage Policy Name** box and click **Next**.
 - From the **Library** list, click the name of a disk library to which the primary copy should be associated and then click **Next**.
 - Ensure that you select a library attached to a MediaAgent operating in the current release.
 - From the **MediaAgent** list, click the name of a MediaAgent that will be used to create the primary copy and then click **Next**.
 - For the device streams and the retention criteria information, click **Next** to accept default values.
 - Select **Yes** to enable deduplication for the primary copy.
 - From the **MediaAgent** list, click the name of the MediaAgent that will be used to store the Deduplication Store.
 - Type the name of the folder in which the deduplication database must be located in the Deduplication Store Location or click the **Browse** to select the folder and then click **Next**.
 - Review the details and click **Finish** to create the Storage Policy.



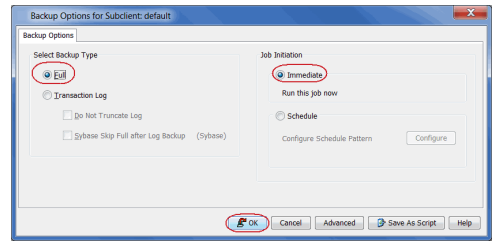
Getting Started Backup - Sybase iDataAgent

WHAT GETS BACKED UP	WHAT DOES NOT GET BACKED UP
Sybase system databases Sybase user databases Transaction logs All the File Systems that are supported by your Operating system The raw devices supported by your Operating system	Sybase application files Operating system data Use the File System iDataAgent to back up the above mentioned components.

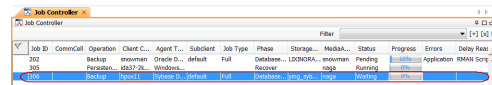
- From the CommCell Browser, navigate to **Client Computers** | **<Client>** | **Sybase** | **<Instance>**.
 - Right-click the default subclient and click **Backup**.



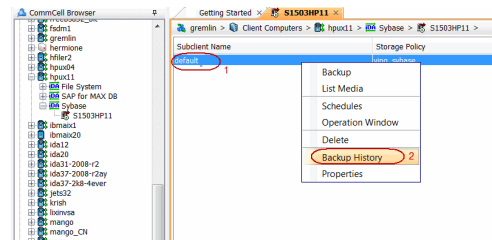
- Click **Full** as backup type and then click **Immediate**.
 - Click **OK**.



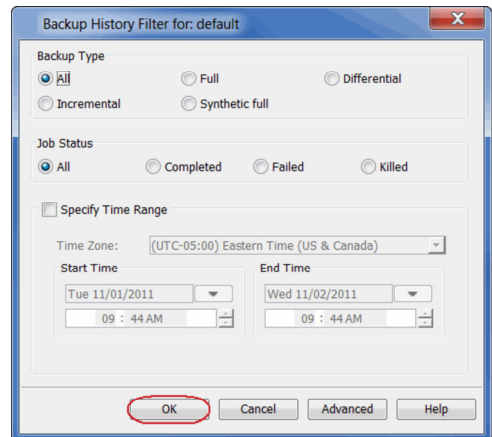
- You can track the progress of the job from the **Job Controller** window of the CommCell console.



- Once the job is complete, view the job details from the **Backup History**. Right-click the **Subclient** and select **Backup History**.

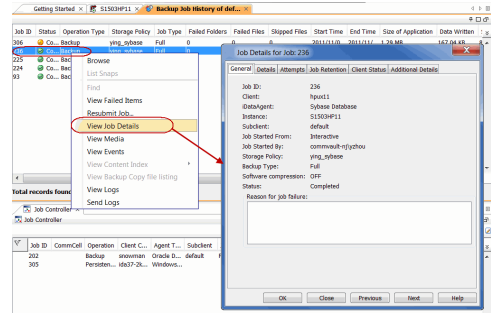


- Click **OK**.



- Right-click the job to:
 - Browse the database that was backed up.

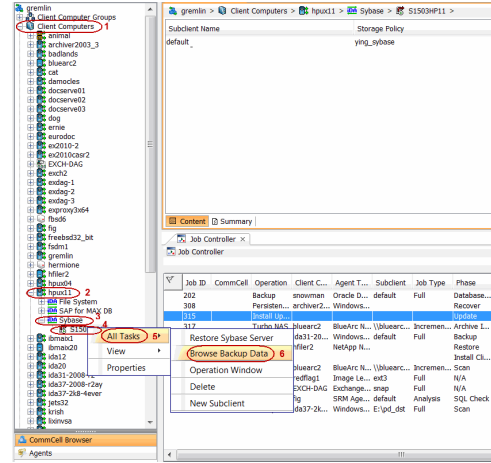
- View Failed Items.
- Resubmit the job.
- View job details.
- View media associated with the job.
- View events associated with the job.
- View or send the log file that is associated with the job.



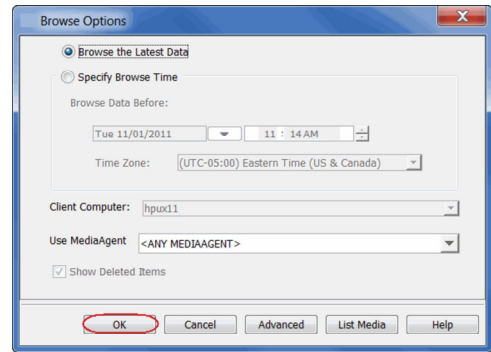
Getting Started Restore - Sybase iDataAgent

As restoring your backup data is very crucial, it is recommended that you perform a restore operation immediately after your first full backup to understand the process. The following section explain the steps for restoring a database.

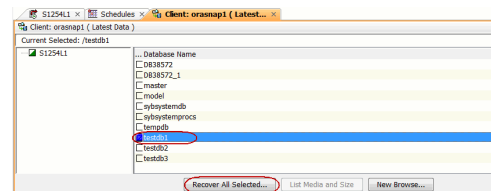
- From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
 - Right-click the **<Instance>**, point to **All Tasks**, and then click **Browse Backup Data**.



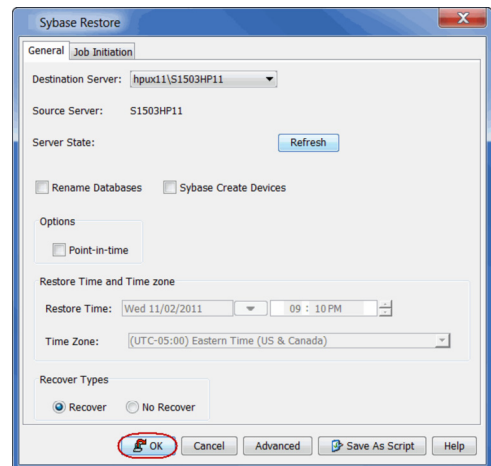
- Click **OK**.



- In the right pane of the Browse window, click the **<Instance>** and select a database.
 - Click **Recover All Selected**.



- Click **OK**.



- You can monitor the progress of the restore job in the **Job Controller**.

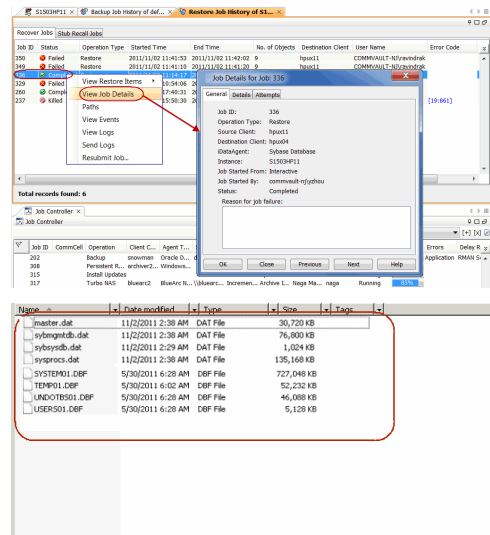
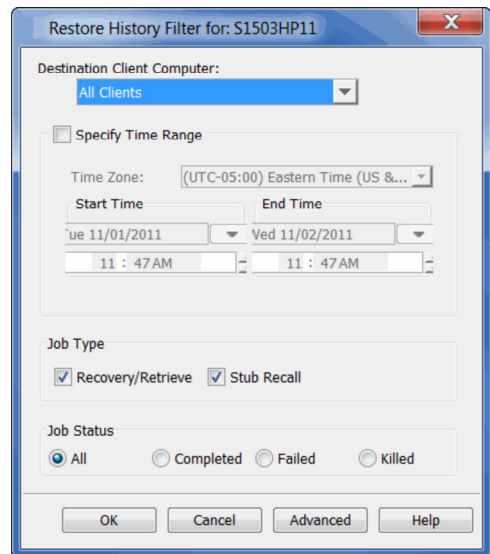
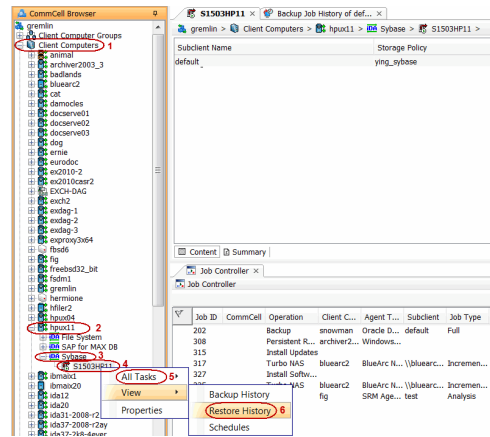
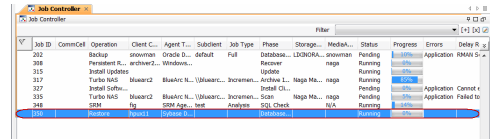
6. Once the restore has completed, right-click the agent or <instance>, point to **View** and click **Restore History**.

7. Click **OK**.

8. You can view the following details about the job by right-clicking the job:

- View Restore Items
You can view them as **Successful**, **Failed**, **Skipped** or **All**.
- View Job Details
- View Events of the restore job.
- View and send Log files of the restore job
- View Paths
- Resubmit the restore job

9. Once the database is restored, verify that the restored database is available in the original location.



CONGRATULATIONS - YOU HAVE SUCCESSFULLY COMPLETED YOUR FIRST BACKUP AND RESTORE.

If you want to further explore this Agent's features read the **Advanced** sections of this documentation.

Advanced Configuration - Sybase iDataAgent

TABLE OF CONTENTS

<p>Understanding the CommCell Console</p> <p>Managing the Sybase Server</p> <ul style="list-style-type: none"> Adding a New Sybase Server Changing the Sybase Home Directory Changing the Backup Server Configuring the Environment Variables Changing the Configuration File Changing the Shared Memory Directory <p>Manually Creating a Master Database</p> <p>Managing Subclients</p> <ul style="list-style-type: none"> Creating a User-Defined Subclient to Backup Specific Databases Enabling/Disabling Automatic Discovery of Databases to the Default Subclient Manually Discovering Databases <p>Configuring User Accounts for Backups</p> <p>Configuring Streams for Backups</p> <p>Modifying an Agent, Instance, or Subclient</p> <p>Deleting an Agent, Instance, or Subclient</p> <ul style="list-style-type: none"> Deleting an Agent Deleting an Instance Deleting a Subclient 	<p>Command Line Operations</p> <ul style="list-style-type: none"> Log on to the CommServe Configure Instances Configure Subclients List Schedule Policy Association
--	--

UNDERSTANDING THE COMMCELL CONSOLE

The Sybase iDataAgent uses the following logical entities to manage backup and restore operations from the CommCell Console.

AGENT

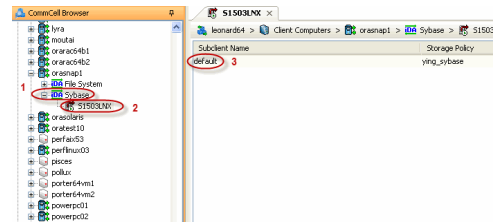
Facilitates the creation of Sybase Server instance.

INSTANCE

Defines the Sybase Server to be backed up.

SUBCLIENT

Defines the Sybase databases to be backed up.



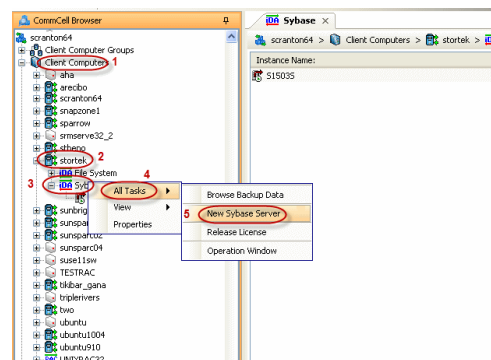
MANAGING THE SYBASE SERVER

In the CommCell Console each instance references a Sybase server. Hence it is necessary to create an instance for each Sybase Server to be backed up. You can manage your server/instance as described in the following sections:

ADDING A NEW SYBASE SERVER

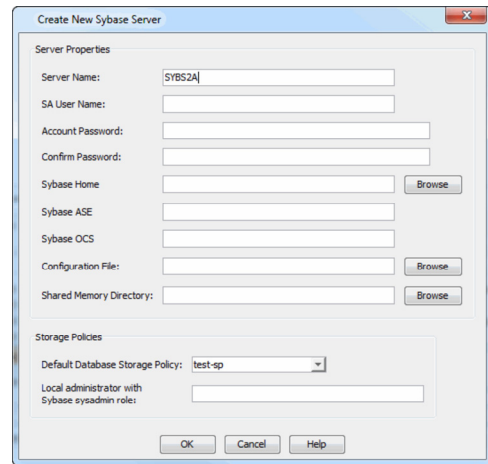
Whenever a new Sybase Server is created on the client, you will add the Sybase Server to the CommCell using the following steps:

1. From the CommCell Browser, navigate to the **Client Computers | <Client>**.
2. Right-click **Sybase**, point to **All Tasks**, and then click **New Sybase Server**.

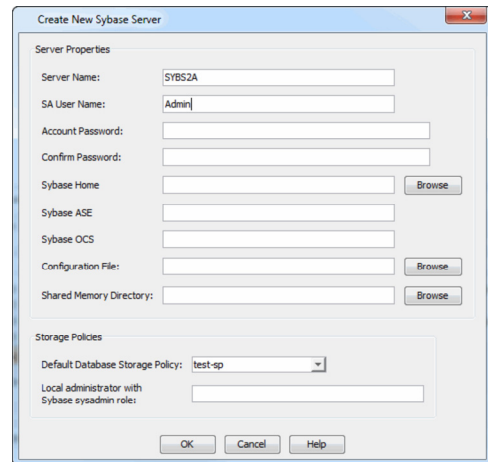


3. In the **Server Name** box type the Sybase server name.

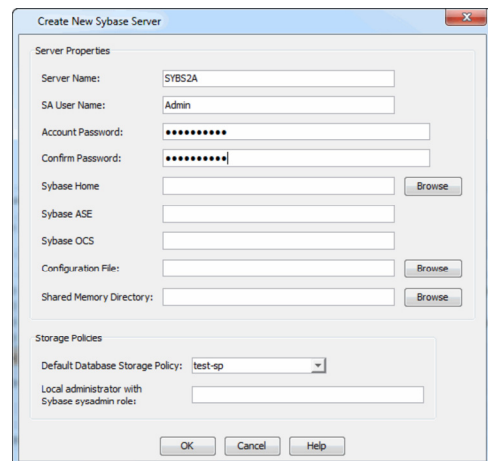
- In the **SA User Name** box, type the Sybase Administrator user name with the permissions to perform data protection, recovery and administrative operations.



- In the **Account Password** box, type the Sybase Administrator user account password.
- In the **Confirm Password** box, re-type the password.

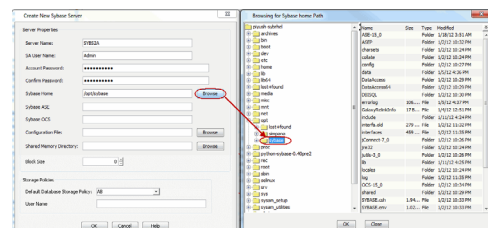


- In the **Sybase Home** box, type the path to the directory where the Sybase application files reside. Alternatively, click Browse to select the location.



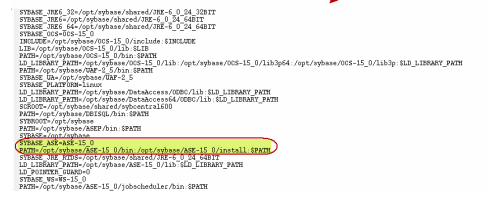
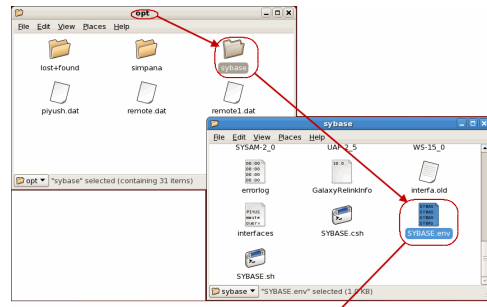
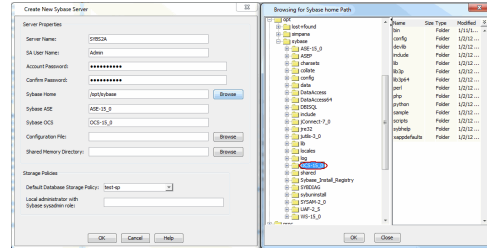
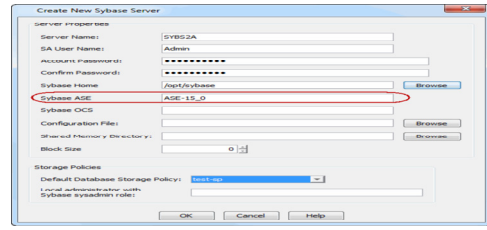
- In the **Sybase ASE** box, type the Sybase Adaptive Server Enterprise (ASE) environment variable.

You can view the path to the ASE directory in .env file residing in the Sybase home directory.

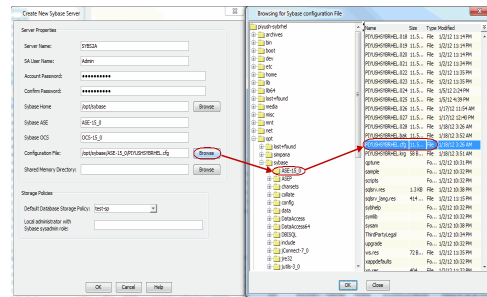


- In the **Sybase OCS** box, type the Sybase Open Client Server (OCS)environment variable.

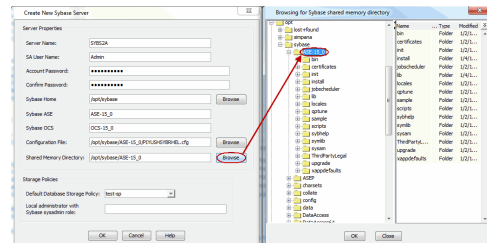
You can view this variable in sybase.env file residing in home directory.



- In the **Configuration File** box, type the path to the configuration file. Alternatively, click **Browse** to select the location.

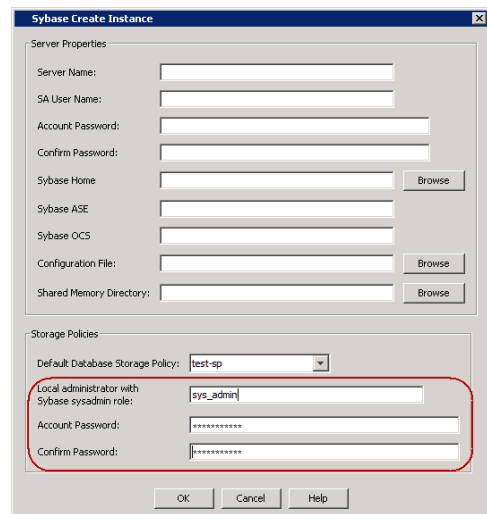
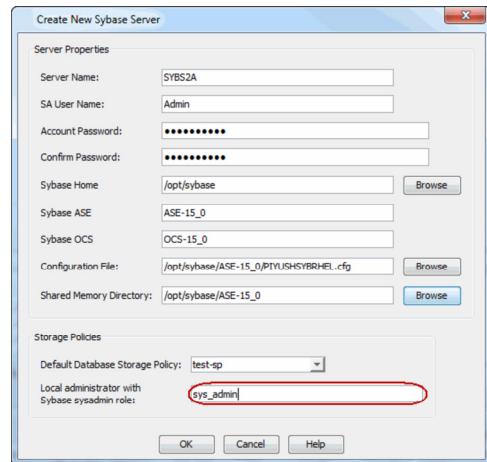
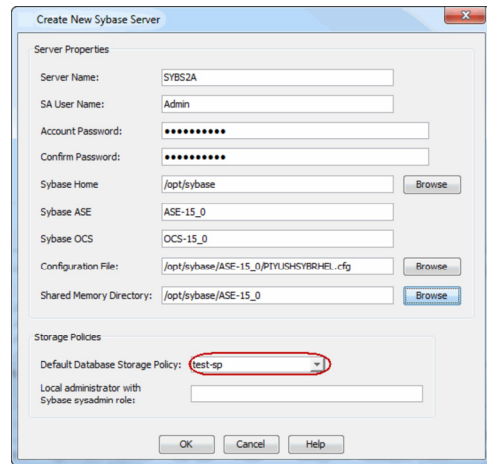


- In the **Shared Memory Directory** box, type the location of the directory where you specify the shared memory file name. When you start an Adaptive Server, it creates a shared memory file that resides in the home directory. for example: /opt/sybase/ASE-15_0. Alternatively, click **Browse** to select the location.

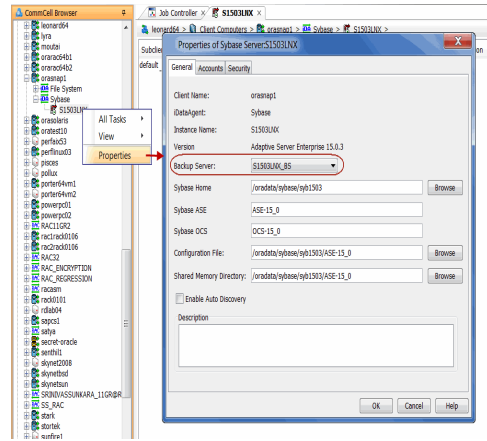


- In the **Default Database Storage Policy** box, select the storage policy.

13. In the **User Name** box, type the name of the user with read and write permissions to Calypso Software Installation Directory, client registry directory, Sybase software installation directories and Sybase database devices directories.
For Windows, in addition to the name of the user with read and write permissions to the above mentioned directories, you need to type the password in **Account Password** box and retype the password in **Confirm Password** box.
14. Click **OK**.



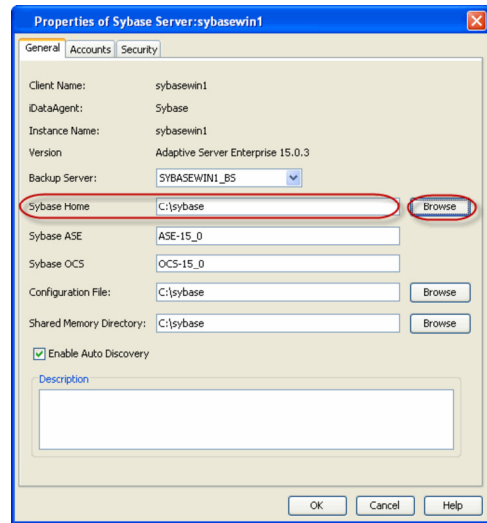
15. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
16. Right-click the **<Instance>**, and then click **Properties**.
17. Select the **Backup Server** from the list.
18. Click **OK**.



CHANGING THE SYBASE HOME DIRECTORY

Sybase HOME directory refers to the location where the Sybase application resides. You can modify the home path location for an instance at any point of time. Use the following steps to change the Sybase HOME directory:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
2. Right-click the **<Instance>**, and then click **Properties**
3. In the **Sybase Home** box, type the path to the Sybase application. Alternatively, click **Browse** to select the location.
4. Click **OK**.

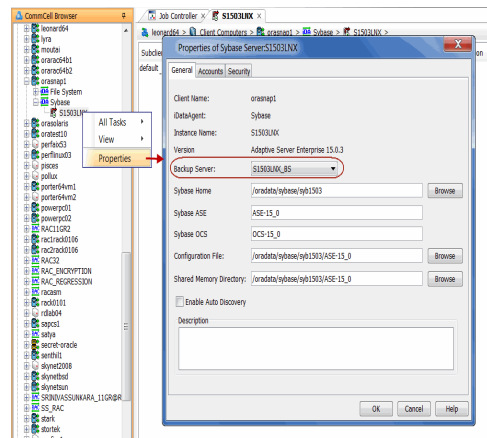


CHANGING THE BACKUP SERVER

If a backup server that is associated to a Sybase server instance reaches its maximum storage capacity even after compressing your earlier backups, you can change the backup server to enhance your backup and restore jobs.

Use the following steps to change the backup server:

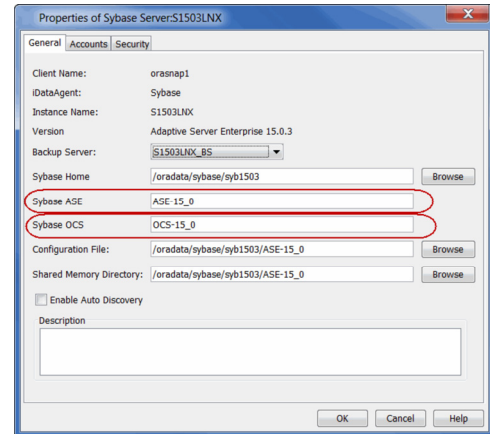
1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
2. Right-click the **<Instance>**, and then click **Properties**
3. From the **Backup Server** list, select the backup server name.
4. Click **OK**.



CONFIGURING THE ENVIRONMENT VARIABLES

By default, the Sybase ASE (Adaptive Server Enterprise) server library and Open Client Server (OCS) environment variable are located under the Sybase ASE server home directory. Use the following steps to configure Sybase environment variables:

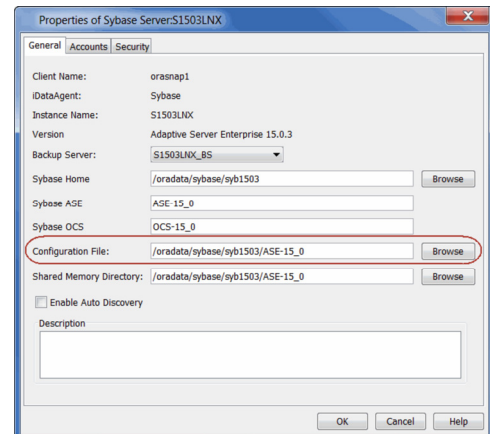
1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
2. Right-click the **<Instance>**, and then click **Properties**
3. In the **Sybase ASE** box, type the Sybase ASE server directory.
4. In the **Sybase OCS** box, type the Sybase OCS environment variable.
5. Click **OK**.



CHANGING THE CONFIGURATION FILE

Use the following steps to change the location of the configuration file:

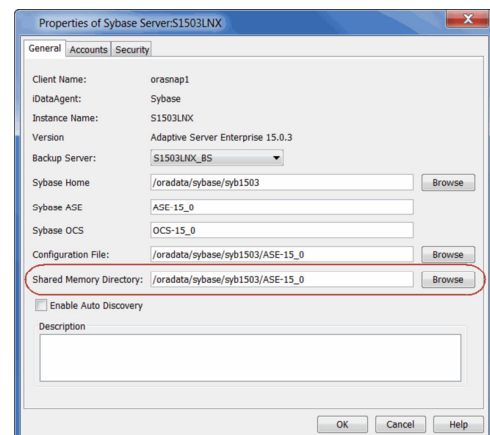
1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
2. Right-click the **<Instance>**, and then click **Properties**
3. In the **Configuration File** box, type the path to the configuration file. Alternatively, click **Browse** to select the location.
4. Click **OK**.



CHANGING THE SHARED MEMORY DIRECTORY

Sybase uses shared memory for inter process communication and caching the data. Use the following steps to change the location of the shared memory directory:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
2. Right-click the **<Instance>**, and then click **Properties**
3. In the **Shared Memory Directory** box, type the path to the Shared memory directory. Alternatively, click **Browse** to select the location.
4. Click **OK**.



MANUALLY CREATING A MASTER DATABASE

When you restore an entire Sybase server or a master database, it is highly recommended to select Sybase create devices. However, you can also create a master database manually and then perform a restore without selecting Sybase create devices.

Use the following steps to manually create a master database:

1. First, you need to shut down the Sybase server.
2. Remove the old master database device and manually delete the `master.dat` from the database directory.
3. Execute the command to create the new master device with an empty password.

Example:

```
/sybase/syb1503/ASE-15_0/bin/dataserver -s S1503LNX -b200M -f -z 2048 -d /sybase/syb1503/data/master.dat -c /sybase/syb1503/ASE-15_0/S1503LNX.cfg
```

4. Execute the command to start the Sybase server

Example:

```
./startserver -f RUN_S1503LNX
```

5. Execute the command to alter the master database

Example:

```
alter database master on master="87M"
```

6. Restart the Sybase server without a password.

MANAGING SUBCLIENTS

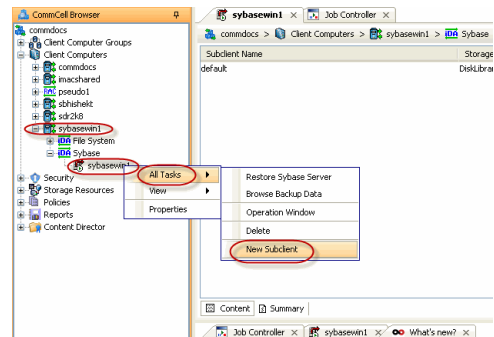
When you create an instance, a default subclient is automatically created. The default subclient includes all the databases associated with that instance. If a new database is added to the instance, then that database is automatically assigned to the content of the default subclient. However, you can create user-defined subclients to backup individual or a group of databases.

CREATING A USER DEFINED SUBCLIENT TO BACKUP SPECIFIC DATABASES

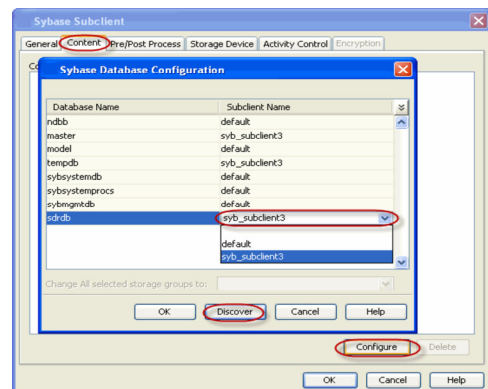
If you want to back up groups of specific databases, you can do so by creating a user-defined subclient containing any number of databases that exist within the instance. This is useful if you want to back up a subset of databases at certain times or with a particular frequency.

If you want to divide your backups into smaller groups, you can do so by creating user-defined subclients using the following steps:

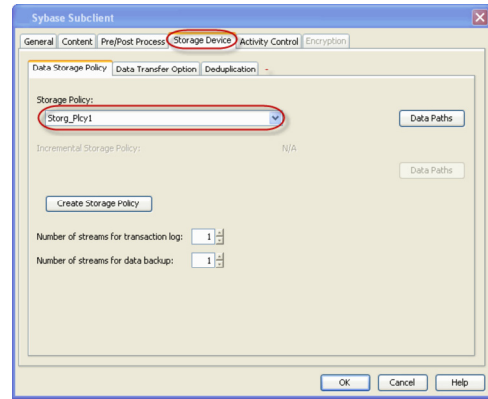
1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
2. Right-click the **<Instance>**, point to **All Tasks**, and then click **New Subclient**.



3. In the **Subclient Name** box, type the subclient name.
4. Click the **Content** tab.
5. Click **Configure**.
6. Click **Discover** to discover the Sybase databases.
7. Click the **Subclient Name** column adjacent to the existing databases, and then select the desired subclient from the drop-down list.
Repeat this step to assign the available databases to the user-defined subclient.
8. Click **OK**.



9. Click the **Storage Device** tab.
10. In the **Storage Policy** box, select the storage policy.
11. Click **OK**.

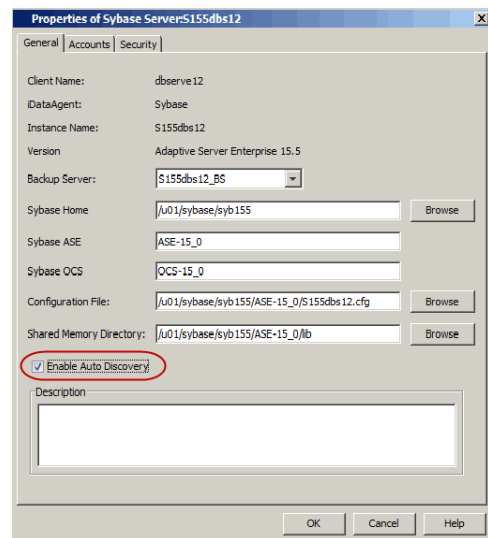


ENABLING/DISABLING AUTOMATIC DISCOVERY OF DATABASES TO THE DEFAULT SUBCLIENT

When an automatic database discovery is enabled, all the existing Sybase databases are discovered automatically on the default subclient when a backup job is submitted. If any new databases are added after a previous backup, these newly added databases will be automatically discovered on the default subclient when a backup job is performed.

Use the following steps to enable automatic database discovery:

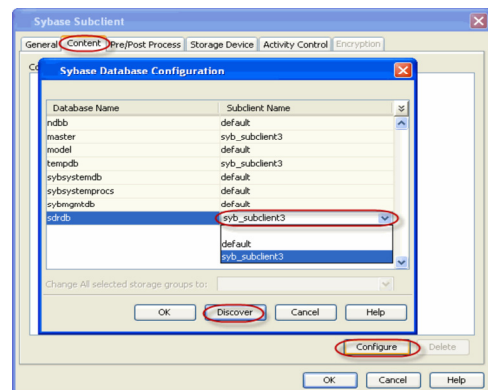
- From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent**.
- Right-click the **<Instance>**, and then click **Properties**.
- Select the **Enable Auto Discovery** check box.
- Click **OK**.



MANUALLY DISCOVERING DATABASES

Whenever a backup job is initiated, newly created Sybase databases are discovered automatically on the default subclient. However, for a user-defined subclient, you need to manually discover the databases prior to running any backup jobs. Use the following steps to manually discover the Sybase databases:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase iDataAgent | <Instance>**.
2. Right-click the desired **<subclient>**.
3. Click the **Content** tab.
4. Click **Configure**.
5. Click **Discover** to discover the Sybase databases.
6. Click the **Subclient Name** column adjacent to the desired database, and then select the desired subclient from the drop-down list.
7. Click **OK**.



CONFIGURING USER ACCOUNTS FOR BACKUPS

The Sybase iDataAgent requires two user accounts to access the Sybase application and database to perform backup and restore operations:

- Operating system account with privileges to access the Sybase application.
- Database user account with administrator privileges.

On Unix computers, the account information for accessing the database is provided during the Sybase iDataAgent installation.

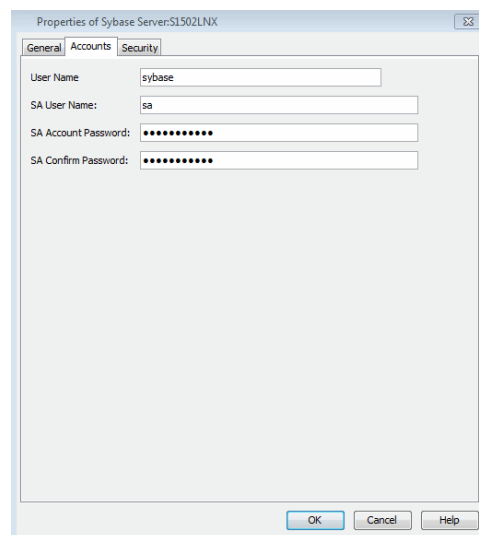
On Windows computers, the account information is provided during the instance configuration after the installation of the Agent.

The following table illustrates the required user account privileges for backup and restore operations:

OPERATIONS	USER ACCOUNT NEEDED:
Create Sybase server	Sybase database administrator account (SA role)
Backup Sybase database and Restore non-system databases	Operating system user account (operator role) with access to all the databases in an instance.
Restore Sybase system databases	Sybase database administrator account (SA role)

By default, the Sybase database administrator account is used for all components. You can change the user account to be used for backups at the Instance level. This user account will be used for all subclients within the instance. Configure the user account at this level if backup and restore operations will be conducted by a different person for each instance.

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and click **Properties**.
3. Click the **Accounts** tab.
4. Type the user name in the **User Name** box.
5. Type the SA user name in the **SA User Name** box.
6. Type the password in the **SA Account Password** box and retype it in the **SA Confirm Password** box.
7. Click **OK**.



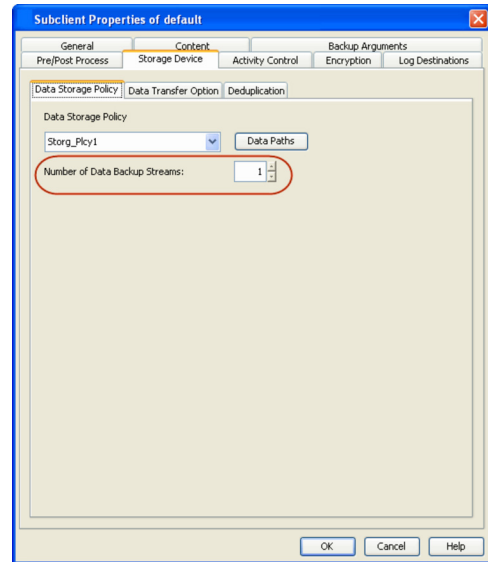
CONFIGURING STREAMS FOR BACKUPS

By default, backup data is sent to media in two streams. This means that a database is sent to media during a backup in two parallel waves. This results in backup taking about half the time to complete as it otherwise would if only one stream is used.

You can increase the number of streams used for backups for a particular subclient provided the number of streams does not exceed the maximum number configured in the subclient's storage policy. Increasing the number of streams for a subclient further reduces the amount of time a backup takes to complete. For example, increasing the number of streams from 2 to 3 enhances backup time from one-half that of a single stream to one-third.

Keep in mind that the same number of streams used for performing a backup will be needed to restore the data.

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase | <Instance>**.
2. Right-click the **<Subclient>**, and then click **Properties**.
3. Click the **Storage Device** tab.
4. In the **Number of Data Backup Streams** box, type or select the number of data backup streams.
5. Click **OK**.



COMMAND LINE OPERATIONS

You can add, modify, or delete several configurable properties for the Sybase iDataAgent from the command line interface.

Command line configuration enables you to:

- configure the same properties across multiple clients simultaneously.
- reuse the same configurations for additional entities.

The following sections describe the available command line configurations:

LOG ON TO THE COMMSERVE

To run command line operations you must first login to the CommServe as follows:

- From Command prompt, navigate to <Software_Installation_Directory>/Base and run the following command:

```
qlogin -cs <commserve name> -u <user name>
```

- For example, to log on to CommServe 'server1' with username 'user1':

```
qlogin -cs server1 -u user1
```

CONFIGURE INSTANCES

CREATE AN INSTANCE

1. Download the CreateInstance_Template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af CreateInstance_Template.xml -appName 'Sybase Database' -instanceName xxxxx -clientName xxxxx -
sybaseHome 'xxxxx' -sybaseASE xxxxx -sybaseOCS xxxxx -configFile 'xxxxx' -sharedMemoryDirectory 'xxxxx' -backupServer
xxxxx -defaultDatabaseStoragePolicy/storagePolicyName xxxxx -localAdministrator/userName xxxxx -
localAdministrator/password xxxxx -saUser/UserName xxxxx -saUser/password xxxxx -enableAutoDiscovery xxxxx
```

MODIFY AN INSTANCE

1. Download the ModifyInstance_Template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af ModifyInstance_Template.xml -appName 'Sybase Database' -instanceName xxxxx -clientName xxxxx -
sybaseHome 'xxxxx' -sybaseASE xxxxx -sybaseOCS xxxxx -configFile 'xxxxx' -sharedMemoryDirectory 'xxxxx' -backupServer
xxxxx -saUser/userName xxxxx -enableAutoDiscovery xxxxx
```

GET INSTANCE PROPERTIES

1. Download the GetInstance_Properties_Template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af GetInstance_Properties_Template.xml -appName 'Sybase Database' -instanceName xxxxx -clientName xxxxx
```

DELETE AN INSTANCE

1. Download the deleteInstance_Template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af deleteInstance_Template.xml -appName 'Sybase Database' -instanceName xxxxx -clientName xxxxx
```

AVAILABLE COMMAND PARAMETERS FOR INSTANCES

The following table displays all the parameters that you can use with the commands mentioned in the above sections. To add a parameter to your command, use the following syntax: (An example is provided at the end of the table.)

```
qoperation execute -af <template XML file> -<parameter name> <value>
```

PARAMETER	DESCRIPTION OF PARAMETER VALUES
description	A general description of the instance if needed.
clientName	Name of the client computer.
appName	Name of the application. In this case it would be 'Sybase Database'.
instanceName	Name of the Sybase instance. The instance name needs to be entered along with the client name, e.g. instance1.
backupServer	Name of the Sybase Server
enableAutoDiscovery	Option to enable/disable auto discovery of Sybase databases. Valid values are True/False.
sharedMemoryDirectory	Path for the shared memory files
configFile	Path of the configuration file for the instance
sybaseOCS	Sybase OCS environment variable
sybaseASE	Sybase ASE environment variable
sybaseHome	Path for the Sybase application software
local administrator userName	Name of the user that has local administrator rights to administer the Sybase application. This is the account used by the user to log in to and use the application to run jobs.
password	Password for the Local Administrator
saUser/userName	Name of the Sybase database administrator who has permissions to perform jobs
saUser/password	Password for the Sybase database administrator

The following example shows how to add a parameter for a command:

Adding Configuration file	To include the configuration file for the instance, add the 'configFile' parameter to the following command: <pre>qoperation execute -af ModifyInstance_Template.xml -appName 'Sybase Database' -instanceName instance1 -clientName client1 -configFile '/data/sybase/syb_xxx/config_file.cfg'</pre>
----------------------------------	---

For detailed information on the instance parameters see Instance Properties.

CONFIGURE SUBCLIENTS

CREATE SUBCLIENT

1. Download the create_subclient_template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af create_subclient_template.xml -appName 'Sybase Database' -instanceName xxxxx -clientName xxxxx -subclientName xxxxx
```

GET SUBCLIENT PROPERTIES

1. Download the get_subclient_properties_template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af get_subclient_properties_template.xml -appName 'Sybase Database' -instanceName xxxxx -clientName xxxxx -subclientName xxxxx
```

MODIFY SUBCLIENT

1. Download the update_subclient_template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af update_subclient_template.xml -appName 'Sybase Database' -instanceName xxxxx -clientName xxxxx -subclientName xxxxx -dataBackupStoragePolicy/storagePolicyName xxxxx -contentOperationType xxxxx -sybaseContent/databaseName xxxxx
```

DELETE SUBCLIENT

1. Download the remove_subclient_template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af remove_subclient_template.xml -appName 'Sybase Database' -clientName xxxxx -instanceName xxxxx
-subclientName xxxxx
```

AVAILABLE COMMAND PARAMETERS FOR SUBCLIENTS

The following table displays all the parameters that you can use with the commands mentioned in the above sections. To add a parameter to your command, use the following syntax: (An example is provided at the end of the table.)

```
qoperation execute -af <template XML file> -<parameter name> <value>
```

PARAMETER	DESCRIPTION OF PARAMETER VALUES
clientName	Name of the client computer.
appName	Name of the application. In this case it would be 'Sybase Database'.
subclientname	Name of the Sybase subclient.
contentOperationType	Modification type. Valid values are <ul style="list-style-type: none"> • ADD, to add content to the subclient • OVERWRITE, to overwrite contents to the subclient. • DELETE, to delete the contents from the subclient.
backupsetName	BackupSet Name. In this case it would be 'DefaultBackupset'
enableBackup	Option to enable backup of Subclient. Valid values are True/False.
storagePolicyName	Name of the Storage Policy used for the backup.
sybaseContent/databaseName	Databases to be backed up.
numberOfBackupStreams	Option to change the number of streams for data backup.

The following examples show how to add a parameter for a command:

Adding a Database	To add a database for backup, add the 'sybaseContent/databaseName' parameter to the following command: <pre>qoperation execute -af update_subclient_template.xml -appName 'Sybase Database' - instanceName instancel -clientName client1 -subclientName subclient1 -contentOperationType ADD -sybaseContent/databaseName db1</pre>
Setting a Storage Policy	To assign a storage policy to a subclient, add the 'dataBackupStoragePolicy/storagePolicyName' parameter to the following command: <pre>qoperation execute -af update_subclient_template.xml -appName 'Sybase Database' - instanceName instancel -clientName client1 -subclientName subclient1 - dataBackupStoragePolicy/storagePolicyName sp1</pre>
Changing the Number of Streams for Data Backup	To change the number of streams for data backup, add the 'sybaseSubclientProp/numberOfBackupStreams' parameter to the following command: <pre>qoperation execute -af update_subclient_template.xml -appName 'Sybase Database' - instanceName instancel -clientName client1 -subclientName subclient1 - dataBackupStoragePolicy/storagePolicyName sp1 -sybaseSubclientProp/numberOfBackupStreams 3 -contentOperationType ADD -sybaseContent/databaseName db1</pre>

For detailed information on the Subclient parameters see Subclient Properties.

LIST SCHEDULE POLICY ASSOCIATION

1. Download the sched_policy_association_template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
qoperation execute -af sched_policy_association_template.xml -taskName mypolicy
```

PARAMETER	DESCRIPTION OF PARAMETER VALUES
taskName	Name of the Schedule Policy to be associated.

MODIFYING AN AGENT, INSTANCE, OR SUBCLIENT

There are several configurable properties available for your agent that can be modified from the agent, instance, or subclient level as per need.

It is recommended that that you do not modify the properties of a subclient when a job is in progress for that specific subclient. If a job is in progress, either wait for the job to complete or kill the job from the Job Controller.

The following table describes the properties that can be configured from the agent, instance, and subclient levels.

--	--	--

OPTION	DESCRIPTION	RELATED TOPICS
Change Storage Policies	<p>You can modify the storage policies in any of the following situations:</p> <ul style="list-style-type: none"> • To include a different media for the backup operation. • To use a storage policy with a different retention criteria. <p>You can change the storage policies from the subclient level.</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, right-click the subclient. 2. Click Properties. 3. Click Storage Device. 4. Select the Storage policy from the drop-down menu. 5. Click OK. 	Refer to Storage Policies.
Rename a Subclient	<p>You can rename a subclient:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, right-click the subclient. 2. Click Properties. 3. Type the new name in the Subclient name field. 4. Click OK. 	
Data Transfer Options	<p>You can efficiently configure the available resources for transferring data secured by data protection operations from the subclient level. This includes the following:</p> <ul style="list-style-type: none"> • Enable or disable Data Compression either on the client or the MediaAgent. • Configure the transfer of data in the network using the options for Network Bandwidth Throttling and Network Agents. <p>You can configure the data transfer options.</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, right-click the subclient. 2. Click Properties. 3. Click Storage Device. 4. Click Data Transfer Option tab. 5. Choose the appropriate software compression option for this subclient. 6. Select Throttle Network Bandwidth and set the required bandwidth. 7. Click OK. 	Refer to Data Compression and Network Bandwidth Throttling.
View Data Paths	<p>You can view the data paths associated with the primary storage policy copy of the selected storage policy or incremental storage policy. You can also modify the data paths including their priority from the subclient level.</p> <ol style="list-style-type: none"> 1. From the CommCell browser, right-click the subclient. 2. Click Properties. 3. Click Storage Device. 4. Select Storage Policy from the drop-down menu. 5. Click Data Paths. 	
Configure a Subclient for Pre/Post Processing of Data Protection	<p>You can add, modify or view Pre/Post processes for the subclient. These are batch files or shell scripts that you can run before or after certain job phases.</p> <ol style="list-style-type: none"> 1. From the CommCell browser, right-click the subclient. 2. Click Properties. 3. Click Pre/Post Process. 4. Click one of the following phases and type the full path of the process that you want to execute during that phase. Alternatively, click Browse to locate the process (applicable only for paths that do not contain any spaces). <ul style="list-style-type: none"> ○ PreBackup Process ○ PostBackup Process 5. Click OK. 6. Select Run Post Backup Process for all attempts to run a post backup process for all attempts. 7. For subclients on Windows platforms, Run As displays Not Selected. If you want to change the account that has permission to run these commands, click Change. <ol style="list-style-type: none"> a. In the User Account dialog box, select Use Local System Account, or select Impersonate User and enter the user name and password. click OK. b. If you selected Local System Account, click OK to the message advising you that commands using this account have rights to access all data on the client computer. 	Refer to Pre/Post Processes.

Configure Activity Control	You can enable backup and restore operations from the agent and subclient level. However, you can enable restore operations only from the agent level. <ol style="list-style-type: none"> 1. From the CommCell browser, right-click the subclient. 2. Click Properties. 3. Click Activity Control, select or clear option(s) as desired. 4. Click OK. 	Refer to Activity Control.
Enable/Disable Data Encryption	You can enable data encryption from the subclient level. Encryption must be enabled at the client level prior to configuring any instances residing on that client. <ol style="list-style-type: none"> 1. From the CommCell browser, right-click the subclient. 2. Click Properties. 3. Click Encryption. 4. Select the desired encryption. 5. Click OK. 	Refer to Data Encryption.
View Software Version and Installed Updates	The Version tab, at the Agent level displays the software version of the component. <ol style="list-style-type: none"> 1. From the CommCell browser, right-click the agent. 2. Click Properties. 3. Click Version. 4. Click OK. 	
CommCell Configuration Report	The CommCell Configuration Report provides the properties of the CommServe, MediaAgents, clients, agents, SRM agents, subclients, and storage policies within the CommCell based on the selected filter criteria. <ol style="list-style-type: none"> 1. From the CommCell browser, click Reports icon. 2. Select CommCell Configuration. 3. Click Run. 	Refer to CommCell Configuration.

DELETING AN AGENT, INSTANCE, OR SUBCLIENT

The following sections describe the steps involved in deleting an agent, instance, or subclient.

When you delete an instance or backupset, the associated data is logically deleted and you can no longer access the corresponding data from CommCell Console for recovery purposes.

Refer to the troubleshooting article on Recovering Data Associated with Deleted Clients and Storage Policies for information on how to recover data if you accidentally delete an entity.

DELETING AN AGENT

You need to uninstall or DeConfigure the agent software from the client computer before deleting from CommCell Browser. After you delete the client software, you can either leave the corresponding data intact for appropriate action or you can remove the data immediately. If you choose to remove the data immediately, you must delete the agent from the CommCell Browser. If you delete the agent, all of the agent's data is irretrievably lost.

- You cannot delete an agent while operations for that agent are running.
1. From the CommCell Browser, navigate to **Client Computers | <Client>**.
 2. Right-click the **<Agent>**, and then click **Delete**.
 3. A confirmation message is displayed with the following message:

This operation will permanently delete the data backed up from this level and it cannot be restored.

4. Click **OK** to continue with the deletion operation., or click **No** to abort the deletion.

DELETING AN INSTANCE

Consider the following before deleting an instance:

- When you delete a specific instance all job schedules and job histories that pertain to any of the levels within the deleted instance are deleted.
 - You cannot delete an instance if it is being backed up. Attempts to delete an instance under such conditions cause the deletion to fail. If a backup is in progress, either wait for the backup to complete or kill the backup job using the Job Manager. Once the backup is no longer in progress, you can delete the instance level.
 - You cannot delete an instance if there is only one instance present for an agent. To delete the final instance, you must remove the agent software from the client computer.
1. From the CommCell Browser, navigate to **Client Computers | <Client> | <Agent>**

2. Right-click the **<Instance>** that you want to delete, point to **All Tasks** and then click **Delete**.
3. Click **Yes** to confirm the deletion. (Clicking **No** cancels the deletion and retains the node.)
4. Type the requested phrase in the **Enter Confirmation Text** dialog box and click **OK**. This should delete the instance.

DELETING A SUBCLIENT

Consider the following before deleting a subclient:

- You cannot delete a default subclient.
 - Schedules associated with the subclient are also automatically deleted.
1. From the CommCell Browser, navigate to **Client Computers | <Client> | <Agent> | <Instance>**.
 2. Right-click the **<Subclient>** that you want to delete, and then click **Delete**.
 3. A confirmation message is displayed, asking if you want to delete the subclient.
Click **No** to cancel the deletion and retain the subclient, or click **Yes** to continue the deletion.

Advanced Backup - Sybase iDataAgent

TABLE OF CONTENTS

<p>Full Backups</p> <p>Transaction Log Backups Backing Up Transaction Log of a Damaged Database (Do Not Truncate Logs) Skipping Full Backups after a Log Backup</p> <p>Scheduling a Backup</p> <p>Managing Jobs Restarting Jobs Controlling Jobs</p> <p>Additional Options</p>	<p>Command Line Backups Log on to the CommServe Perform the Backup Generate the Command Line Script from the CommCell Console</p>
---	--

FULL BACKUPS

Full backups provide the most comprehensive protection of data.

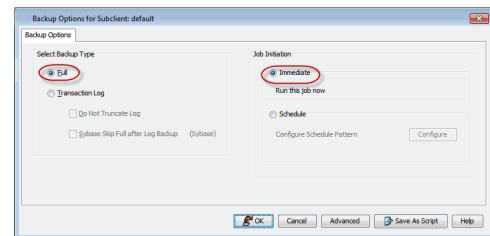
Backups for any client start with a full backup. The full backup becomes a baseline to which subsequent backup types are applied. For example, a full backup must be performed before an archive log backup can be initiated.

You can perform a full backup of an online or offline database. The default is online backup.

Use the following steps to run a full backup:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase | <Instance>**.
2. Right-click the **<Subclient>** and click **Backup**.
3. Select **Full** as the backup type and click **Immediate**.
4. Click **OK**.

You can track the progress of the job from the **Job Controller**. When the backup job has completed, the **Job Controller** displays **Completed**.



TRANSACTION LOG BACKUPS

A transaction log backup captures the transaction log which contains a record of all committed or uncommitted transactions. Transaction log backups are consistent with the start time of the backup.

The use of transaction log backups make point-in-time recovery possible. This is useful in the scenario of a database failure where it is unacceptable to lose any data and you want to restore to the point of failure. If you use only full backups, you will be able to restore to the time of the backup, but not to a point-in-time between backups.

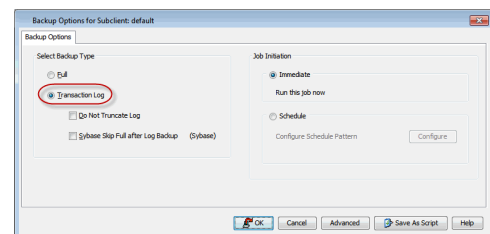
A transaction log backup is similar to a traditional incremental backup you might perform on a file system because the transaction log backup contains only the new changes since the full or another transaction log backup.

Each time a transaction log is backed up it is truncated to the exact time of the backup. No checkpoint is issued at this time, therefore dirty pages are not written to disk before or after a transaction log backup. If there are dirty pages, any completed transactions will need to be rolled forward if a transaction log restore is performed. Any transactions that are not completed at the time a transaction log backup is performed are rolled back during a restore involving a transaction log backup.

Use the following steps to run a transaction log backup:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase | <Instance>**.
2. Right-click the **<Subclient>** and click **Backup**.
3. Select **Transaction Log** as backup type.
4. Click **Immediate**.
5. Click **OK**.

You can track the progress of the job from the **Job Controller**. When the backup has completed, the **Job Controller** displays **Completed**.



BACKING UP TRANSACTION LOG OF A DAMAGED DATABASE (DO NOT TRUNCATE LOG)

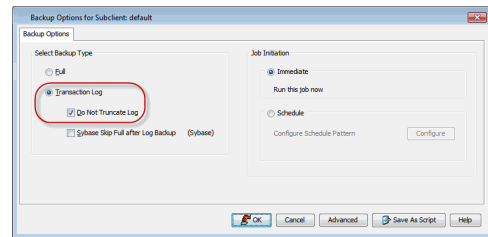
In Sybase server, some databases may not have log devices. By default, when you perform a log backup, the system performs log backups of those databases

that possess transaction logs. Hence, it is necessary to perform a full backup after a log backup. A full backup will perform a backup of all databases irrespective of the fact that they may or may not possess transaction logs.

A full backup will automatically truncates and shrinks transaction logs to save space. This may not be acceptable if you experience a database failure and you want to restore to the point of failure. In this case, you will want to capture all transaction log events that have occurred since the last backup was run.

Use the following steps to disable log truncation during a backup:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase | <Instance>**.
2. Right-click the **<Subclient>** and click **Backup**.
3. Select **Transaction Log** as backup type.
4. Select the **Do Not Truncate Log** check box.
5. Click **Immediate**.
6. Click **OK**.



You can track the progress of the job from the **Job Controller**. When the backup has completed, the **Job Controller** displays **Completed**.

SKIPPING FULL BACKUPS AFTER A LOG BACKUP

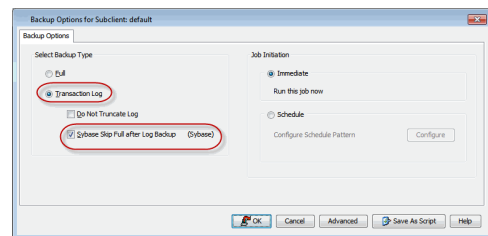
It is necessary to perform a full backup after a log backup. However, this may not be needed when there are new database added to a subclient after a log backup.

By default, this option is not enabled and when a new database is added to the Sybase server, the log backup is skipped for a newly added database when you execute a database backup.

When a new database added to Sybase server and you execute a transaction log backup (without a full backup after adding new database), the transaction backup is skipped for this new database. You should run a database backup instead. But, when this option is checked, then the full database backup is skipped.

Use the following steps to skip a full backup immediately after a log backup:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase | <Instance>**.
2. Right-click the **<Subclient>** and click **Backup**.
3. Select **Transaction Log** as backup type.
4. Select **Sybase Skip Full after Log Backup (Sybase)**.
5. Click **Immediate**.
6. Click **OK**.



You can track the progress of the job from the **Job Controller**. When the backup has completed, the **Job Controller** displays **Completed**.

COMMAND LINE BACKUPS

You can perform backups of one or more Sybase databases from the command line interface.

Command line backups enable you to perform backup operation on multiple clients simultaneously. In order to run the backups from command line, you need an input xml file which contains the parameters for configuring the backup options. This input xml file can be obtained from one of the following ways:

- Download the input xml file template and save it on the computer from where the backup will be performed.
- Generate the input xml file from the CommCell Console and save it on the computer from where the backup will be performed.

LOG ON TO THE COMMSERVE

To run command line operations you must first login to the CommServe as follows:

- From Command prompt, navigate to <Software_Installation_Directory>/Base and run the following command:

```
qlogin -cs <commserve name> -u <user name>
```

- For example, to log on to CommServe 'server1' with username 'user1':

```
qlogin -cs server1 -u user1
```

PERFORM THE BACKUP

1. Download the backup_template.xml file and save it on the computer from where the command will be executed.
2. Execute the following command from the <Software_Installation_Directory>/Base folder after substituting the parameter values.

```
operation execute -af backup_template.xml -backupLevel xxxx -subclientName xxxxx -clientName xxxxx -instanceName xxxxx
```

3. Verify the status of the job using the following command:

```
qlist job -j JOBID
```

4. Once the job completes, logout from the CommServe using the qllogout command.

```
qllogout [-cs commserver] [-all] [-tf tokenfile] [-tk token] [-h]
```

EXAMPLES

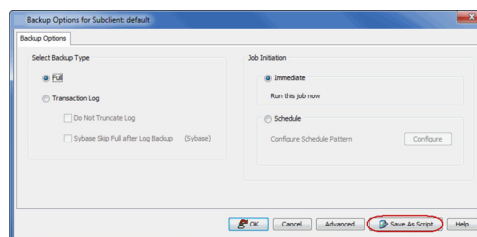
Performing a Full Backup	<code>operation execute -af backup_template.xml -backupLevel FULL -subclientName subclient1 -clientName client1 -instanceName instance1</code>
Performing an Incremental Backup	<code>operation execute -af backup_template.xml -backupLevel INCREMENTAL -subclientName subclient1 -clientName client1 -instanceName instance1</code>

GENERATE THE COMMAND LINE SCRIPT FROM THE COMMCELL CONSOLE

In addition to the parameters provided in the template xml file, if you want to include additional options for the backup, you can do so by selecting the required options from the CommCell Console and generate the command line xml script for the backup.

Follow the steps given below to generate a script which you can use to perform a backup from the command line interface:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase | <Instance>**.
2. Right-click the **<Subclient>** and click **Backup**.
3. Select the required backup options which you want to execute using the script.
4. Click **Save as Script**.



5. Enter the location where you want to save the script or click **Browse** and navigate to the location.

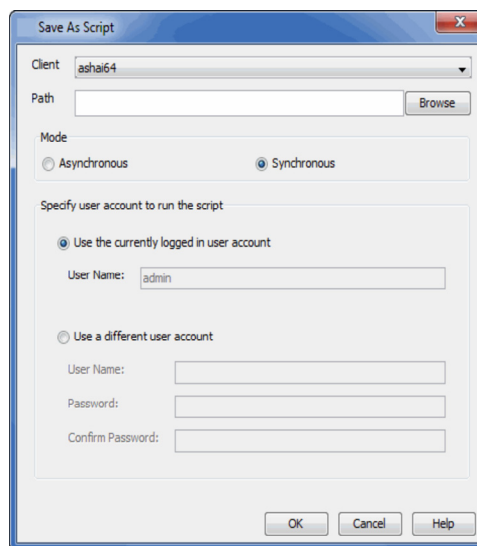
The script will be saved as a .xml file and a .bat file is created.

If a file with the same name already exists in the specified location, the .xml file will be created with a timestamp. However, the .bat file will overwrite the existing file.

6. Enter the username and password for the user account which you want to use to perform the backup.

By default, the user account which you have used to login to CommCell console is used for performing the backup. However, if the user account does not have access to any application or database, click **Use a different account**.

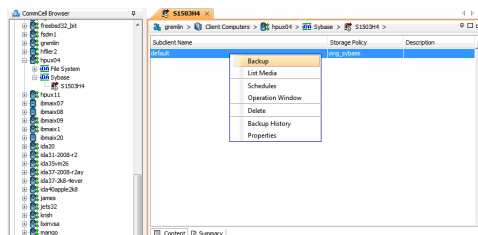
7. Click **OK**.



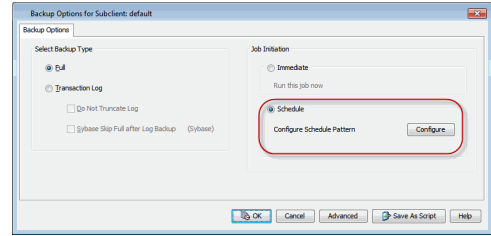
SCHEDULING A BACKUP

Use the following steps to schedule a backup:

1.
 - From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
 - Right-click the **<Subclient>** and click **Backup**.

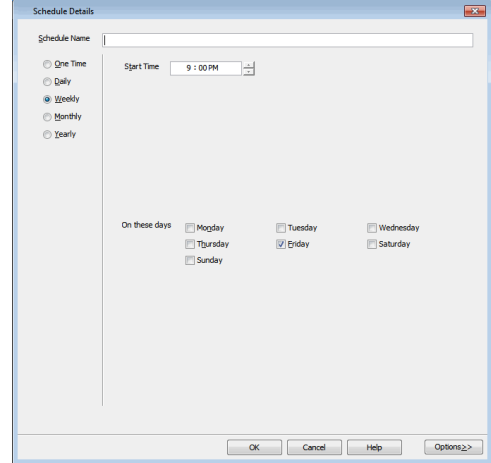


2.
 - Select the **Backup type**.
 - Click **Schedule** to schedule the backup for a specific time.
 - Click **Configure** to set the schedule for the backup job. The Schedule Details dialog displays.



3. Select the appropriate scheduling options. For example:
 - Click **Weekly**.
 - Check the days you want the run the backup job.
 - Change the Start Time to 9:00 PM.
 - Click **OK** to close the Schedule Details dialog.
 - Click **OK** to close the Backup Options dialog.

The backup job will execute as per the schedule.



See Scheduling for a comprehensive information on scheduling jobs.

MANAGING JOBS

Jobs can be managed in a number of ways. See Job Management for a comprehensive information on managing jobs.

The following sections provide information on the different job management options available:

RESTARTING JOBS

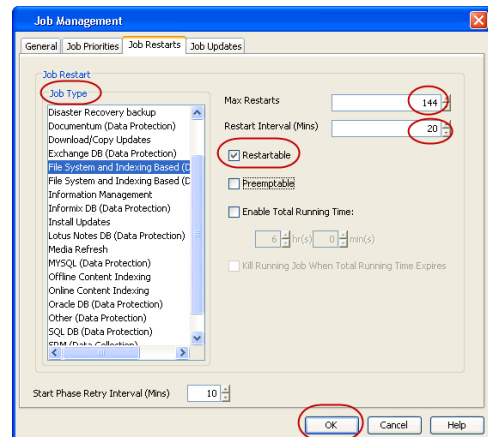
Jobs that fail to complete successfully are automatically restarted based on the job restartability configuration set in the Control Panel. Keep in mind that changes made to this configuration will affect all jobs in the entire CommCell.

To Configure the job restartability for a specific job, you can modify the retry settings for the job. This will override the setting in the Control Panel. It is also possible to override the default CommServe configuration for individual jobs by configuring retry settings when initiating the job. This configuration, however, will apply only to the specific job.

Backup jobs for this Agent are resumed from the point-of-failure.

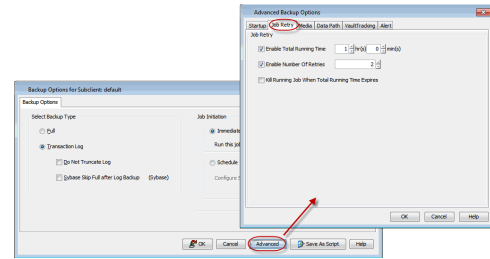
CONFIGURE JOB RESTARTABILITY AT THE COMMSERVE LEVEL

1. From the CommCell Browser, click **Control Panel** icon.
2. Select **Job Management**.
3. Click **Job Restarts** tab and select a **Job Type**.
 - o Select **Restartable** to make the job restartable.
 - o Change the value for **Max Restarts** to change the maximum number of times the Job Manager will try to restart a job.
 - o Change the value for **Restart Interval (Mins)** to change the time interval between attempts for the Job Manager to restart the job.
4. Click **OK**.



CONFIGURE JOB RESTARTABILITY FOR AN INDIVIDUAL JOB

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase | <Instance>**.
2. Right-click the **<Subclient>** and click **Backup**.
3. Click **Advanced**.
4. In the **Advanced Backup Options** dialog box, click the **Job Retry** tab.
5. Select **Enable Total Running Time** and specify the maximum elapsed time before a job can be restarted or killed.
 Select **Kill Running Jobs When Total Running Time Expires** to kill the job after reaching the maximum elapsed time.
6. Select **Enable Number Of Retries** and specify the number of retries.
7. Click **OK**.



CONTROLLING JOBS

The following controls are available for running jobs in the Job Controller window:

SUSPEND	Temporarily stops a job. A suspended job is not terminated; it can be restarted at a later time.
RESUME	Resumes a job and returns the status to Waiting, Pending, Queued, or Running. The status depends on the availability of resources, the state of the Operation Windows, or the Activity Control setting.
KILL	Terminates a job.

SUSPENDING A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Suspend**.
2. The job status may change to **Suspend Pending** for a few moments while the operation completes. The job status then changes to **Suspended**.

RESUMING A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Resume**.
2. As the Job Manager attempts to restart the job, the job status changes to **Waiting, Pending, or Running**.

KILLING A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Kill**.
2. Click **Yes** when the confirmation prompt appears if you are sure you want to kill the job. The job status may change to **Kill Pending** for a few moments while the operation completes. Once completed, the job status will change to **Killed** and it will be removed from the Job Controller window after five minutes.

ADDITIONAL OPTIONS

The following table describes the available additional options to further refine your backup operations:

OPTION	DESCRIPTION	RELATED TOPICS
Startup Options	<p>The Startup Options are used by the Job Manager to set priority for resource allocation. This is useful to give higher priority to certain jobs. You can set the priority as follows:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and click Startup tab. 4. Select the Change Priority checkbox. 5. Enter a priority number - 0 is the highest priority and 999 is the lowest priority. 6. Select the Start up in suspended State check box to start the job in a suspended state. 7. Click OK. 	Refer to Job Priority and Priority Precedence.
Alerts	<p>This option enables users or user groups to get automatic notification on the status of the data protection job. Follow the steps given below to set up the criteria to raise notifications/alerts:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and select the Alert tab. 	Refer to Alerts.

	<ol style="list-style-type: none"> 4. Click Add Alert. 5. From the Add Alert Wizard dialog box, select the required threshold and notification criteria and click Next. 6. Select the required notification types and click Next. 7. Select the recipients and click Next. 8. Click Finish. 9. Click OK. 	
Vault Tracker	<p>This feature provides the facility to manage media that is removed from a library and stored in offsite locations. Depending on your VaultTracker setup, select the required options. Use the following steps to access and select the VaultTracker options.</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and select the VaultTracking tab. 4. Select the required options. 5. Click OK. 	Refer to VaultTracker or VaultTracker Enterprise.
Extended Data Retention	<p>This option allows you to extend the expiration date of a specific job. This will override the default retention set at the corresponding storage policy copy. Follow the steps given below to extend the expiration date:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and select the Media tab. 4. Select one of the following options: <ul style="list-style-type: none"> o Infinite - Select this option to extend the expiration date by infinite number of days o Number of day - Select this option to specify the number of days to extend the expiration date and then enter the number of days. 5. Click OK. 	Refer to Extended Retention Rules.
Allow Other Schedules to Use Media Set	<p>The Allow Other Schedules to use Media Set option allows jobs that are part of the schedule or schedule policy and using the specific storage policy to start a new media. It also prevents other jobs from writing to the same set of media.</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and select the Media tab. 4. Select the Allow Other Schedules To Use Media Set check box. 5. Click OK. 	Refer to Creating an Exportable Media Set.
Mark Media Full	<p>This option marks the media as full, two minutes after the successful completion of the data protection job. This option prevents another job from writing to this media. Follow the steps given below:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and select Media tab. 4. Select the Mark Media Full on Success check box. 5. Click OK. 	Refer to Start New Media.
Start New Media	<p>The Start New Media option enables you to start the data protection operation on a new media. This feature provides control over where the data physically resides. Use the following steps to start the data protection operation on a new media:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and select the Media tab. 4. Select the Start New Media check box. 5. Click OK. 	Refer to Start New Media.
Data Path Options	Data Protection operations use a default Library, MediaAgent, Drive Pool, and Drive as the Data	Refer Change Data Path.

	<p>Path. You can use this option to change the data path if the default data path is not available. Follow the steps given below to change the default data path:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase <Instance>. 2. Right-click the Subclient in the right pane and click Backup. 3. Click Advanced and select the Data Path tab. 4. Select the MediaAgent and Library. 5. Select the Drive Pool and Drive for optical and tape libraries. 6. Click OK. 	
<p>CommCell Readiness Report</p>	<p>The CommCell Readiness Report provides you with vital information, such as connectivity and readiness of the Client, MediaAgent and CommServe. It is useful to run this report before performing the data protection or recovery job. Follow the steps given below to generate the report:</p> <ol style="list-style-type: none"> 1. From the Tools menu in the CommCell Console, click Reports. 2. Navigate to Reports CommServe CommCell Readiness. 3. Click the Client tab and click the Modify button. 4. In the Select Computers dialog box, clear the Include All Client Computers and All Client Groups check box. 5. Select the client from the Exclude list. 6. Click the Include > button. 7. Click OK. 8. Click the MediaAgent tab. 9. Clear the Include All MediaAgents checkbox. 10. Select the MediaAgent from the Exclude list. 11. Click Include >. 12. Click Run. <p>The generated report is displayed.</p>	<p>Refer to CommCell Readiness Report.</p>
<p>Backup Job Summary Report</p>	<p>The Backup Job Summary Report provides you with information about all the backup jobs that are run in last 24 hrs for a specific subclient. You can get information such as status, time, data size etc. for each backup job. It is useful to run this report after performing the backup. Follow the steps given below to generate the report:</p> <ol style="list-style-type: none"> 1. From the Tools menu in the CommCell Console, click Reports. 2. Navigate to Reports Jobs Job Summary. 3. Click Data Management on the General tab in the right pane. 4. Select the Computers tab. 5. Click Subclient and select the Edit tab. 6. Navigate to Client Computers <Client> File System Backup Set Subclient. 7. Click Run. 	<p>Refer to Backup Job Summary Report.</p>

Browse Data – Sybase iDataAgent

TABLE OF CONTENTS

Understanding the Browse Window

Browse Data

- Latest Data
- Data Before a Specified Time

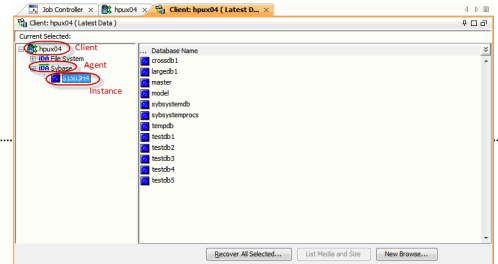
Browse from Copies

Browse Using MediaAgent

UNDERSTANDING THE BROWSE WINDOW

Browse provides an easy-to-use convenience to search and restore data.

You can open the browse window from client, agent, instance or subclient level. The sub levels displayed in the browse window is based on where you start the browse operation.



SELECTING OBJECTS FROM THE BROWSE WINDOW FOR RESTORE

The browse window displays objects and consists of two parts:

- The left pane displays the object tree at the selected level.
- The right pane displays the contents of the selected object.

Note that the window displays only the data that was obtained by a backup. Data that is excluded by a filter, or data which did not exist as of the specified browse time does not appear in the window.

Selections follow these rules:

- All selections are recursive.
- Clicking a box again causes the selection to be cleared.
- If you select an object in the left pane, then all of its contents are selected.
- You can select a specific object in the right pane.

Selection status is revealed by the selection icons as follows:

<input type="checkbox"/>	Indicates that the object is not selected for restoration.
<input checked="" type="checkbox"/>	Indicates that a portion of the object is selected for restoration. i.e., only some of the child object(s) within the selected object.
<input checked="" type="checkbox"/>	Indicates that the entire object, including all of its child objects, are selected for restoration.

BROWSE DATA

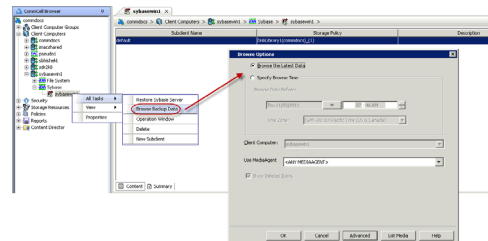
The option to browse the backup data provides the facility to view and restore the data that was backed up. The following sections explain how to browse the backup data.

LATEST DATA

Follow the steps given below to view the latest data backed up by a backup set:

- From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
- Right-click **<Instance>** and click **All Tasks | Browse Backup Data**.
- Click **OK**.

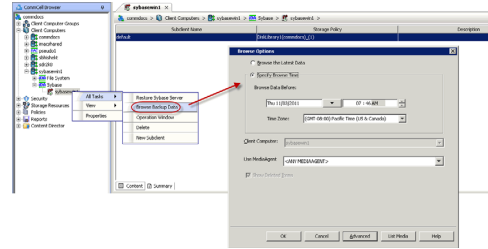
The latest data backed up by all the subclients is displayed in the **Client Browse** tab.



DATA BEFORE A SPECIFIED TIME

- From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
- Right-click **<Instance>** and click **All Tasks | Browse Backup Data**.

3. Select **Specify Browse Time**.
4. Select a date and time to **Browse Data Before** it.
5. Click **OK**.



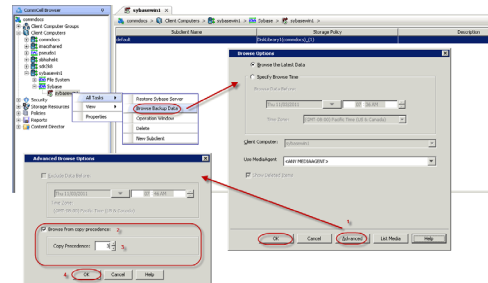
BROWSE FROM COPIES

By default, when a browse operation is requested, the software attempts to browse from the storage policy copy with the lowest copy precedence. If the data that you want to browse was already pruned from the primary copy, the software searches the other copies of the storage policy, starting from the copy with the lowest copy precedence to a copy with the highest copy precedence.

This feature is useful in the following conditions:

- The media containing protected data for a particular copy has been removed from the storage library, you can choose to browse from a copy whose media are inside the library.
- Allows browsing from a copy that accesses faster disk media rather than slower tape media.
- When media drives used by a particular copy are busy with another operation, this helps in browsing from a different copy to avoid resource conflicts.

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click **<Instance>** and click **All Tasks | Browse Backup Data**.
3. From the **Browse Options** dialog box, click **Advanced**.
4. In the **Advanced Browse Options** dialog box select the **Browse from copy precedence** option.



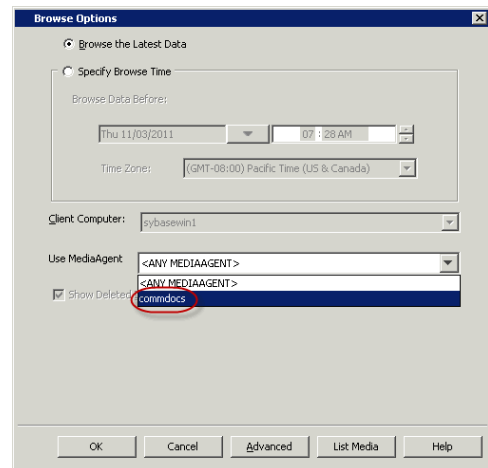
If you specify a copy precedence number for a browse operation, the software searches only the storage policy copy with that precedence number in all storage policies used for securing the data. If data does not exist in the specified copy, the browse operation fails even if the data exists in another copy of the same storage policy.

5. Specify the precedence number in **Copy Precedence**.
6. Click **OK** in the **Advanced Browse Options** dialog box .
7. Click **OK** in the **Browse Options** dialog box.

BROWSE USING MEDIAAGENT

Data can be restored from any compatible library and drive type in the CommCell. By default, the system automatically identifies and restores data from any configured library in the CommCell, even if the media is not available in the original library in which the data protection operation was performed. Use this procedure to Browse using a specific MediaAgent.

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click **<Instance>** and click **All Tasks | Browse Backup Data**.
3. From the **Browse Options** dialog box, choose the **MediaAgent** that must be used to perform the browse.
4. Click **OK**.



Back to Top

Advanced Restore - Sybase iDataAgent

TABLE OF CONTENTS

<p>Restoring the Sybase Server</p> <p>Restoring the Master Database</p> <p>Restoring System Databases</p> <p>Restoring Databases to a Point in Time</p> <p>Restoring Transaction Logs to a Point in Time</p> <p>Recovering Databases</p> <ul style="list-style-type: none"> Restoring and Recovering the Databases Restoring the Databases without a Recovery <p>Restoring a Database to the Current State (Step-by-Step Restore)</p> <p>Renaming a Database</p> <p>Restoring Databases to a New Device</p> <p>Restoring the Database with the Data and Logs Existing on the Same Device</p> <p>Restoring Databases to a Different Sybase Server Instance</p> <p>Restoring the Sybase Server to a Different Path</p> <p>Scheduling a Restore</p> <p>Managing Restore Jobs</p> <ul style="list-style-type: none"> Restarting Jobs Controlling Jobs <p>Additional Restore Options</p>	<p>Command Line Restores</p> <ul style="list-style-type: none"> Log on to the CommServe Perform the Restore Rename a Database Restore Generate the Command Line Script from the CommCell Console
--	---

RESTORING THE SYBASE SERVER

When the Sybase server is corrupted or lost, you can restore and recover it from the latest full backup. When restoring an entire server, make sure to perform either of the following:

- If the dataserver is running, execute the following command to turn off these options:

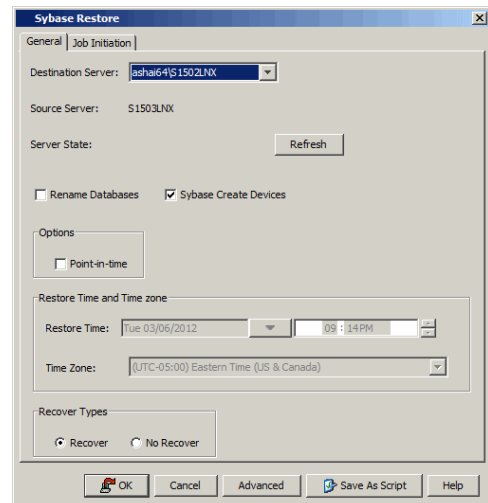
```
sp_configure 'enable xact coordination', 0
sp_configure "enable job scheduler", 0
```

- Disable the following parameters by editing the Sybase configuration file which usually resides in Sybase ASE home directory:

```
Set the 'enable xact coordination = 0' under "DTM Administration" section
Set the 'enable job scheduler = 0' under "SQL Server Administration" section
```

Prior to restoring an entire server, make sure that the Sybase server is offline. Use the following steps to restore an entire Sybase server:

- From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
- Right-click the **<Instance>** point to **All Tasks** and then click **Restore Sybase Server**.
- Select **Sybase Create Devices**.
- Click **OK** to start the restore.



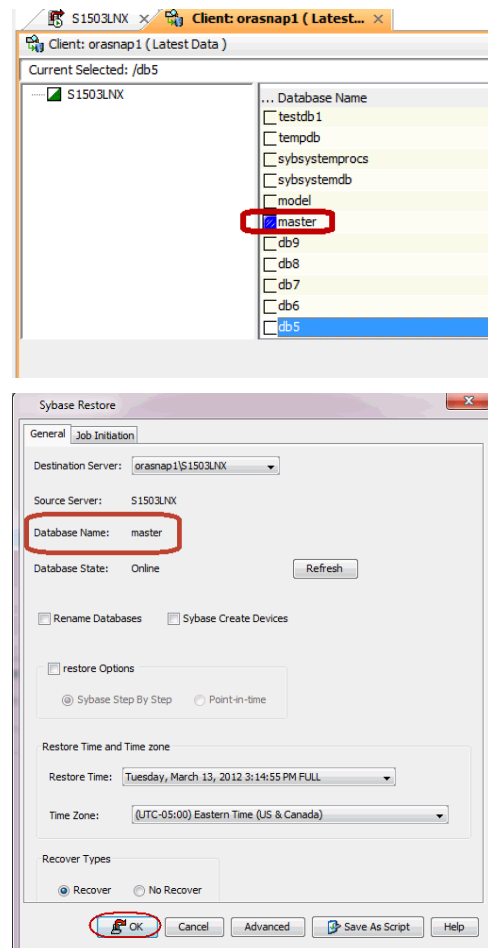
RESTORING THE MASTER DATABASE

When you restore an entire Sybase server or a master database, it is highly recommended to select Sybase create devices. However, you can also create a master database manually and then perform a restore without selecting Sybase create devices. See [Manually Creating a Master Database](#) for a detailed information.

If the dataserver is configured with a password for a default user `sa`, follow [Manually Creating a Master Database](#) to create a new master device with an empty password.

Prior to restoring the master database, make sure that the Sybase server is offline. Use the following steps to restore a master database without selecting Sybase create devices:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. Select the Master database in the right pane and click **Recover All Selected**.
5. Click **OK** to start the restore.



RESTORING SYSTEM DATABASES

System databases are essential for the operation of the Sybase Server instance. If you need to restore the Sybase Server in the event of a system failure, the system databases (`model`, `sybssystemdb` and `sybssystemprocs`) must be backed up.

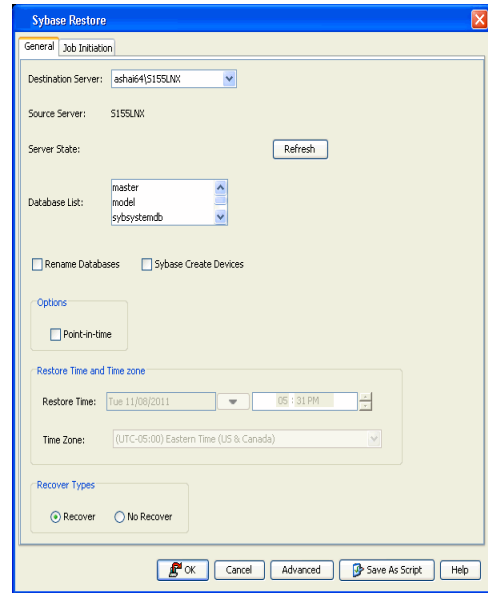
Make sure to disable the following parameter in Sybase configuration file which usually resides in Sybase ASE home directory:

```
sp_configure 'enable xact coordination', 0
```

By default, system databases are restored in the same location from where they were backed up and their data files are overwritten. Follow the steps given below to restore the system databases:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. Select the system databases (`model`, `sybssystemdb` and `sybssystemprocs`) in the right pane and click **Recover All Selected**.

5. Click **OK**.



RESTORING SYBASE DATABASES TO A POINT IN TIME

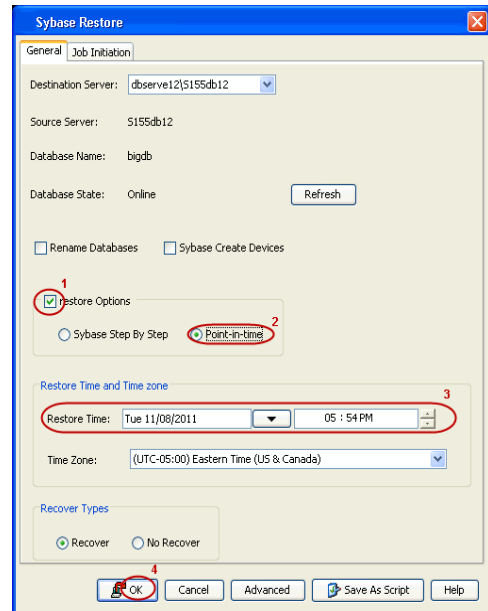
If any undesired transaction occurs in the database, you can revert the database to a state just before the transaction. The point in time option enables you to restore the database to a specific point-in-time. This option is useful in the following scenarios:

- If any undesired transaction occurs in the database, you can revert the database to a state just before the transaction.
- If a database fails, you can restore to the state just before the point of failure.
- You can restore multiple databases to a consistent time. This will be useful for the absolute synchronization of the databases.

Before performing the point-in-time restore of a database, ensure that transaction logs for the database are backed up. Follow the steps given below to restore a database(s) to a point in time:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select one or more databases and click **Recover All Selected**.
5. Select the **Restore Options** check box.
6. Click **Point-in-Time**.
7. From the **Restore Time** list, select the date and time.
8. Click **OK** to start the restore.

The database(s) will be restored to the selected date and the next scheduled backup for that database will automatically convert to a Full backup.



RESTORING TRANSACTION LOGS TO A POINT IN TIME

You can restore the transaction logs along with the database to a specific point in time. The point in time should be in between the start and end point of a transaction logs. The database backup job along with the most recent transaction log after a point in time will be restored.

For example:

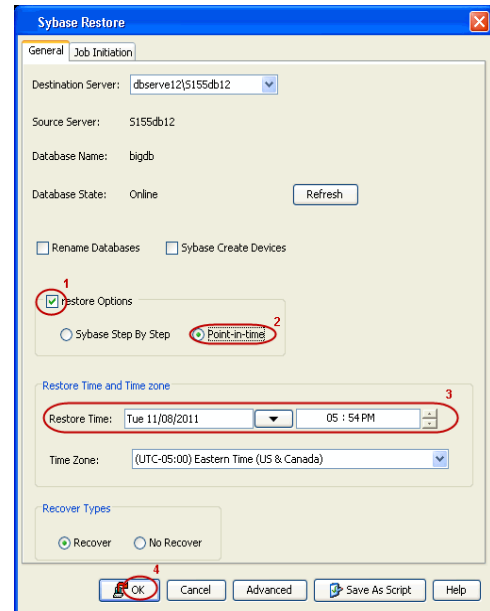
Let us assume that you have performed a Full backup (F1) and transaction log backup (L1) for the first time at 1 P.M. Subsequently you have performed L2 at

3 P.M. Later, you have performed L3, F2, L4,L5 etc at subsequent intervals. If you perform a point in time restore for the transaction log backups at 2 P.M, the Full backup (F1) along with the log backups of L1 and L2 (transaction log after point in time) will be restored.

Follow the steps given below to restore transaction logs along with the database(s) to a point in time:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select one or more databases and click **Recover All Selected**.
5. Select the **Restore Options** check box.
6. Click **Point-in-Time**.
7. From the **Restore Time** list, select the date and time.
8. Click **OK** to start the restore.

The transaction logs along with the database(s) will be restored to a selected point in time.



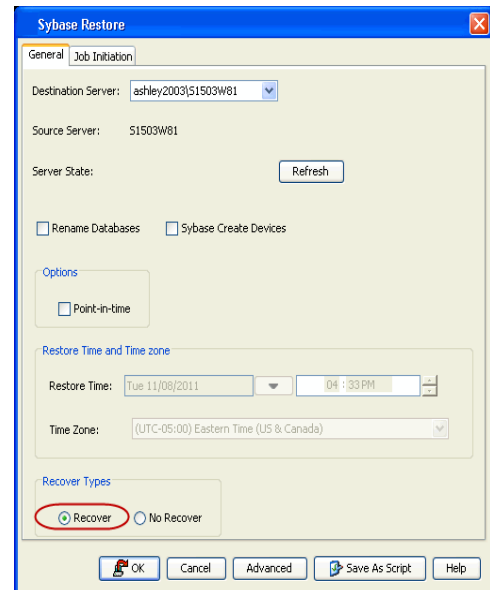
RECOVERING DATABASES

By default, a database is left in the online state after a restore. you can restore the data and then recover the database at a later point-in-time after performing any post operations.

RESTORING AND RECOVERING THE DATABASES

If you want to recover the database after the restore, follow the steps given below:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select the database to be recovered and click **Recover All Selected**.
5. Click **Recover**.
6. Click **OK**.

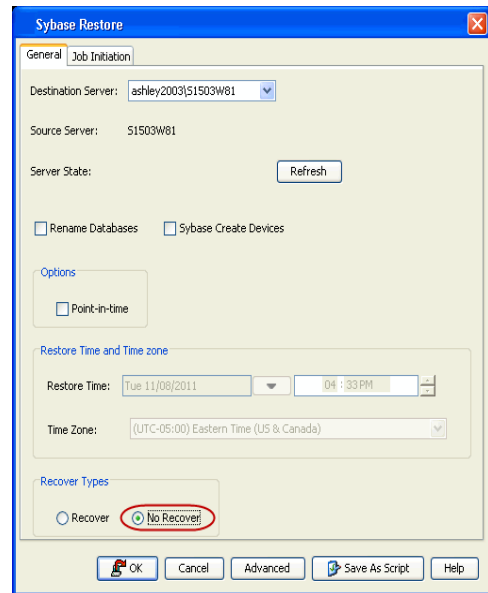


RESTORING THE DATABASES WITHOUT RECOVERY

Follow the steps given below to restore the database without recovery:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.

3. Click **OK**.
4. In the right pane of the Browse window, select the databases you want to recover and click **Recover All Selected**.
5. Click **No Recover**.
6. Click **OK**.



RESTORING A DATABASE TO THE CURRENT STATE (STEP-BY-STEP RESTORE)

When you want to restore an event in the database but do not know the exact time of the event, you can first restore the database to the last full backup and then run a Step-by-Step restore to apply the logs. Step-by-Step Restore is performed on individual database. This is a controlled restore and applicable for restoring a single database.

Use the following steps to run a Step-by-Step restore:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select the database to be restored and click **Recover All Selected**.
5. In the **Destination Server** drop-down box, select the destination server name.
6. Select the **Restore Options** check box.
7. Select **Sybase Step by Step**.
8. Click **No Recover**.
9. Click **OK** to start the restore.



RENAMING A DATABASE

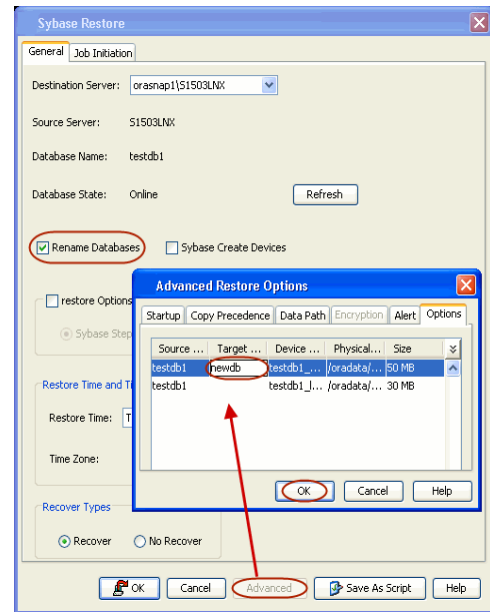
You can rename user databases. Ensure that the new database names are unique and conform to the Sybase Identifier rules. When you rename databases, make sure that the tables in the databases are not referencing to or referenced by table (s) in any other databases.

Use the following steps given to rename a database:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select the database to be renamed and click

Recover All Selected.

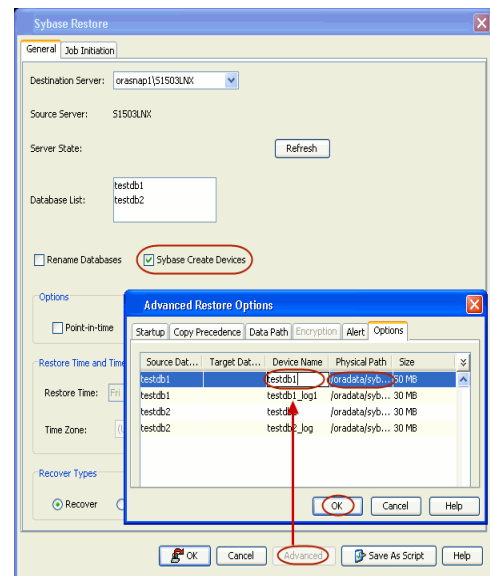
5. Select the **Rename Database** check box.
6. Click **Advanced**.
7. Click the **Options** tab.
8. Click the **Target Database** column and type the new database name.
9. Click **OK**.



RESTORING DATABASES TO A NEW DEVICE

While restoring the Sybase databases to a new device, you can also change the size of the device. However, you need to drop the existing device to change the size and then perform the restore. Use the following steps to restore the selected databases to a new device:

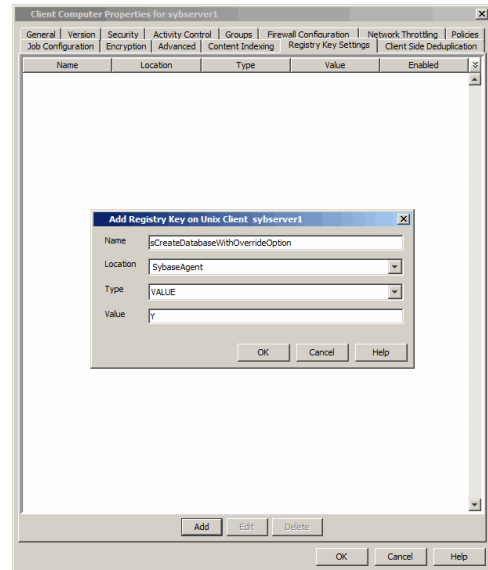
1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select the databases you want to restore and click **Recover All Selected**.
5. Select the **Sybase Create Devices** checkbox.
6. Click **Advanced**.
7. Click the **Options** tab.
8. Type the new device name under the **Device Name** column and type the path of the new device under the **Physical Path** column. Type the new size under the **Size** Column.
9. Click **OK**.



RESTORING THE DATABASE WITH THE DATA AND LOGS EXISTING ON THE SAME DEVICE

If the Sybase data and logs are on the same device, use the following steps to set the data and logs and then perform a restore:

1. From the CommCell Browser, navigate to **Client Computers**.
2. Right-click the **<Client>**, and then click **Properties**.
3. Click the **Registry Key Settings** tab.
4. Click **Add**.
5. In the **Name** box, type sCreateDatabaseWithOverrideOption.
6. In the **Location** box, select or type *SybaseAgent* from the list.
7. In the **Type** box, select **Value**.
8. In the Value box, type **Y** or **y** and then click **OK**.



RESTORING DATABASES TO A DIFFERENT SYBASE SERVER INSTANCE

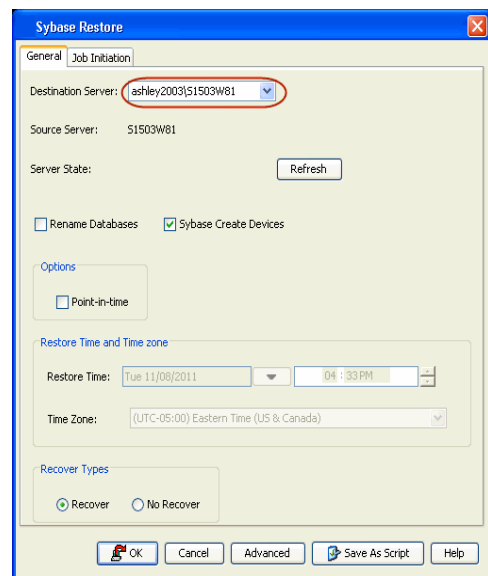
By default, when restoring to a different Sybase Server instance, a database is restored to the same location as in source server in the destination server.

Prior to restoring the database to a different server, note the following:

- The max page size of the source server should be the same as the destination server.
- Ensure that the Sybase destination server is configured in the CommCell console.

Follow the steps below to restore a database to a different destination server.

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select the databases you want to restore and click **Recover All Selected**.
5. Select the **Destination Server**.
6. If the devices are not existing on the destination server, then select **Sybase Create Devices**. See Restoring Databases to a New Device to create or change the devices on the destination server.
7. Click **OK** to start the restore.



RESTORING THE SYBASE SERVER TO A DIFFERENT PATH

Make sure that you have a Sybase Database Administrator privileges when you restore a Sybase server to a different path. Also, make sure that the device should be able to hold the database being restored.

If an entire server needs to be restored to a different path, then perform the following before restoring the server:

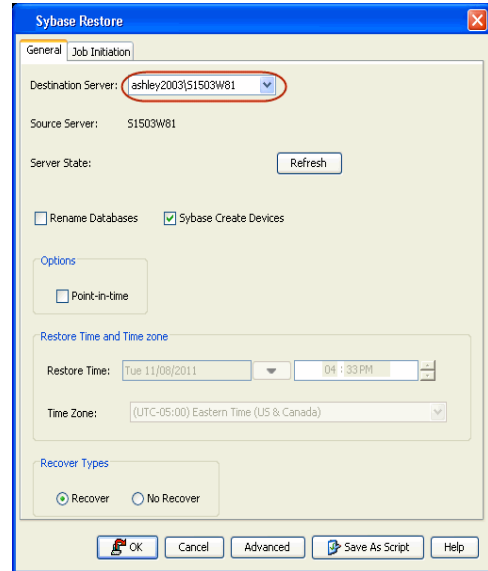
1. First, drop the databases and existing Sybase devices. Ensure that the databases of a different Sybase server are not part of the device that is being dropped.

Modify the RUN_File with the new master device path.

2. You need to restore the master database and the system databases like model and sybssystemdb, which reside on master device.
3. Restore the individual databases using Sybase create devices.

Use the following steps to restore individual databases to a different path:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select the databases you want to restore and click **Recover All Selected**.
5. Select **Sybase Create Devices**.
6. Click **Advanced**.
7. Click **Options** tab.
8. Double-click on the **Device Name** to change the device name.
9. Double-click on the **Physical Path** to change the path of the database.
10. Click **OK** to start the restore.



COMMAND LINE RESTORES

You can perform restores of one or more databases from the command line interface.

Command line restores enable you to perform restore operations on multiple clients at the same time. It also allows you to reuse the command line scripts for additional restores.

When performing command line restores, note that backups taken from the CommCell Console can be restored using Command Line and vice versa. However, backups taken from a previous version of the CommCell Console can be restored only from the Command Line.

In order to run the restores from command line, you need an input xml file which contains the parameters for configuring the restore options. This input xml file can be obtained using one of the following ways:

- Download the input xml file template and save it on the computer from where the restore will be performed.
- Generate the input xml file from the CommCell Console and save it on the computer from where the restore will be performed.

LOG ON TO THE COMMSERVE

To run command line operations you must first login to the CommServe as follows:

- From Command prompt, navigate to <Software_Installation_Directory>/Base and run the following command:

```
qlogin -cs <commserve name> -u <user name>
```

- For example, to log on to CommServe 'server1' with username 'user1':

```
qlogin -cs server1 -u user1
```

PERFORM THE RESTORE

1. Download the restore_template.xml file and save it on the computer from where the command will be executed.
2. Execute the saved xml script using operation execute command.

```
operation execute -af restore_template.xml -clientName xxxxx -instanceName xxxxx -destinationInstance/clientName xxxxx -destinationInstance/instanceName xxxxx -databaseId/name xxxxx
```

3. Verify the status of the job using the following command:

```
qlist job -j JOBID
```

4. Once the job completes, logout from the CommServe using the qlogout command.

```
qlogout [-cs commserver] [-all] [-tf tokenfile] [-tk token] [-h]
```


EXAMPLES

Restoring from a Current Backup	<code>qoperation execute -af restore_template.xml --appName 'Sybase Database' -clientName client1 -instanceName instance1 -destinationInstance/clientName client1 -destinationInstance/instanceName instance1 -databaseId/name db1</code>
Restoring Databases to a Different Client/Instance	<code>qoperation execute -af restore_template.xml -appName 'Sybase Database' -clientName client1 -instanceName instance1 -databaseId/name db1 -destClient/clientName client2 -destinationInstance/clientName client2 -destinationInstance/instanceName instance2 -destinationServer/name instance2</code>
Restoring Databases to a Point in Time (date and time)	<code>qoperation execute -af restore_template.xml -appName 'Sybase Database' -clientName client1 -instanceName instance1 -databaseId/name db1 -toTimeValue "yyyy-mm-dd hh:mm:ss" -destClient/clientName client2 destinationInstance/clientName client2 -destinationInstance/instanceName instance2 -destinationServer/name instance2</code>

RENAME A DATABASE RESTORE

1. Download the rename_restore_template.xml file and save it on the computer from where the command will be executed.
2. Execute the saved xml script using qoperation execute command.

```
qoperation execute -af rename_restore_template.xml -sourceclientName xxxxx -sourceSybaseinstanceName xxxxx -destinationInstance/clientName xxxxx -destinationInstance/instanceName xxxxx -databaseId/name xxxxx - devices <source subclientId>:<source dbId>:<source device Id >:<source device name>:<renamedDeviceName>:<renamed device Path>:<size of the device in bytes>:<renamed Database name> -renameDatabases true -databaseChain -sybaseCreateDevices false [-fromTimeValue <timeValue> -toTimeValue <timeValue>]
```

Where

-devices is a colon (:) separated field and is comprised of 8 fields

1. Source subclient Id: This is an internal field for subclientId and need to be passed as 0 in qcommand
2. Source dbId: database Id of the Sybase dataserver (can be got from Sybase sysdatabases table)
3. Source device Id: device id of the source device, can be passed as 0 in qcommand
4. Source device Name: source Sybase device name can be got from Sybase sysdevices table
5. Renamed device Name: Device name on destination (new name for the Sybase device)
6. Renamed device Path: Destination server Device Path
7. Size of the device in bytes: If device is already created, this can be passed as 0
8. Renamed Database Name: New name for the database on destination server. Restore will be performed on this database. Here if the given database has more than one device then -device needs to be repeated for each of the database devices. For cross-machine and rename database restores, it is recommended to create alFor cross-machine and rename database res

3. Verify the status of the job using the following command:

```
qlist job -j JOBID
```

4. Once the job completes, logout from the CommServe using the qlogout command.

```
qlogout [-cs commserver] [-all] [-tf tokenfile] [-tk token] [-h]
```

FINDING A DATABASE ID FROM SYBASE DATASERVER

Login as Sybase SA user and execute the following SQL script:

```
isql -Usa -P<password>-S<Sybase server name> use master go select name, dbid from sysdatabases where name = '<dbname>' go exit go
```

FINDING AN ENDTIME OF THE JOB FOR POINT-IN-TIME RESTORE

Use the following command to find an end time of the job for Point-in-time restore:

```
./qoperation execscript -sn getjoblist.sql -si <clientName>
```

You will receive the list in the following format:

JOB ID	LEVEL	STATUS	STORAGEPOLICYNAME	RETENTION DAYS	APPTYPE NAME	SUBCLIENT NAME	START TIME/END TIME	ACTIVE
12774	Full	Success	SP_Sybase	-1	Sybase Database	CRA	2012-08-28 20:06:37.00	No

The command output returns the UTC time and you need to convert this into CommServe (CS) time zone before using it in restore command.

EXAMPLES

The following are the examples executed from your base directory for clientName - sybserver3, instance - S155syb3 database - db8 restored to the same

server with the database renamed as test. Here we presume the devices are already created and only restore needs to be performed.

Renaming a Database Restore without specifying a new device	<code>qoperation execute -af rename_restore_template.xml -clientName sybserver3 -instanceName S155syb3 -databaseId/name db1 -destClient/clientName sybserver3 -destinationInstance/clientName sybserver3 -destinationInstance/instanceName S155syb3 -destinationServer/name S155syb3 -devices "0:0:0:0:0:0:new_db1" -renameDatabases true -databaseChain "0:0:db1:0" -sybaseCreateDevices false</code>
Renaming a Database Restore	<code>qoperation execute -af rename_restore_template.xml -clientName sybserver3 -instanceName S155syb3 -databaseId/name cross1 -destClient/clientName sybserver3 -destinationInstance/clientName sybserver3 -destinationInstance/instanceName S155syb3 -destinationServer/name S155syb3 -devices "345:14:238:db1:new_db1:/sybase/syb155/data/new_db1.dat:125829120:new_db1" -devices "345:14:239:db1_log:new_db1_log:/sybase/syb155/log/new_db1_log.dat:31457280:new_db1" -renameDatabases true -databaseChain "345:14:db1:128" -sybaseCreateDevices true</code>
Renaming and Restoring Databases to a Point in Time	<code>qoperation execute -af rename_restore_template.xml -clientName sybserver3 -instanceName S155syb3 -databaseId/name db8 -destClient/clientName sybserver3 -destinationInstance/clientName sybserver3 -destinationInstance/instanceName S155syb3 -destinationServer/name S155syb3 -devices "0:11:0:db8:test:/Sybase/data/test.dat:0:test" -devices "0:11:0:db8_log:test_log:/ sybase/ log /test_log.dat:0:test" -renameDatabases true -databaseChain "0:11:db8:0" -sybaseCreateDevices false -fromTimeValue "yyyy-mm-dd 08:40:12" -toTimeValue "yyyy-mm-dd 10:48:16"</code>
Renaming and Restoring to a different client (Cross Server restore)	<code>qoperation execute -af rename_restore_template.xml -clientName sybserver3 -instanceName S155syb3 -databaseId/name db8 -destClient/clientName sybserver3 -destinationInstance/clientName sybserver3 -destinationInstance/instanceName S155syb3 -destinationServer/name S155syb3 -destinationSybaseinstanceName S155syb3 -devices "0:11:0:db8:test:/Sybase/data/test.dat:0:test" -devices "0:11:0:db8_log:test_log:/ sybase/ log /test_log.dat:0:test" -renameDatabases true -databaseChain "0:11:db8:0" -sybaseCreateDevices false -fromTimeValue "yyyy-mm-dd 08:40:12" -toTimeValue "yyyy-mm-dd 10:48:16"</code>

In the above examples, the following names are presumed:

rename_restore_template.xml is the XML template file

sybserver3	Source Sybase client name (configured on CS)
sybserver3	Destination Sybase client name (configured on CS)
S155syb3	Source Sybase instance name
db8	Source database name
S155syb3	Destination Sybase instance name
db8, db8_log	Source devices name for database db8
test , /Sybase/data/test.dat	Renamed device name, device path for source device name db8
test_log, / sybase/ log /test_log.dat	Renamed device name and device path for source device name db8_log
test	Renamed database name

Step-by-step restores should be performed from the CommCell Console.mmCell Console.

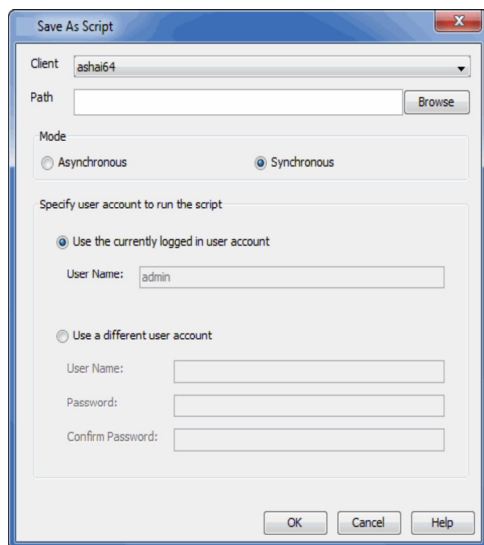
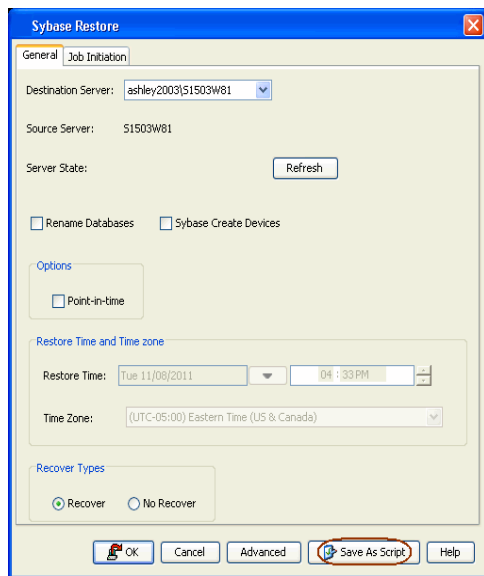
GENERATE THE COMMAND LINE SCRIPT FROM THE COMMCELL CONSOLE

In addition to the parameters provided in the template xml file, if you want to include additional options for the restore, you can do so by selecting the required options from the CommCell Console and generate the command line xml script for the restore operation.

Follow the steps given below to generate a script which you can use to perform a restore from the command line interface:

1. From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
2. Right-click the **<Instance>** and then click **All Tasks | Browse Backup Data**.
3. Click **OK**.
4. In the right pane of the Browse window, select the data that you want to restore and click **Recover All Selected**.
5. Select the required restore options which you want to execute using the script.
6. Click **Save as Script**.

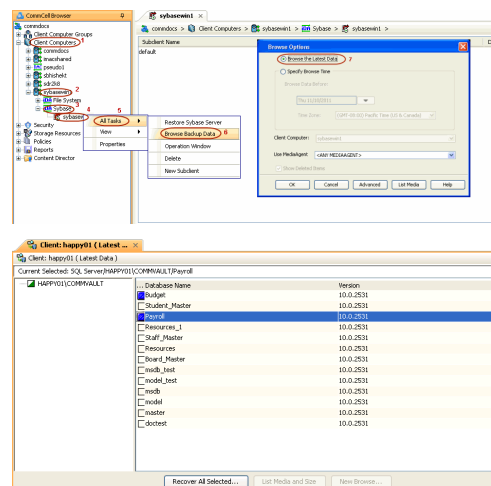
7. Enter the location where you want to save the script or click **Browse** and navigate to the location.
The script will be saved as a .xml file and a .bat file is created.
If a file with the same name already exists in the specified location, the .xml file will be created with a timestamp. However, the .bat file will overwrite the existing file.
8. Enter the username and password for the user account which you want to use to perform the restore.
By default, the user account which you have used to login to CommCell console is used for performing the restore. However, if the user account does not have access to application and database, click **Use a different account**.
9. Click **OK**.



SCHEDULING A RESTORE

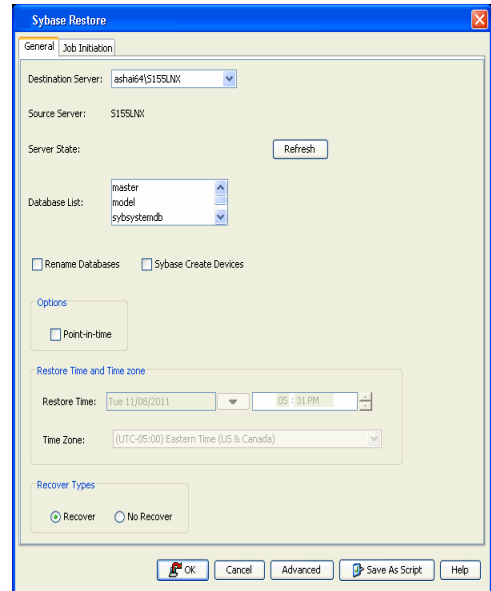
Follow the steps given below to schedule a restore job:

1.
 - From the CommCell Browser, navigate to **Client Computers** | **<Client>** | **Sybase**.
 - Right-click the **<Instance>** and then click **All Tasks** | **Browse Backup Data**.
 - Click **OK**.
2.
 - Select a database to restore.
 - Click **Recover All Selected**.
3. Select the required restore options.



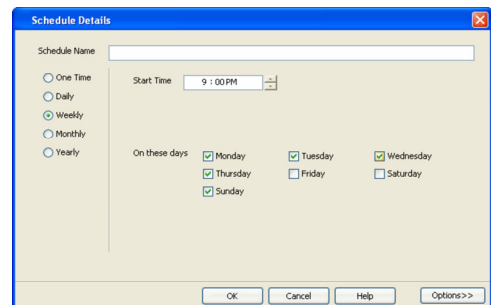
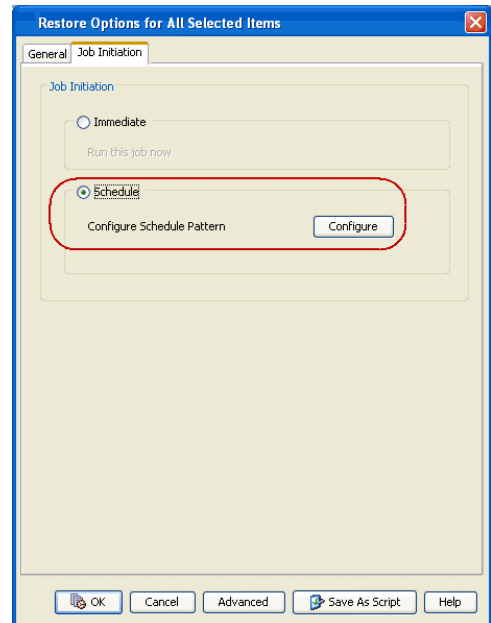
Click **OK**.

4.
 - Click **Job Initiation** tab and click **Schedule**.
 - Click **Configure**.



5. Select the appropriate scheduling options. For example:
 - Click **Weekly**.
 - Check the days you want to run the restore job.
 - Change the Start Time to 9:00 PM
 - Click **OK** to close the Schedule Details dialog
 - Click **OK** to close the Restore Options dialog

The restore job will execute as per the schedule.



See Scheduling for a comprehensive information on scheduling jobs.

MANAGING RESTORE JOBS

Once you initiate the restore operation, a restore job is generated in the Job Controller. Jobs can be managed in a number of ways. See Job Management for a comprehensive information on managing jobs.

The following sections provide information on the different job management options available:

RESTARTING JOBS

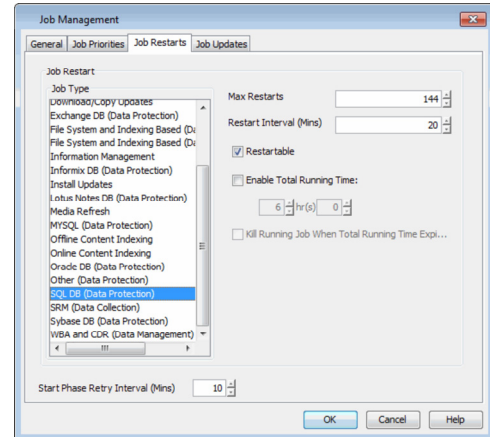
Jobs that fail to complete successfully are automatically restarted based on the job restartability configuration set in the Control Panel. Keep in mind that changes made to this configuration will affect all jobs in the entire CommCell.

To Configure the job restartability for a specific job, you can modify the retry settings for the job. This will override the setting in the Control Panel. It is also possible to override the default CommServe configuration for individual jobs by configuring retry settings when initiating the job. This configuration, however, will apply only to the specific job.

Backup jobs for this Agent are resumed from the point-of-failure.

CONFIGURE JOB RESTARTABILITY AT THE COMMSERVE LEVEL

1. From the CommCell Browser, click **Control Panel** icon.
2. Select **Job Management**.
3. Click **Job Restarts** tab and select a **Job Type**.
 - o Select **Restartable** to make the job restartable.
 - o Change the value for **Max Restarts** to change the maximum number of times the Job Manager will try to restart a job.
 - o Change the value for **Restart Interval (Mins)** to change the time interval between attempts for the Job Manager to restart the job.
4. Click **OK**.



CONTROLLING JOBS

The following controls are available for running jobs in the Job Controller window:

SUSPEND	Temporarily stops a job. A suspended job is not terminated; it can be restarted at a later time.
RESUME	Resumes a job and returns the status to Waiting, Pending, Queued, or Running. The status depends on the availability of resources, the state of the Operation Windows, or the Activity Control setting.
KILL	Terminates a job.

SUSPENDING A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Suspend**.
2. The job status may change to **Suspend Pending** for a few moments while the operation completes. The job status then changes to **Suspended**.

RESUMING A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Resume**.
2. As the Job Manager attempts to restart the job, the job status changes to **Waiting, Pending, or Running**.

KILLING A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Kill**.
2. Click **Yes** when the confirmation prompt appears if you are sure you want to kill the job. The job status may change to **Kill Pending** for a few moments while the operation completes. Once completed, the job status will change to **Killed** and it will be removed from the Job Controller window after five minutes.

ADDITIONAL RESTORE OPTIONS

Several additional options are available to further refine your restore operations. The following table describes these options, as well as the steps to implement them.

Be sure to read the overview material referenced for each feature prior to using them.

OPTION	DESCRIPTION	RELATED TOPIC
Startup Options		Refer to Job Priority and

	<p>The Startup Options are used by the Job Manager to set priority for resource allocation. This is useful to give higher priority to certain jobs. You can set the priority as follows:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase. 2. Right-click the <Instance> and then click All Tasks Browse Backup Data. 3. In the Browse Options dialog box, click OK. 4. In the Client Browse window, select the database you want to restore and click Recover All Selected. 5. In the Sybase Restore Options dialog box, click Advanced. 6. In the Advanced Restore Options dialog box, click Startup. 7. On the Startup tab, select Change Priority. 8. Enter a priority number - 0 is the highest priority and 999 is the lowest priority. 9. Select the Start up in suspended State check box to start the job in a suspended state. 10. Click OK. 	<p>Priority Precedence.</p>
<p>Copy Precedence</p>	<p>By default, the system retrieves data from the storage policy copy with the lowest copy precedence. If the data was pruned from the primary copy, the system automatically retrieves data from the other copies of the storage policy in the lowest copy precedence to highest copy precedence order. Once the data is found, it is retrieved, and no further copies are checked.</p> <p>You can retrieve data from a specific storage policy copy (Synchronous Copy or Selective Copy). If data does not exist in the specified copy, the data retrieve operation fails even if the data exists in another copy of the same storage policy. Follow the steps given below to retrieve the data from a specific storage policy copy:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase. 2. Right-click the <Instance> and then click All Tasks Browse Backup Data. 3. In the Browse Options dialog box, click OK. 4. In the Client Browse window, select the database you want to restore and click Recover All Selected. 5. In the Sybase Restore Options dialog box, click Advanced. 6. In the Advanced Restore Options dialog box, click Copy Precedence. 7. On the Copy Precedence tab, select the Restore from copy precedence check box. 8. Enter the copy precedence number. 9. Click OK. 	<p>Refer to Recovering Data From Copies.</p>
<p>Data Path Options</p>	<p>The data recovery operations use a default Library, MediaAgent, Drive Pool, and Drive as the Data Path. You can use this option to change the data path if the default data path is not available. Follow the steps given below to change the default data path:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase. 2. Right-click the <Instance> and then click All Tasks Browse Backup Data. 3. In the Browse Options dialog box, click OK. 4. In the Client Browse window, select the database you want to restore and click Recover All Selected. 5. In the Sybase Restore Options dialog box, click Advanced. 6. In the Advanced Restore Options dialog box, click Data Path. 7. On the Data Path tab, select the MediaAgent and Library. 8. Select the Drive Pool and Drive for optical and tape libraries. 9. Select the name of the Proxy server if you wish to restore using a proxy server. <p>You can select the Proxy server only when you are restoring from a snapshot. This option is not available for a regular restore.</p> <ol style="list-style-type: none"> 10. Click OK. 	<p>Refer to Change Data Path.</p>
<p>Encryption</p>	<p>If the client's data is encrypted with a pass phrase, you must enter the pass-phrase to start the data recovery operation. Follow the steps given below to enter the pass-phrase:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase. 2. Right-click the <Instance> and then click All Tasks Browse Backup Data. 3. In the Browse Options dialog box, click OK. 4. In the Client Browse window, select the database you want to restore and click Recover All Selected. 5. In the Sybase Restore Options dialog box, click Advanced. 	<p>Refer to Data Encryption.</p>

	<ol style="list-style-type: none"> 6. In the Advanced Restore Options dialog box, click Encryption. 7. Enter the Pass Phrase. 8. Click OK. 	
Alerts	<p>This option enables users or user groups to get automatic notification on the status of the data recovery job. Follow the steps given below to set up the criteria to raise notifications/alerts:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers <Client> Sybase. 2. Right-click the <Instance> and then click All Tasks Browse Backup Data. 3. In the Browse Options dialog box, click OK. 4. In the Client Browse window, select the database you want to restore and click Recover All Selected. 5. In the Sybase Restore Options dialog box, click Advanced. 6. In the Advanced Restore Options dialog box, click Alerts. 7. Click Add Alert. 8. From the Add Alert Wizard dialog box, select the required threshold and notification criteria and click Next. 9. Select the required notification types and click Next. 10. Select the recipients and click Next. 11. Click Finish. 12. Click OK. 	Refer to Alert.
CommCell Readiness Report	<p>The CommCell Readiness Report provides you with vital information, such as connectivity and readiness of the Client, MediaAgent and CommServe. It is useful to run this report before performing the data protection or recovery job. Follow the steps given below to generate the report:</p> <ol style="list-style-type: none"> 1. From the Tools menu in the CommCell Console, click Reports. 2. Navigate to Reports CommServe CommCell Readiness. 3. Click the Client tab and click the Modify button. 4. In the Select Computers dialog box, clear the Include All Client Computers and All Client Groups check box. 5. Select the client from the Exclude list. 6. Click the Include > button. 7. Click OK. 8. Click the MediaAgent tab. 9. Clear the Include All MediaAgents checkbox. 10. Select the MediaAgent from the Exclude list. 11. Click Include >. 12. Click Run. <p>The generated report is displayed.</p>	Refer to CommCell Readiness Report.
Restore Job Summary Report	<p>The Restore Job Summary Report provides you with information about all the data recovery jobs that are run in last 24 hours for a specific client and agent. You can get information such as failure reason, failed objects, job options etc. It is useful to run this report after performing the restore. Follow the steps given below to generate the report:</p> <ol style="list-style-type: none"> 1. From the Tools menu in the CommCell Console, click Reports. 2. Navigate to Reports Jobs Job Summary. 3. Click Data Recovery on the General tab in the right pane. 4. On the Computers tab, select the client and the agent for which you want to run the report. 5. Click Run. 	Refer to Restore Job Summary Report.

Data Aging - Sybase iDataAgent

TABLE OF CONTENTS

Getting Started

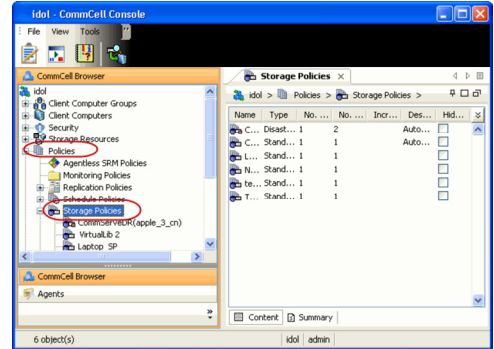
Extended Retention Rules

GETTING STARTED

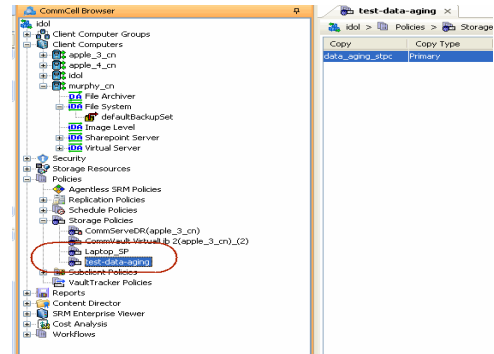
Data Aging is the process of removing old data from secondary storage to allow the associated media to be reused for future backups.

By default, all backup data is retained infinitely. However, you should change the retention of your data based on your needs. Note that if you continue to have infinite retention, you will also need infinite storage capacity.

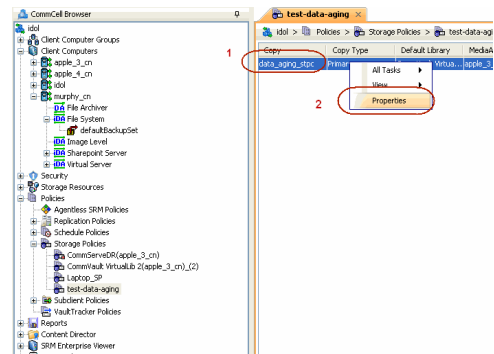
1. From the CommCell Browser, navigate to **Policies | Storage Policies**.



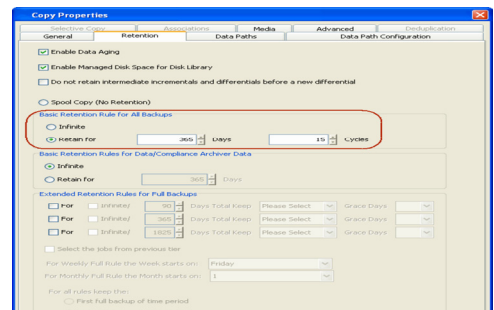
2. Highlight the **Storage Policy**.



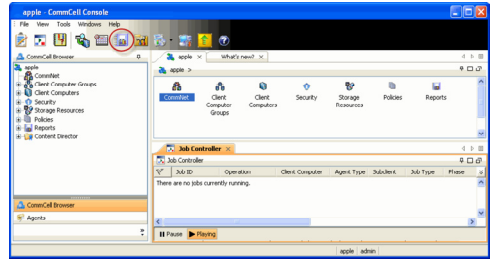
3. From the right pane, right-click the **Storage Policy Copy** and click the **Properties**.



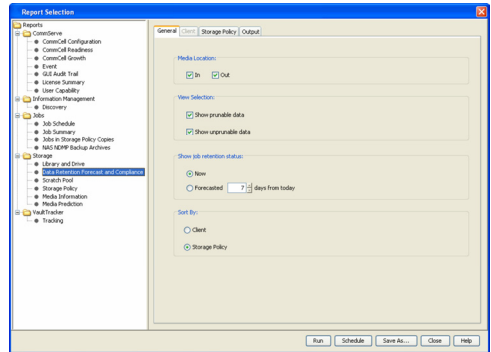
4.
 - Click the **Retention** tab.
 - Click the **Retain For** in the **Basic Retention Rules for All Backups** area.
 - Enter number of days to retain the data.
 - Enter number of cycles to retain the data.
 - Click **OK**.



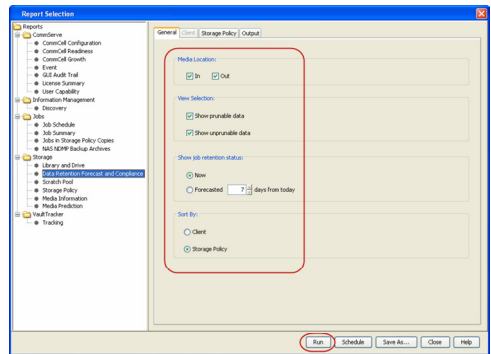
5. From the CommCell Browser, click the **Reports** icon.



6. Expand Reports and select **Data Retention Forecast and Compliance**.



7. Click **Run**.

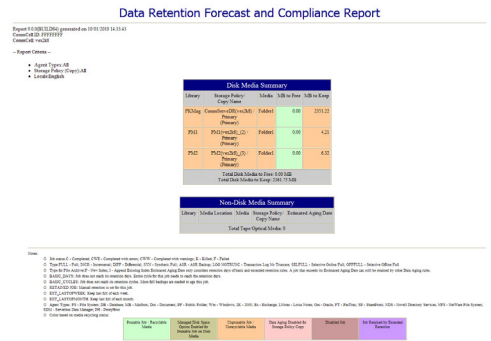


8. The report will display the data to be pruned when a data aging job is run.

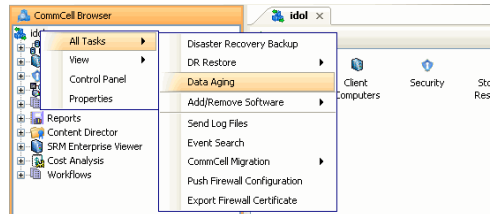
To ensure only data intended for aging is actually aged, it is important to identify the data that will be aged based on the retention rules you have configured. Hence, ensure this report includes only the data you intend to age.

If necessary, fine-tune your rules so that only the intended data is aged.

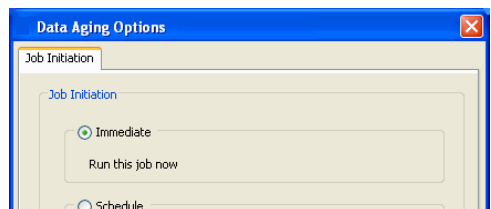
Once you run a data aging job, the data will be lost.



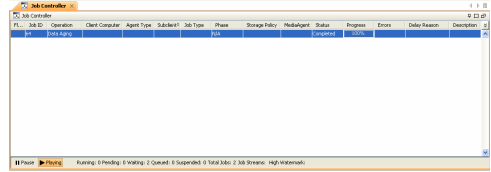
9. From the CommCell Console, right click the CommServe icon and click **All Tasks | Data Aging**.



10. Select **Immediate** in the Job Initiation section and click **OK**.



11. You can track the progress of the job from the **Job Controller** window. When the job has completed, the Job Controller displays **Completed**.
Make sure that the job completes successfully. If the job did not complete successfully, re-run the job.



EXTENDED RETENTION RULES

Extended retention rules allow you to keep specific full (or synthetic full) backups for longer periods of time.

Extended retention rules can be used in the following circumstances:

- If you have a single drive tape library
- If you want to create a hierarchical retention scheme (grandfather-father-son tape rotation)

In all other cases, it is recommended that the Auxiliary Copy feature be used for extended storage as it actually creates another physical copy of the data, thereby reducing the risk of data loss due to media failure.

UNDERSTANDING EXTENDED RETENTION RULES

Extended retention allows you to retain a specific full (or synthetic full) backup for an additional period of time. For example, you may want to retain your monthly full backups for 90 days.

Extended retention rules allow you to define three additional "extended" retention periods for full (or synthetic full) backups. For example:

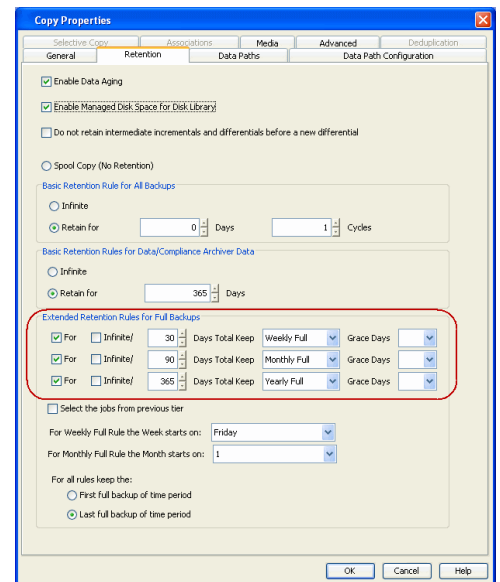
- You may want to retain your weekly full backups for 30 days.
- You may want to retain your monthly full backup for 90 days.
- You may want to retain your yearly full backup for 365 days.

A backup job will be selected for extended retention based on its start time. For example: If a backup job starts at 11:55 pm on August 31st and ends at 1 am on September 1st, then it will be selected as the last full backup for the month of August and will be picked up for extended retention.

SETTING UP EXTENDED RETENTION RULES

Use the following steps for setting up the extended retention rules:

1. Right-click the storage policy copy and click **Properties**.
2. Click the **Retention** tab.
3. Set the basic retention rules by clicking **Retain for** and entering the number of days and cycles appropriate for your organization.
4. Set the extended retention rules as follows:
Click the **For** button.
Enter the number of **Days Total** to retain the backup.
Click the **Keep** drop-down list, and select the desired backup criteria (e.g., Monthly Full).
Click the **Grace Days** drop-down list and select the number of days (e.g., 2).
5. Repeat Step 4 to configure additional extended retention.
6. Click **OK**.



ADVANCED TOPICS

Data Aging - Advanced

Provides comprehensive information on additional Data Aging capabilities.

Disaster Recovery - Sybase iDataAgent

TABLE OF CONTENTS

Planning for a Disaster Recovery

Rebuilding the Operating System

Restoring the Sybase Server

Resolve and Restore Defective Devices and Suspected Databases

PLANNING FOR A DISASTER RECOVERY

Before you begin a disaster recovery, make sure to perform the following:

- Perform frequent backups of your Sybase server and the latest file system.
- Make sure that the Originating host and destination host have the same Sybase version.
- Use the File System iDataAgent to backup the Sybase Home and dataserver configuration files.

MANAGING BACKUPS

As a best practice, it is recommended that you group databases into multiple subclients as follows:

- Add larger databases into separate subclients.
- Add small databases together into one or more subclients. This is important for the following reasons:
 - During Disaster recovery, when you have to quickly rebuild the entire instance, you can concurrently restore all the subclients together.
 - During Backup failures, the backup will restart from the beginning of the database instead of from the beginning of the entire instance. Similarly, this will ensure that large database backups are not affected by restarts from a smaller database.
- Once the subclients are created, schedule frequent backups for dynamic data and regular backup schedules for static data in the Sybase Server.

REBUILDING THE OPERATING SYSTEM

In the case of disaster recovery, where a full system restore is required, you must first rebuild the system to exactly the state as it existed before the problem. Use the following steps to rebuild the operating system:

1. Rebuild the hardware if needed.
2. Install the same version of the operating system with the same patches that were previously installed.
3. Edit the host file of the client to include the CommServe name.
4. Install the File System iDataAgent on the client.
5. Perform a full system restore of the File System iDataAgent.

This will restore the Sybase application files and all of the iDataAgent software. If there are any problems with the Sybase iDataAgent, we recommend that you un-install and re-install the software in the same drive as it was previously installed. Use the same installation parameters, passwords, and backup type settings as were previously used. In addition to restoring your operating system, this operation will restore the Sybase application files and the Sybase iDataAgent.

6. Reboot the computer.
7. Create a Sybase server on the destination host. Ensure that you are including the parameters that were used for the Sybase server before the system failure.
8. On the destination host, start up the Sybase server and then shut down the server.

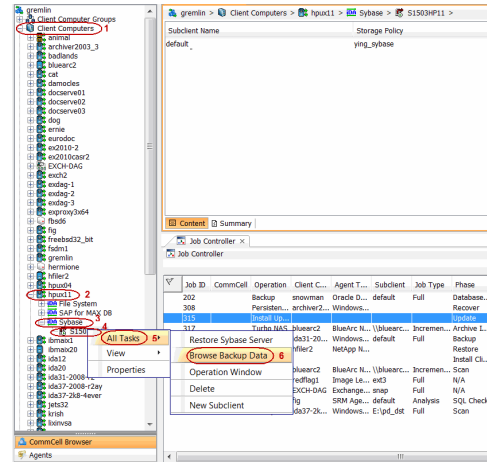
RESTORING THE SYBASE SERVER

When the Sybase server is corrupted or lost, you can restore and recover it from the latest full backup.

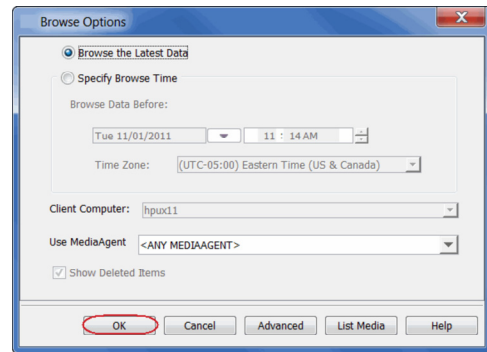
Make sure that the physical devices of the database exist physically on the server before performing a full system restore. If they do not exist on the server or you do not know the device list, perform the following to retrieve the list of devices existing on the server:

1.
 - From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
 - Right-click the **<Instance>**, point to **All Tasks**, and then click **Browse Backup Data**.

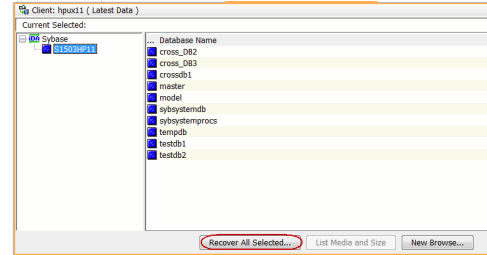
2. Click **OK**.



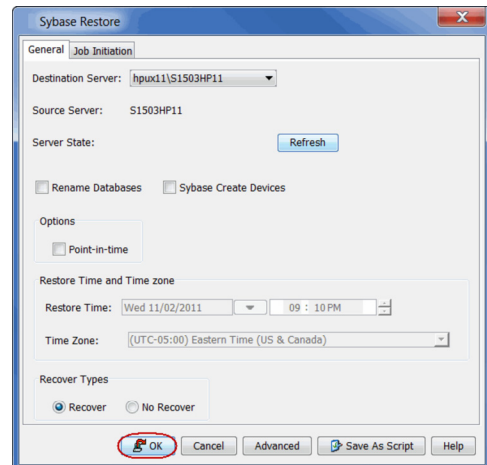
- 3.
- In the right pane of the Browse window, click the **<Instance>** and select all the entities.
 - Click **Recover All Selected**.

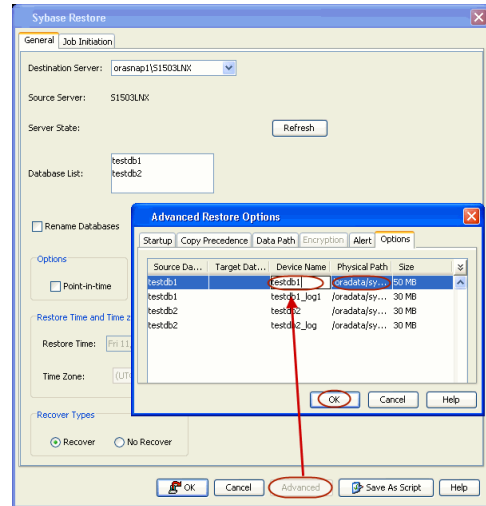


4. Click **Advanced**.



5. Click **Options** tab. You will see the list of all the devices and their sizes. You can create devices needed for restore based on this list.





6. Create a master device with an empty password. Login as Sybase user and execute the following command:

```
sybase$/Sybase/sybase<version># $$SYBASE/
$$SYBASE_ASE/bin/dataserver -s <SybaseInstanceName> -b <device
size in MB> -f -z <Pagesize> -d <master device physical path> -c
<Sybase dataserver config file>
```

Run the following query on CommServe database to find the max page size of your sybase server:

```
select * from APP_InstanceProp where componentNameId in (select
id from APP_InstanceName where name = '<your sybase server
name>') and attrName = 'SYBASE Max page size'
```

7. Start the dataserver.

```
cd $SYBASE/$SYBASE_ASE/install
./startserver -f RUN_<sybInstanceName>
```

8.
 - Verify the that the physical devices required for full system restore are existing under the specified locations as informed in **steps 1 to 5**.
 - **Step-6** informs you to create a master device which can be used by master, model and tempdb databases.

If you have lost the devices due a corruption or hardware issue, you have to manually create them. Use the following command to manually create a device:

For 15.x and above:

```
# isql -Usa -P -S<Sybase Instance Name>
1> disk init name = "<device name>" , physname = "device
physical path>" , vstart=0,
size = "<device size>M"
go
```

For 12.5 and above:

```
# isql -Usa -P -S<Sybase Instance Name>
1> disk init name = "<device name>" , physname = "device
physical path>" , vstart=0,vdevno= <devId>, size = "<device size
*1024 *1024/pagesize>"
go
```

Please note that the devId is unique for each device and should be >0

- 9 Use the following command to shutdown the dataserver after creating the devices:

```
isql -Usa -P -S<Sybase Instance Name>
shutdown with no wait
exit
```

Perform a full restore to restore an entire Sybase server.

Example:

To get max page size for S155dbs12 Sybase server:

```
select * from APP_InstanceProp where componentNameId
in (select id from APP_InstanceName where name =
'S155dbs12') and attrName = 'SYBASE Max page size'
```

```
# /Sybase/sybase15.0.3/ASE-15_5/bin/dataserver -s
s155dbs12 -b 60M -f -z 2048 -
d /Sybase/sybase15.0.3/data/S155dbs12/master.dat -
c /Sybase/sybase15.0.3/ASE-15_5/S155dbs12.cfg
```

Example:

```
/Sybase/sybase15.0.3/ASE-15_5/installstartserver -f
RUN_S155dbs12
```

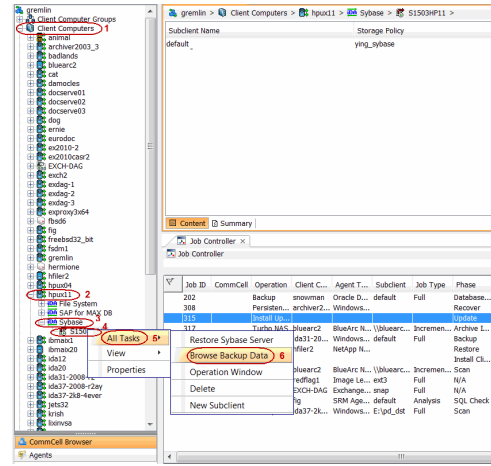
Example:

```
1> disk init name='sysprocsdev',
2>
physname='/Sybase/sybase15.0.3/data/S155dbs12/sysprocs.dat',
3> size='512M'
4> go
```

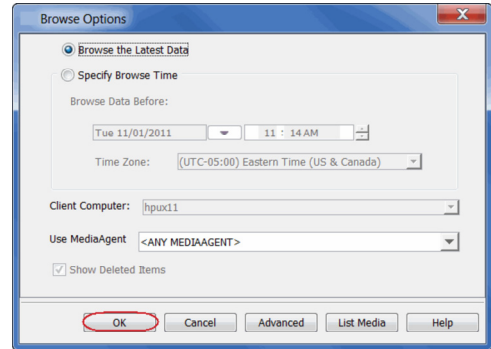
```
1> disk init name='TEST',
2> physname='/Sybase/sybase15.0.3/data/S155dbs12/test.dat',
3> size='1228M'
4> go
1> disk init name='TEST_LOG',
2>
physname='/Sybase/sybase15.0.3/data/S155dbs12/test_log.dat',
3> size='500M'
4> go
```

When restoring an entire server, make sure that the server is offline. Use the following steps to restore the Sybase server from CommCell browser:

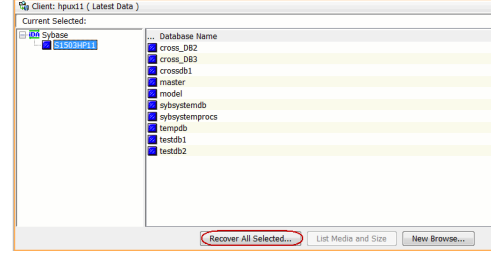
- From the CommCell Browser, navigate to **Client Computers | <Client> | Sybase**.
 - Right-click the **<Instance>**, point to **All Tasks**, and then click **Browse Backup Data**.



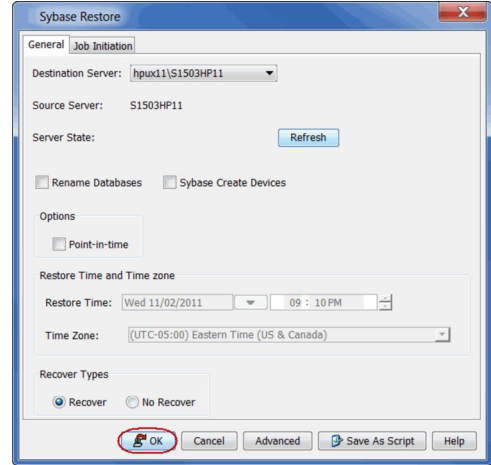
- Click **OK**.



- In the right pane of the Browse window, click the **<Instance>** and select all the entities.
 - Click **Recover All Selected**.



- Click **OK**.



- Once the database is restored, verify that the restored database and log files are available in the original location.

Name	Date modified	Type	Size	Tape
master.dat	11/2/2011 2:38 AM	DAT File	30,720 KB	
sybmgndb.dat	11/2/2011 2:39 AM	DAT File	76,800 KB	
sybndb.dat	11/2/2011 2:39 AM	DAT File	1,024 KB	
sysprocs.dat	11/2/2011 2:38 AM	DAT File	135,168 KB	
SYSTEM01.DBF	5/30/2011 6:28 AM	DBF File	727,048 KB	
TEMP01.DBF	5/30/2011 6:02 AM	DBF File	52,232 KB	
INDDTRESS01.DBF	5/30/2011 6:28 AM	DBF File	46,008 KB	
USERS01.DBF	5/30/2011 6:28 AM	DBF File	5,128 KB	

RESOLVE AND RESTORE DEFECTIVE DEVICES AND SUSPECTED DATABASES

A full Sybase restore may fail if one or more database devices are defective or have been physically deleted and the corresponding databases have therefore been marked as **suspected**. In such a case, all the databases marked as **suspected** and the corresponding devices whose files have been lost must be dropped and re-created.

Use the following steps to resolve and restore defective devices and suspected databases:

1. Issue the following command to determine whether the database is suspected:
sp_marksuspect (<database name>)
2. Drop the suspected database using the following command:
dbcc dbrepair (<database name>, *dropdb*)
3. If the database to be recovered is "sybssystemprocs"(system database), use the following command to drop the corresponding device (since stored procedures are not available at this point):
disk release name = <device name>
4. If any of the data device files do not exist but the device entry exists in *sysdevices*, drop those devices using the following command:
sp_dropdevice <device name>
5. Repeat the above procedure for each suspected database.
6. Resume the restore starting with the first database that was deemed suspected.

Example:

```
sp_marksuspect (<sybdb1>)
```

Example:

```
dbcc dbrepair (<sybdb1>, dropdb)
```

Example

```
disk release name = <tempdbdev>
```

Example:

```
sp_dropdevice <tempdbdev>
```

Additional Operations - Sybase iDataAgent

TABLE OF CONTENTS

Audit Trail

Auxiliary Copy

License Administration

Online Help Links

Operating System and Application Upgrades

Operation Window

Schedule Policy

Storage Policy

Uninstalling Components

AUDIT TRAIL

The Audit Trail feature allows you to track the operations of users who have access to the CommCell. This capability is useful if a detrimental operation was performed in the CommCell and the source of that operation needs to be determined.

Audit Trail tracks operations according to four severity levels:

- **Critical:** This level records operations that will result in imminent loss of data.
- **High:** This level records operations that may result in loss of data.
- **Medium:** This level records changes to the general configuration of one or more entities. Such changes may produce unintended results when operations are performed.
- **Low:** This level records changes to status, addition of entities, and other operations that have minimal impact on existing CommCell functions.

To set Audit Trail retention periods:

1. From the **Tools** menu in the CommCell Console, click **Control Panel**, and then select **Audit Trail**.
2. From the **Audit Trail** dialog box, select the desired retention time (in days) for each severity level.
3. Click **OK**.

AUXILIARY COPY

An auxiliary copy operation allows you to create secondary copies of data associated with data protection operations, independent of the original copy.

1. Expand the **Policies** node, right-click storage policy for which you want to perform an auxiliary copy, click **All Tasks**, and then click **Run Auxiliary Copy**.
2. If you are starting the auxiliary copy operation from the CommServe level, select the storage policy for which you wish to perform the auxiliary copy.

If you are starting the auxiliary copy operation from the Storage Policy level, the Storage Policy field is already populated with the name of the Storage Policy you selected.

3. If the source copy is configured with a shared library, select the **Source MediaAgent** for the auxiliary copy.
4. Click **OK** to start the auxiliary copy operation. A progress bar displays the progress of the operation.

LICENSE ADMINISTRATION

REQUIRED LICENSES

The following table lists the product licenses required for Sybase iDataAgent as they are displayed in the `License Administration` dialog box:

SYBASE		
Sybase Database on HP	Application Class 2	1 license per installed instance of the component
Sybase Database on Solaris	Application Class 2	1 license per installed instance of the component
Sybase Database on Windows	Application Class 1	1 license per installed instance of the component

CONVERTING EVALUATION LICENSES TO PERMANENT LICENSES

If you installed the software using an Evaluation License, you can upgrade to a Permanent License as follows:

1. From the CommCell Browser, right-click the CommServe icon, click **Control Panel**, and then click **License Administration**.

2. Select the **Update License** tab and then click **Convert**.
3. Check the box that corresponds to the evaluation license you would like to upgrade and then click **Convert**.

The license information is updated in the **License Administration** window.

USING CAPACITY-BASED LICENSING

License Usage by Capacity is a licensing mechanism that allows you to obtain licenses based on the amount of data you back up. It provides the following features:

- Flexibility of usage on all agents, rather than being tied to number of server, agents, etc.
- Allows you to purchase licenses based on your data protection needs

Both **Core** and **Enterprise** license types are available. Refer to License Usage by Capacity for comprehensive information on utilizing this method.

RELEASING A LICENSE

If you no longer require a license on a computer, such as cases where the computer is being retired, you can release the license and use it later for another computer. Backup data from the retired computer can still be restored after the license is released provided the data is not aged.

1. From the CommCell Browser, right-click the name of the client from which you want to release a license, click **All Tasks**, and then click **Release License for Client**.
2. Click **OK** to continue releasing the license
3. Click **Yes** to confirm you want to release the license or **No** to abort.

OPERATING SYSTEM AND APPLICATION UPGRADES

Operating system upgrades are only supported when upgrading from one version of an OS to a different version of the same OS (e.g., Win2003 to Win2008). The two methods of upgrading are:

- **Seamless Upgrade** - This involves uninstalling the Agent software, upgrading the operating system, and then re-installing the Agent software.
- **Full OS Replacement** - This involves performing a clean install of a new version of the OS, re-installing any application software, then re-installing the CommServe, MediaAgent, and/or Agent software.

For Full OS Replacement, the client computer must be configured to have the CommServe, MediaAgent, and/or Client software re-installed to the same location, the same Fully Qualified Domain Name or short domain name, the same partitions, disk drive format (FAT, NTFS, et. al.), and IP configuration as previously.

If it is necessary to remove Agent software to facilitate an operating system or application upgrade, do not delete the icon for the Agent from the CommCell Console, or all associated backed up data will be lost.

Use the following strategy to upgrade the operating system software:

- Identify the computers you want to upgrade and the CommCell components installed on each of these computers.
- Choose the type of upgrade procedure you want to use on each computer: seamless or full replacement.
- CommServe, MediaAgent, and Client computers can be upgraded in any order.

ONLINE HELP LINKS

Use the following links to view the online help for the corresponding tabs in the CommCell Console:

OPERATIONS	ENTITY	ONLINE HELP LINKS	SUB LINKS
CONFIGURATION	Agent	Sybase Properties (General) Sybase Properties (Version) Sybase Properties (Security) Sybase Properties (Activity Control)	
	Instance	Properties of Sybase: <instance name> (General) Properties of Sybase: <instance name> (Accounts) Properties of Sybase: <instance name> (Security)	
	Subclient	Subclient Properties of <Subclient Name> (General) Subclient Properties of <Subclient Name> (Content) Subclient Properties of <Subclient Name> (Pre/Post Process) Subclient Properties of <Subclient Name> (Storage Device)	

		Subclient Properties of <Subclient Name> (Activity Control) Subclient Properties of <Subclient Name> (Encryption)	
BACKUP	Backup Options	Backup Options for Subclient <Subclient Name>	Save As Script Command Line XML Options Schedule Details
	Advanced Backup Options	Advanced Backup Options (Startup) Advanced Backup Options (Job Retry) Advanced Backup Options (Media) Advanced Backup Options (Data Path) Advanced Backup Options (VaultTracking) Advanced Backup Options (Alert)	
RESTORE	Restore Options	Sybase Restore Options (General) Sybase Restore Options (Job Initiation)	Save As Script Command Line XML Options Schedule Details
	Advanced Restore Options	Advanced Restore Options (Startup) Advanced Restore Options (Copy Precedence) Advanced Restore Options (Data Path) Advanced Restore Options (Encryption) Advanced Restore Options (Alert) Advanced Restore Options (Options)	

OPERATION WINDOW

By default, all operations in the CommCell can run for 24 hours. To prevent certain operations from running during certain periods of the day, you can define operation rules so that these operations are disabled during those times.

When operation rules are configured, operations that are started within the time window specified will go to a queued (as opposed to pending) state. Once the time window specified in the operation rule has elapsed, these queued or running operations will resume automatically.

1. In the CommCell Browser, right-click the appropriate entity, click **All Tasks**, and then click **Operation Window**.
2. Click **Add**.
3. From the **Operation Window** dialog box:
 - o Enter the name of the rule in the **Name** field.
 - o Select either an administration, data protection (either full or non-full), and/or a data recovery operation from the **Operations** pane.
4. Click **OK**.

SCHEDULE POLICY

A schedule policy is a defined schedule or group of schedules for specific operations to be performed on associated objects within the CommCell. When the schedules from a policy are run, the specified operations, (e.g., auxiliary copy, backup, etc.) will be performed on the associated CommCell objects.

1. Expand the **Policies** node, right-click **Schedule Policies** and click **Add**.
2. Type the **Name** of the schedule policy.
3. Select the **Type** of schedule policy.
4. Select the **Agent Type**.
5. Type a description of the schedule policy.
6. Click **Add**.
7. Enter a Schedule Name in the **Schedule Pattern** tab.
8. Click **OK**.
9. On the **Associations** tab, select the objects to be associated with the schedule policy.
10. Click **OK**.

STORAGE POLICY

A Storage policy defines the data lifecycle management rules for protected data. Storage policies map data from its original location to a physical storage media

and determine its retention period.

1. Expand the **Policies** node, right-click **Storage Policies**, and select **New Storage Policy**.
2. Click **Next**.
3. Select **Data Protection and Archiving** to create a regular storage policy or **CommServe Disaster Recovery Backup** to backup the CommServe database and click **Next**.
4. Click **Next**.
5. Enter the name of storage policy and click **Next**.
6. Enter the name of the primary copy and click **Next**.
7. From the drop down box, select the default library for the primary copy and click **Next**.
8. From the drop down box, select the MediaAgent and click **Next**.
9. Enter number of data streams and set the retention period for the policy and click **Next**.
10. Click **Next**.
11. Click **Browse**, browse to your designated deduplication store location and click **Next**.
12. Confirm your selections and click **Finish**.

UNINSTALLING COMPONENTS

You can uninstall the components using one of the following method:

Method 1: Uninstall Components Using the CommCell Console

Method 2: Uninstall Components from Add or Remove Programs

METHOD 1: UNINSTALL COMPONENTS USING THE COMMCELL CONSOLE

1. From the CommCell Browser, right-click the desired Client Computer and click **All Tasks -> Add/Remove Programs** and click **Uninstall Software**.
2. **Uninstall Software Options** dialog will appear.
3. In the **Uninstall Software** tab, select **Uninstall All** to uninstall all the software packages.
4. In the **Job Initiation** tab, select **Immediate** to run the job immediately.

You can track the progress of the job from the **Job Controller** or **Event Viewer**.

METHOD 2: UNINSTALL COMPONENTS FROM ADD OR REMOVE PROGRAMS

1. Click the **Start** button on the **Windows** task bar and then click **Control Panel**.
2. Double-click **Add/Remove Programs**.
For Windows Vista/Windows 2008, click Uninstall a Program in the **Control Panel**.
3. Click **Remove** to uninstall the components in the following sequence:
 1. <Agent>
 2. File System iDataAgent
 3. Base Software

ADVANCED TOPICS

Provides comprehensive information about additional capabilities for the following features:

- Audit Trail
- Auxiliary Copy
- License Administration
- License Usage by Capacity
- Operation Window
- Schedule Policy
- Storage Policies
- Uninstalling Components

[Back to Top](#)

Best Practices - Sybase iDataAgent

CREATING SUBCLIENTS

As a best practice, it is recommended that you create separate subclients to backup data that undergo frequent changes.

For example, if the `EXAMPLE` and `USERS` dbspaces undergo frequent changes, you can create a separate subclient for each tablespace.

Example:

- User-defined subclient: Test1

Content: `EXAMPLE`

- User-defined subclient: Test2

Content: `USERS`

It is recommended that you create a separate user-defined subclient for the log files on the client.

Distributing the client data using subclients as recommended above, can help improve backup performance by organizing the workload on the client into logical groupings.

SUBCLIENT CONTENT

As a best practice, it is recommended that you add only a few small databases to each subclient and add larger databases into separate subclients. On a restart condition, the system will back up all databases in the subclient from the beginning. For this reason, you would not want a large database that has completed its backup successfully to be backed up again only because a smaller one has caused a restart to occur.

RE-CONFIGURING DEFAULT SUBCLIENT CONTENT

We recommend that you do not re-configure the content of a default subclient because this would disable its capability to serve as a catch-all entity for client data. As a result, some data will not get backed up or scanned.

CHANGING STORAGE POLICIES

If you change a storage policy for a default subclient, and want to restore to a point in time prior to the change (i.e., restore from previous storage policy), perform a Full backup of the database as soon as possible. Data from the old storage policy will not be considered as the most recent cycle and when it exceeds its retention period, and hence will be pruned.

IMPROVING THE BACKUP AND RESTORE PERFORMANCE

You can use the `dbBlockSize` registry key to improve the performance of your backup and restores. The Sybase device `blocksize` parameter specifies the number of bytes per I/O operation for a dump device. By default, the block size is not specified in the dump command and will use the Sybase server's default block size. Use `dbBlockSize` registry key to override the default block size for a particular dump device. The block size must be at least one database page (2048 bytes) and must be an exact multiple of the database page size. For optimal performance, specify the `blocksize` as a power of 2. Example: 8192 (8k), 16384 (16k), or 32768 (32k).

IMPROVING THE DEDUPLICATION PERFORMANCE

Use the following configuration for Sybase iDataAgent to obtain a better deduplication performance.

USE DBBLOCKSIZE REGISTRY KEY

The Sybase device `blocksize` parameter specifies the number of bytes per I/O operation for a dump device. By default, the block size is not specified in the dump command and will use the Sybase server's default block size. Use `dbBlockSize` registry key to override the default block size for a particular dump device. The block size must be at least one database page (2048 bytes) and must be an exact multiple of the database page size. For optimal performance, specify the `blocksize` as a power of 2. Example: 8192 (8k), 16384 (16k), or 32768 (32k).

COMPRESSION SETTINGS

Turn off deduplication compression from subclient and storage policy copy level. See [Setting Up Data Compression](#) for step-by-step instructions.

STORAGE POLICY CONFIGURATION

Use Non-deduplicated Storage Policy with Compression set as ON to backup the Sybase Logs (Incremental backup).

Frequently Asked Questions - Sybase

CAN WE PROTECT DATA ON NON-GLOBAL ZONES IF THE FILE SYSTEM /DATAAGENT IS INSTALLED ONLY ON THE GLOBAL ZONE?

Yes. We can protect file system data on non-global zones if the File System iDataAgent is installed only on the global zone. However, in order to enable consistent backups of application specific data on the non-global zones, you will need to install the corresponding application specific iDataAgent on the non-global zone.

HOW DO WE PROTECT SYBASE DATA ON A NON-GLOBAL ZONE?

In order to enable consistent backups of Sybase data on a non-global zone, you need to install the Sybase iDataAgent on the non-global zone.

WHAT ARE THE FOLDERS/FILES CREATED AND CHANGES DONE DURING INSTALL OF THIS AGENT?

PLATFORMS	FOLDERS CREATED	FILES CREATED	OTHER CHANGES
Linux	None	None	Create a link to libSybGalaxy.so under \$SYBASELIBPATH
Solaris	None	None	Create a link to libSybGalaxy.so under \$SYBASELIBPATH
AIX	None	None	Create a link to libSybGalaxy.so under \$SYBASELIBPATH

WHEN DOES A NON-FULL BACKUP AUTOMATICALLY GET CONVERTED TO A FULL BACKUP?

A non-full backup is automatically converted to a full backup in the following situations:

- First backup of the subclient.
- Re-associating a subclient to another storage policy.
- Promote a secondary storage policy copy that is not synchronized with a primary copy (for all the subclients of a storage policy).
- If a backup job within the most recent backup cycle is pruned or disabled from a primary copy.
- CommCell Migration operation.
- When a Sybase database createtime is changed since the last backup.

ARE REMOTE BACKUP SERVERS SUPPORTED?

No. Remote Backup Servers are not supported. You can only change the backup server that is associated to a Sybase server instance from the available backup servers with in the Sybase server environment.

HOW ARE TRANSACTION LOGS TRUNCATED?

Truncation of transaction logs use the following rules:

- Transaction logs will be truncated at the completion of a Transaction Log backup.
- Transaction logs will be truncated every time a checkpoint is processed, if the database is in truncate mode.
- Full backups do not truncate transaction logs.

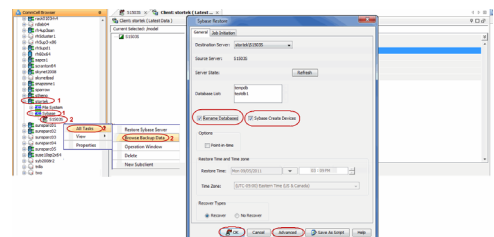
CAN WE PERFORM A TABLE LEVEL RESTORE?

Currently, table level restore for Sybase database is not supported. However, you can create a new database and restore your backup to this new database (target database). After the restore, you can truncate original table in the source database and replace this table with the table in the target database using bcp export/import commands.

Ensure that you have the latest full backup i.e., the backup prior to the corruption or loss of a table that you want to restore.

Use the following steps to restore a table:

1. From the CommCell Browser, navigate to **Client Computers** | **<Client>** | **Sybase**.
2. Right-click the **<Instance>**, point to **All Tasks** and then click **Browse Backup Data**.
3. Click **OK** on the **Browse Options** dialog box.
4. From the **Browse** window, navigate and select the database to be restored and click **Recover All Selected**.
5. Select the **Rename Databases** check box.



When you rename a database, make sure that the tables in the database are not referencing to or referenced by tables in any other databases.

6. Click **OK**.
A new database (target database) is created and restored with the latest backup.
7. Truncate the table that is corrupted in source database.
8. Run the following command from the target database:
`bcp <db_name>.owner.<table_name> out <file_name> -Y -U <user_name> -P <password> -S <server_name>`
9. Run the following command from the source database:
`bcp <db_name>.owner.<table_name> in <file_name> -Y -U <user_name> -P <password> -S <server_name>`
10. Execute the query in source database to confirm that the table is successfully restored.

Example:

```
use db1
truncate table_abc
```

Example:

```
use db2
bcp db2.owner.table_abc out file1 -y -sa -pwd -SYB1
```

Example:

```
use db1
bcp db2.owner.table_abc in file1 -y -sa -pwd -SYBX
```

CAN YOU BACKUP SYBASE IQ DATA?

Yes. You can use File System Agent with Pre/Post Scripts to quiesce/shutdown and backup Sybase IQ data. You cannot use Calypso's Sybase iDataAgent to backup Sybase IQ data as the backup commands used for IQ are different from the commands used for Adaptive Server Enterprise (ASE) data backup.

You need to install the Calypso's Sybase iDataAgent for Unix and Windows before you backup Sybase IQ data.

BACKUP:

Use the following steps to backup Sybase IQ data:

1. Create a directory to store all your Sybase IQ backup data.

Example: `/backup_Calypso`

2. Create scripts to backup Sybase IQ databases. Use the following commands to backup the Sybase IQ data:

```
BACKUP DATABASE
[ backup-option... ]
TO archive_device [ archive-option... ]
... [ WITH COMMENT string ]
```

Examples:

```
BACKUP DATABASE
FULL
TO '/backup_Calypso' SIZE 15000000
```

```
BACKUP DATABASE
INCREMENTAL SINCE FULL
TO '/backup_Calypso' SIZE 15000000
```

3. Create a subclient for Calypso's Sybase iDataAgent and add the content from `/backup_Calypso` directory.
4. Perform or Schedule regular backups for this subclient (which includes the Sybase IQ data from `/backup_Calypso` directory).

RESTORE:

You can restore the backup files from `/backup_Calypso` directory.

Use the following command to restore the Sybase IQ data:

```
RESTORE DATABASE 'database-name'
[ restore-option ... ]
FROM 'archive_device'
```

Examples:

```
RESTORE DATABASE 'iqdemo'
FROM '/backup_Calypso'
```

CAN WE LOAD A MASTER DATABASE WHILE PERFORMING A CROSS-PLATFORM RESTORE?

No. Sybase do not support loading a master database while performing a cross-platform restore.

IS CROSS-PLATFORM LOADING AVAILABLE FOR TRANSACTION DUMPS?

No. Cross-platform loading is only available for database dumps and not to the transaction dumps.

CAN WE RESTORE FROM THE TRANSACTION LOG BACKUPS?

Yes. You can restore the transaction logs along with the database to a specific point in time. The point in time should be in between the start and end point of a transaction log. Point in Time restore will restore the database followed by transaction logs restored until the point of time. The nearest database backup job before the point-in time will be picked up followed by one or more transaction log backups. The immediate transaction log backup after a Point in Time will be restored.

For example:

Let us assume that you have performed a Full backup (F1) and transaction log backup (L1) for the first time at 1 P.M. Subsequently you have performed L2 at 3 P.M. Later, you have performed L3, F2, L4,L5 etc at subsequent intervals. If you perform a point in time restore for the transaction log backups at 2 P.M, the Full backup (F1) along with the log backups of L1 and L2 (transaction log after point in time) will be restored.

We do not support the restores from the transaction log backups that are not truncated. Transaction log jobs picked for Point in Time restore should fall with in one backup cycle and not across job cycles.

You can perform a point of time restore of transaction logs for clients and CommServe on different time zones.

CAN WE RESTORE THE SYBASE DATABASES AND LOGS RESIDING ON THE RAW DEVICES?

Yes. You can restore the file systems and raw devices supported by your operating system. However, ensure that the raw device that exists at the time of restore is in a good state. You must also have the Sybase user and group read/write permissions to restore the raw devices.

Troubleshooting Backup - Sybase iDataAgent

Backup | Restore

CONFIGURATION FAILURES

<p>Instance Configuration Error</p>	<p>Sometimes, you may receive an error while configuring Sybase server instance. You may receive this error when you try to set the Sybase server parameter <i>net password encryption</i> to 2.</p> <p>This issue occurs when you use Sybase 15.0 ESD #7.</p> <p>As a workaround, add the following entries manually in OCS.CFG file to avoid the error:</p> <pre>[DEFAULT] CS_SEC_EXTENDED_ENCRYPTION = CS_TRUE [isql] CS_SEC_EXTENDED_ENCRYPTION = CS_TRUE [CISybAgent] CS_SEC_EXTENDED_ENCRYPTION = CS_TRUE</pre> <p>You can find the OCS.CFG file at the following location:</p> <p>Unix \$SYBASE/\$OCS/config/ocs.cfg</p> <p>Windows \$SYBASE/\$OCS/ini/OCS.CFG</p>
--	---

BACKUP FAILURES

The following section provides information on troubleshooting backups.

<p>Invalid Argument</p>	<p>Sometimes, backup jobs fail with an error "Invalid Argument".</p> <p>This issue occurs when you use Sybase 15.5 ESD #4. The backups will not fail if you use 15.5 GA binary (backupserv and sybmultbuf).</p> <p>If you are using 15.5 ESD #4, use the following steps as a workaround to avoid backup failure:</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, navigate to Client Computers. 2. Right-click the <Client>, and then click Properties. 3. Click the Registry Key Settings tab. 4. Click Add. 5. In the Name box, type dbBlockSize. 6. In the Location box, select iDataAgent. 7. In the Type box, select REG_SZ. On Unix Client, select Value. 8. In the Value box, type Y. 9. Click OK.
<p>Failure of Backups and Restores performed from a remote desktop on windows</p>	<p>Currently, backups and restores cannot be performed from a remote desktop on Windows.</p> <p>Use any one of the following solutions that suits your setup:</p> <ul style="list-style-type: none"> • Login to remote desktop using the following command: <pre>mstsc /v:winclient /console</pre> • Use netmeeting • Use telnet • Use the clients console

Troubleshooting Restore - Sybase iDataAgent

Backup | **Restore**

The following section provides information on troubleshooting restores.

BROWSE FAILURES

Point in time Table Browse Failures	<p>When you have encryption enabled for the client, point in time table browse operation fails with the following error message:</p> <p>Pass-phrase protection is on for client [80], but pass-phrase was not specified.</p> <p>Make sure that the pass phrase is exported to the MediaAgent when encryption is enabled for the client.</p> <ol style="list-style-type: none"> 1. From the CommCell Browser, right-click the <Client> and then click Properties. 2. Click the Encryption tab. 3. Click Via Pass-Phrase. 4. Click Export. 5. In the Destination Computer box, select the MediaAgent. 6. In the Pass-Phrase box, type the pass-phrase used for encryption. 7. In the Re-enter Pass-Phrase box, re-type the pass-phrase to confirm. 8. Click Export. 9. Click OK.
--	--

RESTORE FAILURES

Failure of Backups and Restores performed from a remote desktop on windows	<p>Currently, backups and restores cannot be performed from a remote desktop on Windows.</p> <p>Use any one of the following solutions that suits your setup:</p> <ul style="list-style-type: none"> • Login to remote desktop using the following command: <pre>mstsc /v:winclient /console</pre> • Use netmeeting • Use telnet • Use the clients console
Restoring multiple databases in one job may fail	<p>Sometimes, restoring multiple databases in one job may fail if different streams are used for data and log backups. If you need to restore multiple databases in one job, use the same streams for data and log backups.</p>

RECOVERING DATA ASSOCIATED WITH DELETED CLIENTS AND STORAGE POLICIES

The following procedure describes the steps involved in recovering data associated with the following entities:

- Deleted Storage Policy
- Deleted Client, Agent, Backup Set or Instance

BEFORE YOU BEGIN

This procedure can be performed when the following are available:

- You have a Disaster Recovery Backup which contains information on the entity that you are trying to restore. For example, if you wish to recover a storage policy (and the data associated with the storage policy) that was accidentally deleted, you must have a copy of the disaster recovery backup which was performed before deleting the storage policy.
- Media containing the data you wish to recover is available and not overwritten.
- If a CommCell Migration license was available in the CommServe when the disaster recovery backup was performed, no additional licenses are required. If not, obtain the following licenses:
 - IP Address Change license
 - CommCell Migration license

See License Administration for more details.
- A standby computer, which will be used temporarily to build a CommServe.

RECOVERING DELETED DATA

1. Locate the latest Disaster Recovery Backup which contains the information on the entity (Storage Policy, Client, Agent, Backup Set or Instance) that you are trying to restore.

- You can check the Phase 1 destination for the DR Set or use Restore by Jobs for CommServe DR Data to restore the data.
 - If the job was pruned and you know the media containing the Disaster Recovery Backup, you can move the media in the **Overwrite Protect Media** Pool. See Accessing Aged Data for more information. You can then restore the appropriate DR Set associated with the job as described in Restore by Jobs for CommServe DR Data.
 - If the job is pruned and you do not know the media containing the Disaster Recovery Backup, you can do one of the following:
 - If you regularly run and have copies of the Data on Media and Aging Forecast report you can check them to see if the appropriate media is available.
2. On a standby computer, install the CommServe software. For more information on installing the CommServe, see CommServe Deployment.
 3. Restore the CommServe database using the CommServe Disaster Recovery Tool from the Disaster Recovery Backup described in Step 1. (See Restore a Disaster Recovery Backup for step-by-step instructions.)
 4. Verify and ensure that the **Bull Calypso Client Event Manager Bull Calypso Communications Service (EvMgrS)** is running.
 5. If you did not have a CommCell Migration license available in the CommServe when the disaster recovery backup was performed, apply the IP Address Change license and the CommCell Migration license on the standby CommServe. See Activate Licenses for step-by-step instructions.
 6. Export the data associated with the affected clients from the standby CommServe as described in Export Data from the Source CommCell.

When you start the Command Line Interface to capture data, use the name of the standby CommServe in the - `commcell` argument.

7. Import the exported data to the main CommServe as described in Import Data on the Destination CommCell.

This will bring back the entity in the CommServe database and the entity will now be visible in the CommCell Browser. (Press F5 to refresh the CommCell Browser if the entity is not displayed after a successful merge.)
8. If you have additional data that was backed up after the disaster recovery backup and before the deletion of the entity, use the procedure described in Import Metadata from a Tape or Optical Media to obtain the necessary information.
9. You can now browse and restore the data from the appropriate entity.

As a precaution, mark media (tape and optical media) associated with the source CommCell as READ ONLY before performing a data recovery operation in the destination CommCell.

RESOLVE AND RESTORE DEFECTIVE DEVICES AND SUSPECTED DATABASES

A full Sybase restore may fail if one or more database devices are defective or have been physically deleted and the corresponding databases have therefore been marked as **suspected**. In such a case, all the databases marked as **suspected** and the corresponding devices whose files have been lost must be dropped and re-created.

Use the following steps to resolve and restore defective devices and suspected databases:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Issue the following command to determine whether the database is "suspected":
<code>sp_marksuspect (<database name>)</code> | <p>Example:</p> <pre>sp_marksuspect (<sybdb1>)</pre> |
| <ol style="list-style-type: none"> 2. Drop the suspected database using the following command:
<code>dbcc dbrepair (<database name>, dropdb)</code> | <p>Example:</p> <pre>dbcc dbrepair (<sybdb1>, dropdb)</pre> |
| <ol style="list-style-type: none"> 3. If the database to be recovered is "sybsystemprocs", use the following command to drop the corresponding device (since stored procedures are not available at this point):
<code>disk release name = <device name></code> | <p>Example</p> <pre>disk release name = <tempdbdev></pre> |
| <ol style="list-style-type: none"> 4. If any of the data device files do not exist but the device entry exists in <code>sysdevices</code>, drop those devices using the following command:
<code>sp_dropdevice <device name></code> | <p>Example:</p> <pre>sp_dropdevice <tempdbdev></pre> |
| <ol style="list-style-type: none"> 5. Repeat the above procedure for each suspected database. | |
| <ol style="list-style-type: none"> 6. Resume the restore starting with the first database that was deemed suspected. | |

