

Administration Guide - PostgreSQL iDataAgent

TABLE OF CONTENTS

OVERVIEW

Introduction

Key Features

- Wide Range of Backup and Restore Options
- Efficient Job Management and Reporting
- Block Level Deduplication

Terminology

SYSTEM REQUIREMENTS - POSTGRESQL /DATAAGENT

SUPPORTED FEATURES - POSTGRESQL /DATAAGENT

INSTALLATION

Install Software from the CommCell Console

Install the PostgreSQL iDataAgent - Unix

Silent Install - Unix Agents

CONFIGURATION - POSTGRESQL /DATAAGENT

Overview

Creating an Instance

CONFIGURATION - POSTGRESQL /DATAAGENT - ADVANCED

Overview

Creating a Subclient to Backup Specific Databases

Modifying an Instance or Subclient

Deleting an Instance or Subclient

- Delete an Instance
- Delete a Subclient

BACKUP - POSTGRESQL /DATAAGENT

Overview

Your First Full Backup

- Running a Full Backup Immediately
- Scheduling a Full Backup

Viewing Backup Job History

BACKUP - POSTGRESQL /DATAAGENT - ADVANCED

Overview

Performing Log Backups

Managing Jobs

- Restarting Jobs
- Controlling Jobs

Additional Options

RESTORE - POSTGRESQL /DATAAGENT

Overview

Your First Restore

- Basic Restore
- Browse and Restore

Viewing Restore Job History

View Restored Items Associated With a Restore Job

RESTORE - POSTGRESQL /DATAAGENT - ADVANCED

Overview

- Restore Destinations
- In-Place Restore
- Out-of-place Restore
- Cross Machine Restore

Restore Operations

- Restoring an Entire Server
- Restoring Individual Databases
- Point In Time Restores
- Table Restores

Browse Data

- Selecting Objects From the Browse Window for Restore
- Controlling the Browse Time Interval
- Browsing Data Associated with Specific Jobs
- Global Browse / Restore Options
- Browse Error Reporting
- Browsing and Restoring Using a Specific MediaAgent, Library or Drive Pool
- Browsing and Restoring From Copies

List Media

- Listing Media For a Subclient
- Listing Media For a Backup Set or Instance

Restore by Jobs

Manage Restore Jobs

- Restart Jobs
- Resubmit Jobs
- Control Jobs

Additional Restore Options

DISASTER RECOVERY - POSTGRESQL /DATAAGENT

Overview

Planning for a Disaster Recovery

Browse Databases

Performing a Full System Restore

- Preparing for Full System Recovery
- Restoring the Entire PostgreSQL Server

DATA AGING

Overview

Configuring Retention Rules

Running Data Aging Jobs

Viewing Data Aging Job History

ADDITIONAL OPERATIONS

Overview

Related Reports

- Creating a Report

Audit Trail

- Setting up Audit Trail

Policies

- Storage Policy
- Schedule Policy

Auxiliary Copy

- Starting an Auxiliary Copy

Operation Window

- Defining Operation Rules

Operating System and Application Upgrades

- Notes on PostgreSQL Application Upgrades

Online Help Links

Uninstalling Components

General Uninstall Considerations

Uninstalling Unix Components

Uninstalling Components From a Cluster

Overview - PostgreSQL iDataAgent

TABLE OF CONTENTS

Introduction

Key Features

- Wide Range of Backup and Restore Operations
- Efficient Job Management and Reporting
- Block Level Deduplication

Terminology

INTRODUCTION

The PostgreSQL iDataAgent is designed to efficiently manage and protect business critical data in PostgreSQL databases. You can use this iDataAgent to backup and restore the entire PostgreSQL server or individual databases. If necessary, you can also restore individual tables.

KEY FEATURES

The PostgreSQL iDataAgent offers the following key features:

WIDE RANGE OF BACKUP AND RESTORE OPERATIONS

PostgreSQL iDataAgent provides the flexibility to backup the PostgreSQL databases in different modes and restore them in minimal time. You can perform a full or log backups of the entire PostgreSQL server or individual databases or archive logs at any point of time.

The following section describes the backups and restores that can be performed in different modes:

BACKUP AND RESTORE ENTIRE POSTGRESQL SERVER

This iDataAgent provides the ability to restore an entire PostgreSQL Server. All the databases that reside on a source server can be restored on to a destination server.

In addition to performing backup and restores of databases, this iDataAgent performs database and log backups like any other database iDataAgent and effortlessly restores all the databases in a PostgreSQL server.

BACKUP AND RESTORE SELECTIVE INDIVIDUAL DATABASES

You can use the CommCell Console to create user-defined subclients and distribute some of the database content for dump based backups. Distributing the client data using subclients in this way can help improve backup performance by organizing the workload on the client into logical groupings. While creating user defined subclients for dump based backup data, you can also choose selected object list. This option allows you to save time while restoring this subclient's data.

You can either define an individual database or a group of databases as subclient data and perform backup and restores.

BACKUP LOGS

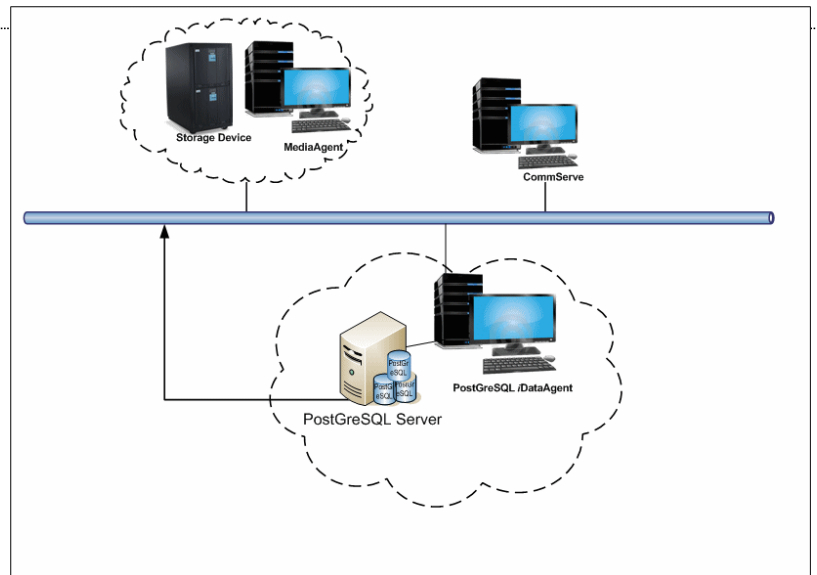
You can perform backups of only the logs in the PostgreSQL server. Log files are generated for each transaction made to the data files in the database. These log files can be used to recover the database transactions that have been lost due to an operating system or disk failure. You can apply them to the File System backup to recover the entire PostgreSQL server to a specific point-in-time.

RESTORE DATABASE TABLES

This iDataAgent allows you to restore and recover individual database tables to the same database or to another database. While restoring a dump based backup, you can select the Table View from the browse options to view all the tables in a database. During the restore operation, you can select individual tables from the list of database tables in a tree view from browse window and restore them to a destination location.

RESTORE DATABASES TO A POINT-IN-TIME

You can restore and recover an entire PostgreSQL server to a point in time for a File System Based Backup. A point in time restore job allows you to restore your PostgreSQL server to a specific point in time, and, typically, this point in time would be just before an undesired transaction, corruption, or update to your database.



EFFICIENT JOB MANAGEMENT AND REPORTING

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 virtual machines contains blocks of data that are identical to each other, block level deduplication eliminates storing the redundant data and reduces the size of the data in storage. This dramatically reduces the virtual machine backup data copies on both the disk and tapes.

TERMINOLOGY

The following terminology is used by this product:

CLIENT	The computer in which the iDataAgent is installed and contains the data to be secured.
INSTANCE	The PostgreSQL database to be used for the backup and restore operations.
BACKUPSET	A backupset is a logical grouping of subclients. This iDataAgent creates backupsets by default while creating an instance.
DUMP BASED BACKUPSET	A dump based backupset contains selected individual or a group of databases herein referred as dumps.
FILE SYSTEM BASED BACKUPSET	A file system based backupset contains an entire PostgreSQL server which includes all the databases and logs.
SUBCLIENT	The PostgreSQL data to be backed up.

[Back to Top](#)

System Requirements - PostgreSQL iDataAgent

[System Requirements](#) | [Supported Features](#)

The following requirements are for the PostgreSQL iDataAgent:

PostgreSQL version 9.x is supported with SP5A and the Enterprise DB version 9.0 is supported with SP5B.

APPLICATION/OPERATING SYSTEM		PROCESSOR
POSTGRESQL VERSION 8.2 (OR HIGHER) AND ENTERPRISE DB VERSION 8.3 (OR HIGHER) ON:		
LINUX	RED HAT ENTERPRISE LINUX/CENTOS	
	Red Hat Enterprise Linux/CentOS 6.x with glibc 2.12.x	Intel Pentium, x64 or compatible processors
	Red Hat Enterprise Linux/CentOS 5.x with glibc 2.5.x	Intel Pentium, x64 or compatible processors
	Red Hat Enterprise Linux/CentOS 4.x with a minimum of glibc 2.3.4	Intel Pentium, x64 or compatible processors
	SOURCE MAGE LINUX	
	Source Mage Linux	x64
	SUSE LINUX (SLES)	
	SuSE Linux 11.x with glibc 2.9.x and above	Itanium, x64 or compatible processors
	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

HARD DRIVE

220 MB minimum of hard disk space for software

50 MB of additional hard disk space for log file growth

725 MB of temp space required for install (where the temp folder resides)

MEMORY

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

Swap space = 2*RAM size

PERIPHERALS

DVD-ROM drive

Network Interface Card

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 - Linux File System iDataAgent.

NETWORK

TCP/IP Services configured on the computer.

DRIVERS

Drivers for SCSI Adapters (Supplied by your SCSI Adapter provider)

Drivers for media drives (Supplied by your media drive provider)

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

Install the PostgreSQL iDataAgent - Unix

TABLE OF CONTENTS

Install Requirements

Before You Begin

Install Procedure

- Getting Started
- Select Components for Installation
- Base Software Installation
- Kernel Parameters
- Enable Global Filters
- Client Group Selection
- Storage Policy Selection

Post-Install Considerations

INSTALL REQUIREMENTS

The following procedure describes the steps involved in installing the PostgreSQL iDataAgent and the Unix File System iDataAgent. The PostgreSQL iDataAgent is installed on the computer on which the PostgreSQL application resides. (This computer is referred to as the *Client* computer in this install procedure.)

Verify that the computer in which you wish to install the software satisfies the minimum requirements specified in System Requirements - PostgreSQL iDataAgent and System Requirements - Linux File System iDataAgent.

Review the following Install Requirements before installing the software:

GENERAL

- Review Install Considerations before installing the software.
- Agents should be installed only after the CommServe and at least one MediaAgent have been installed in the CommCell. Also, keep in mind that the CommServe and MediaAgent must be installed and running (but not necessarily on the same computer), before you can install the Agent.
- Ensure there is an available license on the CommServe for the Agent.
- Verify that you have the Software Installation Disc that is appropriate to the destination computer's operating system.

PACKAGE MANAGEMENT SYSTEMS

You can use the Red Hat Package Manager (RPM) package management system to install all Linux versions of the agent. Also, you can use the Advanced Packaging Tool (APT) package management system to install all Debian Linux versions of the agent. For step-by-step instructions, see Base Software Install for RPM Package Manager and Base Software Install for APT Package Manager.

RED HAT LINUX

Red Hat Linux will create an entry in the `/etc/hosts` file when it is first installed, in the following format:

```
<ip_address> <host name> localhost
```

For example, if the host name of your computer is `bluesky`, the entry will look something like this:

```
192.168.1.111 bluesky localhost
```

If you have not already done so, edit the `/etc/hosts` file. The edited entry should look like this:

```
127.0.0.1 localhost
```

Depending upon your environment, and using the above example again, you may also need an entry similar to this:

```
192.168.1.111 bluesky
```

BEFORE YOU BEGIN

- The PostgreSQL application has been installed on the client.
- Log on to the client as `root`.
- The install package requires `super-user` permissions to execute.

INSTALL PROCEDURE

GETTING STARTED

- Place the software installation disc for the Unix platform into the disc drive.
You can also install the product using a disc drive mounted on another computer on the network.

- On Solaris, double-click the **cvpkgadd** program from the File Manager window.
- On other Unix platforms, open the Terminal window, navigate to the software installation disc and then enter **./cvpkgadd**.

- Enter the number corresponding to the setup task you want to perform.

NOTES

- For Install data protection agents on this computer option, follow the steps described in this procedure.
- Advance options provide additional setup features such as record and play setup, creating a custom package and External Data Connector Agent software.

To create a custom package and for record and play setup, follow the steps described in Custom Package - Unix.

To install the External Data Connector Agent, follow the steps described in External Data Connector - Unix.

- The product banner and other information is displayed.

Press **Enter** to continue.

- Read the license agreement. Type **y** and press **Enter** to continue.

- If your computer is 32-bit, press **Enter**.

If your computer is 64-bit, see Install Unix Agents on 64-bit Platform for step-by-step procedure.

- This prompt is displayed only when you are installing on HP-UX, Linux, or Solaris computers.

Press **Enter** to continue

NOTES

- When you install on non-clustered computer, you must select the number associated with the option **Install on a physical machine**.

- 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 number corresponding to the network interface that you wish to use as default, and then press **Enter** to continue.

NOTES

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

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

NOTES

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

Verify the default network interface name.

Press **Enter** to accept the default network interface name and continue, or Type the default network interface name, and then press **Enter** to continue.

NOTES

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]

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 MA 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
- 2) Install on a virtual machine
- 3) Exit

Your choice: [1]

Network interface with the following IPs have been found available on your system. One of these interfaces should be associated with the physical machine being installed. It will also be used by the CommServe to initiate connections 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 select the correct network interface below.

- 1) client (201.42.33.598)
- 2) hk97.:489:9glg:hk8d:9490
- 3) client.company.com (hr90:8842:2:78:013:8ghh:hg8k:9x54)

Interface number: [1]

Network interfaces with the following IPs have been found configured on your system. Please select one to be used by the CommServe to contact the client.

- 1) dunk.company.com (480.19.65.333)
- 2) 480.19.66.326

Interface number: [1]

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

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

- This prompt will be displayed only when you have multiple network interfaces for the computer.

8. Specify the client name for the computer.

Press **Enter** to accept the default name and continue, or
Enter a new client name for the computer and then press **Enter** to continue.

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]

SELECT COMPONENTS FOR INSTALLATION

9. Enter the number corresponding to the **CVGxPostGres** module and press **Enter**.

```
Install Calypso on physical machine client.company.com
Select the Calypso module that you would like to install
[ ] 1) Media Agent [1301] [CVGxMA]
[ ] 2) PostGresiDataAgent [1209] [CVGxPostGres]
>) >>>> NEXT PAGE >>>>>

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

Enter number(s)/one of "a,n,r,q,d,>,<," here: 2
```

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

NOTES

- To select multiple component, enter the number by adding a space.
- Your screen may look different from the example shown.
- Components that either have already been installed, or which cannot be installed, will not be shown.
- In addition, the list of modules that appear depends on the specific Unix File System in which the package is installed. (e.g., **CVGxWA** will appear only when the installation package is run on a Solaris computer.)

```
Install Calypso on physical machine client.company.com
Select the Calypso module that you would like to install
[ ] 1) Media Agent [1301] [CVGxMA]
[X] 2) PostGresiDataAgent [1209] [CVGxPostGres]
>) >>>> NEXT PAGE >>>>>

[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
```

BASE SOFTWARE INSTALLATION

11. If you wish to install the agent software for restore only, enter **Yes** and press **Enter** to continue. See *Installing Restore Only Agents* for more information.

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

Otherwise, accept **no**, press **Enter** to continue.

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

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

NOTES

- Select **Download from the software provider website** to download the latest software scripts from your software provider website.
Make sure you have internet connectivity when you are using this option.
- Select **Use the one in the installation media**, to install the software scripts from the disc or share from which the installation is 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.

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. Enter **Yes** to download and install the latest service packs and post packs from the software provider.

Keep Your Install Up to Date - Latest Service Pack

NOTES

- Internet connectivity is required to download updates.
- This step is applicable for multi instancing.

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]
Press <ENTER> to continue ...

14. Specify the location where you want to install the software.

Please specify where you want us to install Calypso binaries.

NOTES

- The amount of free space required depends on the components selected for install, and may look different from the example shown.

It must be a local directory and there should be at least 209MB 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".

Press **Enter** to accept the default path and continue, or
Enter a path and then press **Enter** to continue.

Installation Directory: [/opt]

Press **Enter** again to confirm the path.

```
..
Calypso will be installed in /opt/calypso.
Press ENTER to continue ...
```

15. Specify the location for the log files.

NOTES

- All the modules installed on the computer will store the log files in this directory.
- The amount of free space required depends on the components selected for install, and may look different from the example shown.

Press **Enter** to accept the default path and continue, or
Enter a path and then press **Enter** to continue.

Press **Enter** again to confirm the path.

16. Indicate whether you would like to launch processes with inherent database access rights.

Press **Enter** to assign a new group, or
Type **No** and then press **Enter** to continue.

17. If you indicated **Yes** in the previous step, you will be prompted for the group name that must be used to launch processes.

Enter the group name and then press **Enter** to continue.

Press **Enter** again to continue.

For installs on a Solaris computer, proceed to the next step. Otherwise, skip to Storage Policy Selection.

18. 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**.

NOTES

- For more information about Network TCP Ports, see Network TCP Port Requirements.
- For more information about these services, see Services.
- If the port number you entered already exists, a message will be displayed `Port #### is already reserved in /etc/services`. To work around this issue, enter different port number.

19. If this computer and the CommServe is separated by a firewall, type **Yes** and then press **Enter** to continue.

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

If you do not wish to configure the firewall services, type **No** and then press **Enter** to continue.

20. Type the name of the CommServe computer and press **Enter** to continue.

NOTES

- Ensure that the CommServe is accessible before typing the name; otherwise the installation will fail.
- If you enter a short name which resolves to the same IP address as the fully qualified CommServe name, you will be asked if you would prefer to use the fully qualified name.

21. Enter the **username** and **password** information for an external domain user account or a CommCell user account. This authorizes the installation of an agent on the CommCell.

NOTES

- This is only displayed when the **Authentication for Agent** feature is enabled in

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]

..

Calypso log files will be created
in /var/log/calypso/Log_Files.
Press ENTER to continue ...

Most of Calypso 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 Calypso processes, all temporary and configuration files will be created with -rw-rw-rw permissions.

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

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

Please enter the name of the group which will be assigned to all Calypso files and on behalf of which all Calypso 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".

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 : [8600]

Port Number for EvMgrC: [8602]

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:

Enter your CommCell user name and password:

User Name :

Password :

Press <ENTER> to continue ...

the CommCell Properties. Users must belong to a User Group with Agent Management capabilities to enable this feature. For more information, see Authentication for Agent Installs.

Click **Enter** to continue.

KERNEL PARAMETERS

22. Enter the appropriate number of streams, and then press **Enter** to continue, or Press **Enter** to accept the default number of streams and continue.

NOTES

- The number of streams specified ensures that concurrent backup/restore streams would have sufficient system resources. For more information on the subject, see Configuring Kernel Parameters for Macintosh and Configuring Kernel Parameters for Solaris.

This prompt is relevant only when you install/upgrade on a Macintosh or Solaris computer as appropriate.

23. Indicate whether you would like modifications to be made to the `/etc/system` configuration file.

Type **Yes**, and then press **Enter** to automatically update the file and continue, or Press **Enter** to accept the default **No** and continue (if you do not want to automatically update the file).

This prompt is displayed only when you install/upgrade on a Solaris (8 or 9) or Macintosh computer.

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_semms=10320 (was 9680)
set semsys:seminfo_shmmni=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.

24. If you indicated **No** in the previous step, the file to which the changes have been saved is displayed. Make sure that these values are established later to ensure that all the requirements for this setup is satisfied.

NOTES

- The settings that are displayed are the maximum or minimum required settings. Value '640', which is provided for various shared memory segment or semaphore requirements, is a maximum value based on 10 streams.

Press **Enter** to continue.

This prompt is displayed only when you install/upgrade on a Solaris (8 or 9) computer, in cases where the install detects that the computer does not have the maximum or minimum required shared memory settings.

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_shmmni=1
set semsys:shminfo_shmmni=640
set semsys:shminfo_shmseg=640
set semsys:seminfo_semms=640
set semsys:seminfo_shmmni=640
set semsys:seminfo_semmsl=640
set maxusers=256
```

ENABLE GLOBAL FILTERS

25. Type the appropriate number for configuring Global Filters for the default subclient and press Enter to continue.

NOTES

- Select **Use Cell level Policy** to inherit the global filter policy configuration set for the CommCell, i.e., if the **Use Global Filters on All Subclients** option is selected in the **Global Filters** dialog box (from the CommCell Console's Control Panel), then this policy will be applied to the default subclient as well. If is not selected, then the global filters will not be applied to the default subclient.
- Select **Always use Global filters** to always apply the global filters policy to the default subclient regardless of the policy set for the CommCell.
- Select **Do not use Global filters** to disregard applying the global filters to the default subclient regardless of the policy set for the CommCell.

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 SELECTION

26. Type the number of a Client Group and press **Enter**.

A confirmation screen will mark your choice with an "X". Type **d** for done with the selection, and press **Enter** to continue.

NOTES

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. The selected group(s) will be marked (X) and can be deselected if you enter the same number again. After you are finished with the selection, select "Done with the Selection".

- This screen will be displayed only if Client Groups are configured for the CommCell. For more information, see Client Computer Groups.

```
[ ] 1) Unix
[ ] 2) DR
[ ] 3) DKS

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

Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: 2
```

27. Press **Enter** to continue.

NOTES

- Schedules help ensure that the data protection operations for the Agent are automatically performed on a regular basis without user intervention. For more information, see Scheduling.

```
+-----+
IMPORTANT:

In addition to installing Calypso on this computer, you
will also need to create a Job Schedule for each
iDataAgent that has been installed on this client
computer.

Job Schedules are required to allow the Calypso
iDataAgents to perform automated backup and restore
operations.

Job Schedule creation can be accomplished through the
Calypso CommCell Console administration interface.

+-----+
```

STORAGE POLICY SELECTION

28. Enter the number corresponding to the storage policy through which you want to back up the File System iDataAgent and then press **Enter** to continue.

NOTES

- A storage policy directs backup data to a media library. Each library has a default storage policy.
- When you install an Agent, the install program creates a default subclient for most Agents.
- If desired, you can change your storage policy selection at any time after you have installed the client software.
- If this screen appears more than once, it is because you have selected multiple agents for installation and are configuring storage policy association for each of the installed agents.

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

```
1) SP_StandAloneLibrary2_2
2) SP_Library3_3
3) SP_MagLibrary4_4
4) fornax_fornax_HWCmp
5) ranger_ranger_HWCmp
6) fornax_fornax_CIntCmp
7) fornax_fornax_MACmp
8) fornax_fornax_NoCmp
```

Storage Policy: [3]

29. If you have multiple instances of the database, ensure that the items listed are satisfied. Press **Enter**.

IMPORTANT

If you are planning to use Calypso <package> with several instances of the database, each running on behalf of different UNIX users, you must make sure that:

- 1) All database users have been added to each of the database groups involved. For example, if there is a "db2inst1" user from group "dba1" and "db2inst2" user from group "dba2", then both "db2inst1" and "db2inst2" should be included into "dba1" and "dba2" groups. On most UNIXes this can be accomplished by editing the /etc/group file.
- 2) The .profile of each database user must contain a "umask 002" command at the end, which will guarantee that all files created by one database user can be open for writing by other database users.
- 3) All database users should be added to the "dba" group that you have chosen for Calypso at the time of CVGxBASE install.

If all of the above requirements are not fulfilled, Calypso will run into various "Permission denied" errors, and backups will not work.

Press <ENTER> to continue ...

30. The install program now starts copying the software to the computer. The progress of the operation is displayed.

```
.....
.....
.....
.....

Successfully copied xx files
```

31. Press **Enter** to continue.

```
.....
.....

Successfully installed <package_name>.

Press ENTER to continue ...
```

32. This prompt is displayed only when you are installing on HP-UX, Linux, or Solaris computers. Enter the number corresponding to the **Exit** option and then press **Enter** to continue.

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.

The installation is now complete.

```
Currently you have Calypso installed on physical node  
stone.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 stone.company.com
- 2) Install Calypso on a virtual machine
- 3) Exit

```
Your choice: [1]
```

POST-INSTALL CONSIDERATIONS

GENERAL

- Review Install Considerations after installing the software.
- Install post-release updates or Service Packs that may have been released after the release of the software. When you are installing a Service Pack, ensure that it is the same version as the one installed in the CommServe Server. Alternatively, you can enable Automatic Updates for quick and easy installation of updates in the CommCell component.

Configuration - PostgreSQL iDataAgent

Basic Advanced

TABLE OF CONTENTS

Overview

Creating an Instance

OVERVIEW

Once you install PostgreSQL iDataAgent, you need to create an instance in order to perform your first backup. This automatically creates the following default backupsets, each with a default subclient:

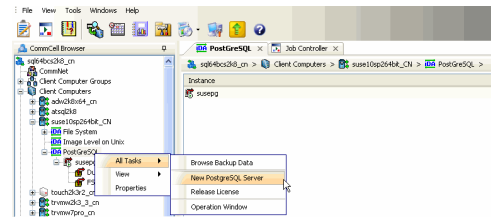
- DumpBasedBackupSet
- FSBasedBackupSet

CREATING AN INSTANCE

This section describes how to create an instance for this iDataAgent in order to perform backup operations.

1. From the CommCell Browser, locate the correct client computer node.

Right-click the agent node for which you want to create a new instance, click **All Tasks**, and then click **New PostgreSQL Server**.



2. Add the following information in the **PostgreSQL Create Instance** dialog:

- Enter the name of PostgreSQL Server in **Server Name**.
- Type the user name to access the Postgres application on a Unix client in the **Postgres User Name** box.

In order to create a PostgreSQL instance, the PostgreSQL user should have Administrator (DBA) and System Administrator (SYSDBA) privileges. Make sure that you have database administrator privileges to access the application.

- Type the Postgres User Account Password and Confirm the Password in **Postgres Account Password** and **Postgres Confirm Password** boxes.
- Type the name of a system database which is used as **Maintenance DB**. A Maintenance database is used for connecting PostgreSQL server. Any database that exists on PostgreSQL can be selected as a Maintenance database. This database should exist in the PostgreSQL server. The Backups and Restores will fail, if the Maintenance database is not existing or dropped.
- Type the path to the Postgres application files in the **Binary Directory** box or click **Browse** to locate the path. For example, `/opt/PostgreSQL/8.4/bin`. Make sure to avoid using special characters such as slash(/), underscore(_), and spaces.
- Type the path to the library directory for the instance in the **Lib Directory** box or click **Browse** to locate the path. For example, `/opt/PostgreSQL/8.4/lib`

Postgres Lib directory path must contain libpq.so file and other related files. This library is used to connect to the database and execute queries. Execute the following command from the bin directory to locate required library path:

```
pg_config --libdir
```

For example:

```
bash-3.2$ cd /opt/PostgreSQL/8.4/bin
```

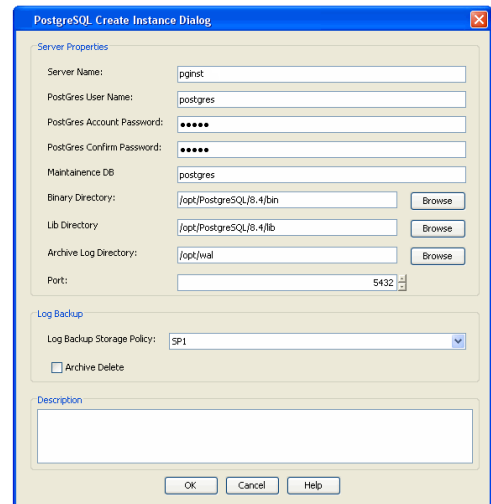
```
bash-3.2$ ./pg_config --libdir
```

```
bash-3.2$ /opt/PostgreSQL/8.4/lib
```

- A separate directory should be created for archive log directory. Type the path to this archive log directory for the instance in the **Archive Log Directory** box or click **Browse** to locate the path. Make sure that this path does not point to the **pg_log** and **pg_xlog** directories. You should have the database administrator privileges (r-w-x) to access this directory.

For example, `/opt/wal`

From PostgreSQL 8.3 version onwards, use the following command to turn on the `archive_mode`. This feature is not supported for PostgreSQL 8.2 and earlier



versions. Also, specify this path in the **postgresql.conf** file prior to performing the PostgreSQL FS backup.

```
archive_mode = on
archive_command = 'cp %p /opt/wal/%f'
```

From PostgreSQL 9.x.x version onwards, use the following configuration:

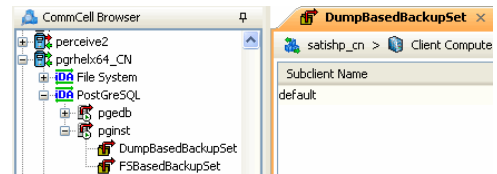
```
Set wal_level = archive instead of default wal_level = minimal
```

- Select the **Port** to open the communication between PostgreSQL Server and Clients.
- Select the **Log Backup Storage Policy** to be used for the transaction log backup jobs under Log Backup section.
- Select **Archive Delete**, if you need to delete the archived log backup files.

Refer Troubleshooting for any issues during the creation of an instance.

3. Click **OK** to save the instance.

The backupsets and subclients necessary for your backup operation are automatically created by default, once you create an instance.



[Back to Top](#)

Configuration - PostgreSQL iDataAgent

Basic | **Advanced**

TABLE OF CONTENTS

Overview

Creating a Subclient to Backup Specific Databases

Modifying an Instance or Subclient

Deleting an Instance or Subclient

Delete an Instance

Delete a Subclient

OVERVIEW

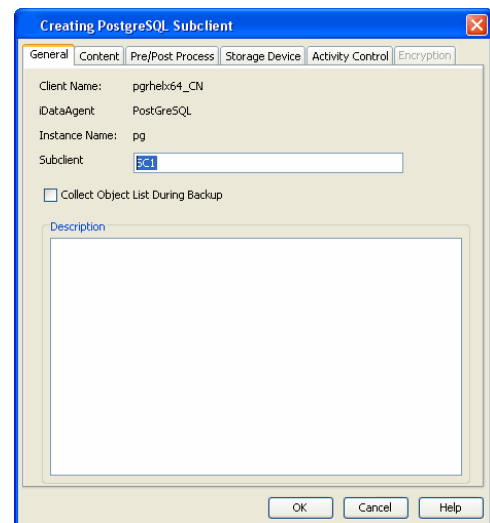
The following sections describe the additional configuration options you can use to further refine the behavior of the PostgreSQL iDataAgent.

CREATING A SUBCLIENT TO BACKUP SPECIFIC DATABASES

This iDataAgent is designed to back up and restore PostgreSQL Server databases and transaction logs. Once you configure the PostgreSQL instance, the system automatically generates the default backupsets and default subclients. However, you can use the CommCell Console to create user-defined subclients for dump based backupsets and distribute some of the database content for frequently used databases. You can create subclients to backup specific databases for dump based backups. Distributing the client data using subclients in this way can help improve backup performance by organizing the workload on the client into logical grouping.

Use the following steps to create a user defined subclient for performing dump based backup operations:

1. From the CommCell Browser, right-click the **DumpBasedBackupSet**, click **All Tasks** and then click **New Subclient**.
2. From the **Subclient Properties (General)** tab, type the name (up to 32 characters) of the subclient that you want to create in the Subclient field.
3. Click the **Subclient Properties (Content)** tab and select the database (s) that you want to associate with this Subclient.
4. Click **Configure** to view, add, or modify the eligible databases for inclusion into the subclient content. Any content that you do not distribute to the user-defined subclients will remain in the default subclient.
5. Click the **Subclient Properties (Storage Device)** tab and select a storage policy to associate with this subclient from the storage policy list.
6. Click **OK**.



MODIFYING AN INSTANCE OR SUBCLIENT

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

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

In certain cases, the instance status will be marked as unknown, either due to connectivity issues between the client and the CommServe or if the database listener service is down. You cannot modify the properties of the instance if there are any connectivity issues between the client and the CommServe.

1. From the CommCell Browser, double-click the agent, instance, or subclient you wish to modify.
Alternatively, you can also right-click the agent, instance, or subclient and then click **Properties**.
2. Navigate to the tab containing the property you wish to modify.
3. Modify the desired property and click **OK**.

The newly created databases will be automatically added to the default subclient.

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

OPTION	DESCRIPTION
Change the User Account Details	<p>To perform backup and restore operations, the user must have administrator privileges to access the application.</p> <p>In the case of backup and restore operations from the CommCell Console, the user credentials to access the application are provided initially when you create the instance. If necessary, the credentials can be modified from the Accounts tab of the Instance Properties dialog box.</p> <p>You can modify the user credentials on clients.</p> <ol style="list-style-type: none"> 1. From the Instance Properties (Accounts) tab, type the user name to access the application from the CommCell Console in the User Name field. 2. Type the <db> User Name in <db> User Name field. 3. Type the <db> Password in <db> Account Password field. 4. Type the <db> Password again in Confirm <db> Account Password field. 5. Click OK to save your settings.
Change the Maintenance Database	<p>You need to assign a database as maintenance database. You can change this database from the instance level.</p> <ol style="list-style-type: none"> 1. From the Instance Properties (General) tab, type the path in the Maintenance DB field. 2. Click OK to save your settings.
Change the Binary Directory	<p>You can change the Binary Directory from the instance level.</p> <ol style="list-style-type: none"> 1. From the Instance Properties (General) tab, type the path in the Binary Directory field or use Browse to locate the path. 2. Click OK to save your settings.
Change the Lib Directory	<p>You can change the Lib Directory from the instance level.</p> <ol style="list-style-type: none"> 1. From the Instance Properties (General) tab, type the path in the Lib Directory field or use Browse to locate the path. 2. Click OK to save your settings.
Change the Archive Log Directory	<p>You can change the Archive Log Directory from the instance level.</p> <ol style="list-style-type: none"> 1. From the Instance Properties (General) tab, type the path in the Archive Log Directory field or use Browse to locate the path. 2. Click OK to save your settings.
Change Port Details	<p>You can view and modify the port for an instance. You might need to change the connect string details in any of the following situations:</p> <ul style="list-style-type: none"> • To connect to the database as a different user. • To modify the password for the user. <p>To view and change the connect details for this iDataAgent:</p> <ol style="list-style-type: none"> 1. From the Instance Properties (General) tab enter the target database port in the Port field. 2. Click OK to save your settings.
Change Storage Policies	<p>You can configure storage policies from the instance level or subclient level.</p> <p>You might need to 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 for command line backup and log backup from the instance level.</p> <ol style="list-style-type: none"> 1. Click Instance Properties (Log Backup) tab and select from the list of existing storage policies for log backups. 2. Select the Archive Delete to delete the archive logs of the specified instance. 3. Click OK to save your settings. <p>You can change the storage policies for data backup from the subclient level.</p> <ol style="list-style-type: none"> 1. Click Subclient Properties (Storage Device) 2. From the Data Storage Policy tab, select a data storage policy to associate with this subclient 3. Click OK to save your settings. <p>Refer to Storage Policies documentation for a comprehensive overview prior to using this feature.</p>
Rename a Subclient	<p>You can rename an existing user-defined subclient.</p> <ol style="list-style-type: none"> 1. From the Subclient Properties (General) tab, type the new name in the Subclient Name field 2. Click OK to save your settings.
Configure 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>To configure data transfer options,</p>

	<ol style="list-style-type: none"> 1. Click the Subclient Properties (Storage Device) tab, and select Data Transfer Option tab. 2. From the Data Transfer Option tab, do the following: <ul style="list-style-type: none"> o Choose the appropriate compression option for this subclient. o Select Throttle Network Bandwidth to set the network bandwidth settings. 3. Click OK
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> <p>From the Data Storage Policy tab, click Data Paths to view the data paths used by the subclient to access the storage media for data protection operations.</p>
Set the number of Streams	<p>You can set the number of streams for log backup from the instance level.</p> <ol style="list-style-type: none"> 1. From the Instance Properties (Log Backup) tab, select the number of data streams from the Number of Data Backup Streams field. 2. Click OK to save your settings. <p>Similarly, you can set the number of streams for data backup from the subclient level.</p> <ol style="list-style-type: none"> 1. From the Subclient Properties (Storage Device) tab, select the number of data streams from the Number of Data Backup Streams field. 2. Click OK to save your settings.
Configure a Subclient for Pre/Post Processing of Data Protection	<p>Pre/Post Scripts are batch files or shell scripts that you can run before or after certain job phases. Currently, Pre/Post Script execution is disabled for the subclients. Even if you specify the pre/post scripts for subclients, the script execution will be skipped. You can view Pre/Post processes for the subclient.</p> <ol style="list-style-type: none"> 1. From the CommCell browser, right-click the subclient. 2. Click Properties. 3. Click Pre/Post Process.
Configure Activity Control	<p>You can enable backup and restore operations from the agent and subclient level. However, you can enable restore operations only from the agent level.</p> <ol style="list-style-type: none"> 1. From the Activity Control tab of the associated Properties dialog box for the instance or subclient, select or clear option(s), as desired. 2. Click OK to save your settings. <p>Refer to Activity Control documentation for a comprehensive overview prior to using this feature.</p>
Configure User Security	<p>You can configure user security from the agent or instance level.</p> <p>You can perform the following functions:</p> <ul style="list-style-type: none"> • Identify the user groups to which this CommCell object is associated. • Associate this object with a user group. • Disassociate this object from a user group. <ol style="list-style-type: none"> 1. From the Security tab of the associated Properties dialog box at the Agent or instance, select the appropriate user groups to which you want to associate to the CommCell object from the Available Groups pane, and then move the user group to the Associated Groups pane. 2. Click OK to save your settings.
Enable/Disable Data Encryption	<p>You can enable data encryption from the instance and subclient level. When accessing the Encryption tab from the instance level, you are selecting either Network and/or Media-side encryption for third-party Command Line operations. When accessing this same tab from the subclient level, the settings selected apply only to the selected subclient content for operations run from the CommCell Console.</p> <p>Consider the following before enabling encryption:</p> <ul style="list-style-type: none"> • Encryption must be enabled at the client level prior to configuring any subclients residing on that client. • If you are attempting to configure for third-party Command Line operations, enable data encryption from the instance level. <p>Encryption can be set from the Encryption tab of the associated Properties dialog box at the instance and subclient level.</p> <p>Refer to the Data Encryption documentation for a comprehensive overview prior to using this feature</p>
View Software Version and Installed Updates	<p>The Version tab, at the Agent level displays the software version and post-release service packs and updates installed for the component.</p>

DELETING AN INSTANCE OR SUBCLIENT

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

When you delete an instance or subclient, 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.

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

DELETE 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, right-click the user-defined subclient that you want to delete, and then click **Delete** from the shortcut menu.
 2. 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.

[Back to Top](#)

Backup - PostgreSQL iDataAgent

Basic Advanced

TABLE OF CONTENTS

Overview

Your First Full Backup

- Running a Full Backup Immediately
- Scheduling a Full Backup

Viewing Backup Job History

OVERVIEW

Once you have created an instance, you can run your first backup operation on the default subclient. The first backup on the default subclient will be a full backup and will include the entire PostgreSQL server.

The PostgreSQL iDataAgent backs up the following types of data:

For Dump Based Backup:

- PostgreSQL system databases
- PostgreSQL user databases

For File System Based Backup:

- PostgreSQL databases (data and logs)
- Log files

Backup operations do not support database names with special characters.

Backups can be run on demand or can be scheduled to be run at a later point of time. The following section explains in detail the procedure to run your first backup operation.

YOUR FIRST FULL BACKUP

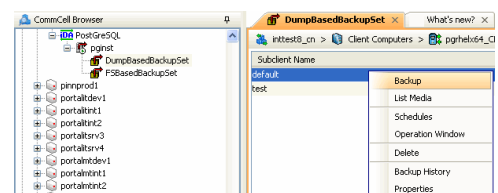
Backups for any client start with a full backup. The full backup becomes a baseline to which subsequent backup types are applied.

A full backup contains all the data that comprises a subclient's contents. If a client computer has multiple agents installed, then the subclients of each agent require a full backup in order to secure all of the data on that client.

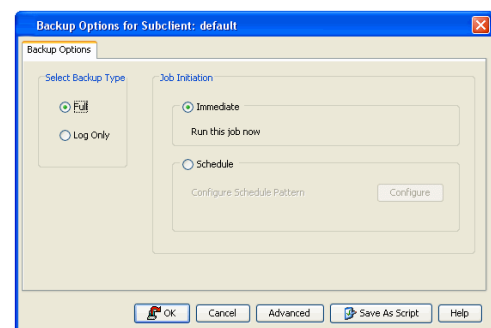
The following sections provide step-by-step instructions for running your first backup, either immediately or at a scheduled time.

RUNNING A FULL BACKUP IMMEDIATELY

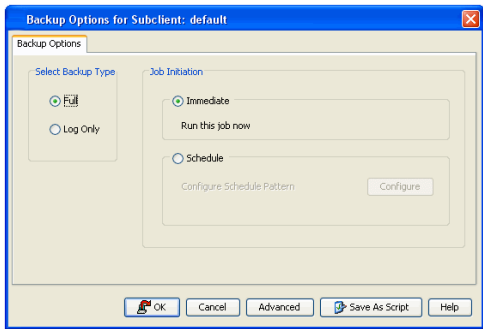
- From the CommCell Browser, right-click the default subclient, and click **Backup**.



- From the **Backup Options** dialog box, select **Full** backup type.



- Select **Immediate** to run the backup operation immediately.

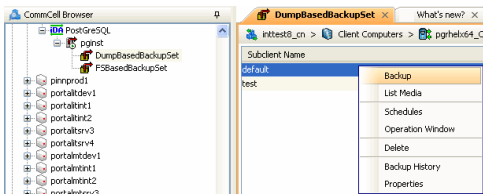


4. Click **OK**. You can track the progress of the backup job from the **Job Controller** window. If you are using a stand-alone drive, you are prompted to load a specific cartridge into the drive. If you are using a library, you will not receive this prompt. The system loads the tapes automatically. Your cartridges should be appropriately labeled. This will enable you to locate the correct cartridge for a restore job, if necessary.

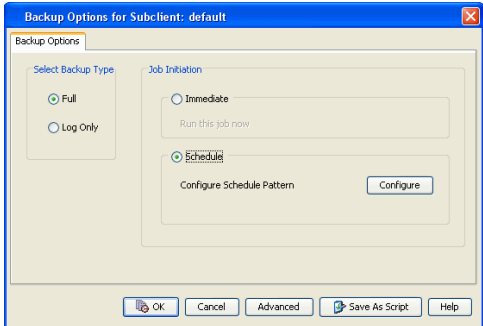
Once completed, the details of the job can be viewed in the **Job History** window.

SCHEDULING A FULL BACKUP

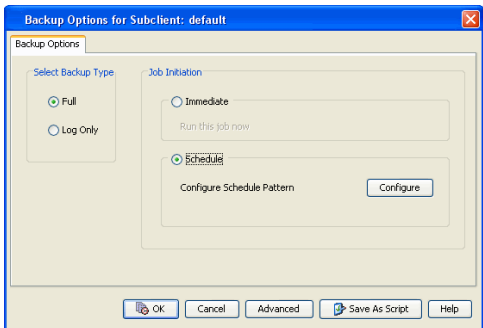
1. From the CommCell Browser, right-click the subclient, and click **Backup**.



2. From the **Backup Options** dialog box, select **Full** backup type



3. Select **Schedule** to schedule the backup for a specific time.



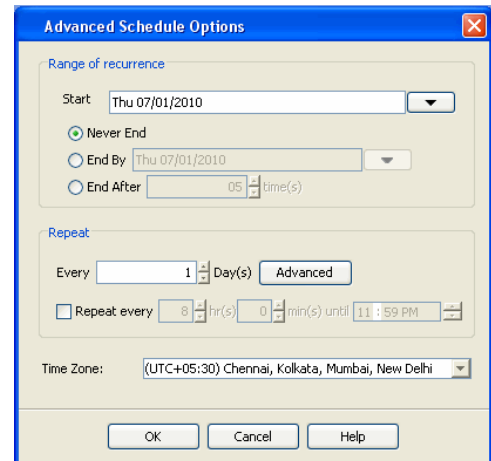
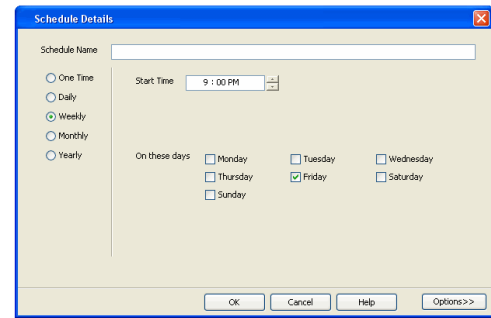
4. Click **Configure** to view the **Schedule details** dialog box. Specify the Schedule Name, Select Time, On these Days and Recurrence options. Click **OK** once all the desired options have been configured.

You can also confirm and/or edit (where applicable) your choices from the **Job Summary** tab. For a monthly or yearly schedule, you can select either a standard calendar or a custom calendar.

5. Click **Options** to view the **Advanced Schedule details** dialog box.

Specify the following options:

- **Range of recurrence:** Select the range of recurrence for the backup job that is scheduled to run.
- **Repeat:** Select the value for which you want to run the job repeatedly on the day in which the job is scheduled to run.
- **Time Zone:** Select a specific time zone from which the job schedule time will be based.



6. Click **OK**.

Your backup operation will execute according to the specified schedule. Once initiated, you can track the progress of the backup job from the **Job Controller** window.

Once completed, the details of the job can be viewed in the **Job History** window.

VIEWING BACKUP JOB HISTORY

Once a backup job has completed, it may be useful to view specific historical information about the job, such as the following:

- Items that failed during the job
- Items that succeeded during the job
- Details of the job
- Media associated with the job
- Events of the job
- Log files of the job.

This information can be viewed in the Job History window, which is accessible at the client computer, iDataAgent, instance, or subclient level in the CommCell Console.

The history provided depends on the entity from which the job history is viewed. For example, viewing job history from the subclient level will yield information for the jobs performed for that subclient. Conversely, viewing job history from the instance level will yield information for jobs run from all subclients within that instance.

To view the backup job history:

1. From the CommCell Browser, right-click the entity (client computer, iDataAgent, instance, or subclient) whose backup history you want to view, click **View**, and then click **View Backup History**.
2. From the Backup History filter window select the filter options, if any, that you want to apply, and then click OK. The system displays the Backup Job History window.
3. Once you have chosen your filter options, they are displayed in the **Backup Job History** window.

To view the additional options discussed above, right-click the desired job choose the appropriate option.

4. Click **OK**.

Back to Top

Backup - PostgreSQL iDataAgent

Basic | **Advanced**

TABLE OF CONTENTS

Overview

Log Only Backups

Performing Log Backups

Managing Jobs

Restarting Jobs

Controlling Jobs

Additional Options

OVERVIEW

The subsequent backups of the dump based backupsets will also be performed as full backups only. For File System backupsets, you can perform either full or Log backups.

Backups can be run on demand or can be scheduled to be run at a later point of time. However, it is always recommended that you schedule your backups at frequent intervals.

The following section describe the additional backup mode and options that are available for this iDataAgent:

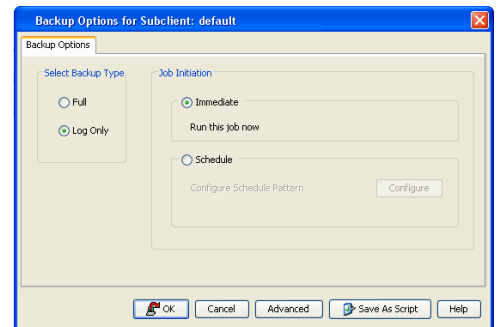
LOG ONLY BACKUPS

Log backups are useful when you want to recover database transactions that have been lost due to an operating system or disk failure. You can apply these logs to an online backup in order to recover a database.

File system backups include both data and logs.

Ensure that the PostgreSQL database is in ARCHIVE mode.

1. From the CommCell Browser, right-click the default File system subclient, and click **Backup**.
2. From the **Backup Options** dialog box, select **Log Only** backup type.
3. Select **Immediate** to run the backup operation immediately. Select **Schedule** to schedule the backup for a specific time.
4. Click **OK**.
5. You can track the progress of the backup job from the **Job Controller** window. If you schedule the backup, your backup operation will execute according to the specified schedule. Once initiated, you can track the progress of the backup job from the **Job Controller** window. Once completed, the details of the job can be viewed in the **Job History** window.



PERFORMING LOG BACKUPS

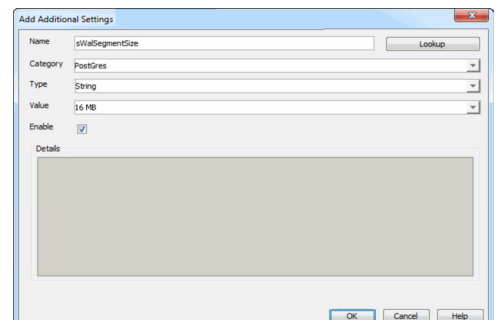
For successful log only backups, it is mandatory that the WAL segment size for PostgreSQL is 16 MB both for Windows and Unix client.

By default, all the versions of PostgreSQL have 16 MB WAL segment size except Postgres Plus Advanced Server v9.0.

Use the following steps to configure the WAL segment size for Postgres Plus Advanced Server v9.0 to 16 MB:

1. From the CommCell Browser, navigate to **Client Computers** node.
2. Right-click the **<Client>**, and then click **Properties**.
3. On the **Client Computer Properties** dialog box, click **Advanced**.
4. Click the **Additional Settings** tab.
5. Click **Add**.
6. In the **Name** box, type sWalSegmentSize. The **Category** and **Type** details will be automatically populated.

Alternatively, you can click **Lookup** and search for the additional setting using the **Find** box.



RELATED TOPICS

Job Management

Provides comprehensive information on managing jobs.

7. In the **Value** box, type the WAL segment size as 16.
8. Click **OK** to save the additional setting configuration.
9. Click **OK**.

MANAGING JOBS

Once you initiate the backup operation, a backup job is generated in the Job Controller. Jobs can be managed in a number of ways. If a Job fails, the dump based backup job will not restart from the beginning, but will resume from the point of failure. However, File System based backups will restart from the beginning.

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. This configuration can be changed at any time; however, changes to this configuration will affect all jobs run in the entire CommCell.

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. In the CommCell Console, click the **Control Panel** icon, then double-click **Job Management**.
2. In the **Job Restarts** tab of the Job Management dialog box, select a job type from the **Job Type** list, and then select the **Restartable** check box.
3. To change the maximum number of times the Job Manager will try to restart a job, select a number in the **Max Restarts** box.
4. To change the time interval between attempts by the Job Manager to restart the job, select a number of minutes in the **Restart Interval (Mins)** box.
5. Click **OK** to save your changes.

CONFIGURE JOB RESTARTABILITY FOR AN INDIVIDUAL JOB

1. From the **Backup Options** dialog box, click **Advanced**, then select the **Job Retry** tab and specify the following as desired:
 - **Total Running Time** - The maximum elapsed time, in hours and minutes, from the time that the job is created.
 - **Number of Retries** - The number of times that Job Manager will attempt to restart the job.
 - **Kill Running Jobs When Total Running Time Expires** - Option to kill the job when the specified Total Running Time has elapsed, even if its state is "Running".
2. 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. Only preemptible jobs can be suspended.
RESUME	Resumes a job and returns the status to Waiting, Pending, Queued, or Running depending on the availability of resources or the state of the operation windows and activity control settings. Backup jobs for this Agent are resumed from the point-of-failure.
KILL	Terminates a job.

These controls can be applied to:

- All jobs in the Job Controller.
- All selected jobs in the Job Controller providing you have the correct security associations at the proper level for each job selected.
- All data protection operations running for a particular client or client/agent.
- All data protection operations running for a particular MediaAgent.

1. From the Job Controller of the CommCell Console, right-click the job and select **Kill**, **Suspend**, or **Resume** as desired.
 - When killing a job:

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.

- When suspending a job:

The job status may change to **Suspend Pending** for a few moments while the operation completes. The job status then changes to **Suspended**.

- When resuming a job:

As the Job Manager attempts to restart the job, the job status changes to **Waiting, Pending, or Running**.

ADDITIONAL OPTIONS

Several additional options are available to further refine your backup operations. These options are available from the **Advanced Backup Options** window.

1. From the CommCell Browser, expand **Client Computers** by double-clicking **Client Computers | PostgreSQL | <instance name>**. The default backupsets are automatically created and displayed under the instance. The default subclients for the backupsets are displayed on the right-hand windowpane.
2. To back up the default subclients or user-defined subclients (for dump based backupset only), right-click the subclient, and click **Backup**.
3. From the Backup Options dialog box, click **Advanced**.

The following table describes the additional options:

OPTION	DESCRIPTION
Startup Options	<p>The start options are accessible from the Startup tab in the Advanced Backup Options window.</p> <p>These options facilitate the startup behavior of the backup job.</p> <p>The Default Priority option dictates the type of job that will be used in determining how the Job Manager will allocate resources for this job.</p> <p>The Change Priority option specifies the priority for the job, between 0 (highest priority) and 999 (lowest priority). The Job Manager will use the priority setting when allocating the required resources. This is useful if you have jobs that are very important and must complete, or jobs that can be moved to a lower priority.</p> <p>The Start up in Suspended State specifies that this job will start in the Job Controller in a suspended state and cannot run until the job is manually resumed using the Resume option. This option can be used to add a level of manual control when a job is started. For example, you could schedule jobs to start in the suspended state and then choose which scheduled jobs complete by resuming the operation started in the suspended state.</p> <p>Refer to the Job Priority and Priority Precedence documentation for a comprehensive overview prior to using these options.</p>
Job Retry Options	<p>The job retry options are accessible from the Job Retry tab in the Advanced Backup Options window.</p> <p>These options enable you to configure the retry behavior of the backup jobs.</p> <ul style="list-style-type: none"> • Total Running Time - The maximum elapsed time, in hours and minutes, from the time that the job is created. When the specified maximum elapsed time is reached, as long as the job is in the "Running" state, it will continue; if the job is not in the "Running" state when the specified time is reached, Job Manager will kill the job. • Number of Retries - The number of times that Job Manager will attempt to restart the job. Once the maximum number of retry attempts has been reached, if the job has still not restarted successfully, Job Manager will kill the job. Note that this job-based setting will not be valid if restartability has been turned off in the Job Management Control Panel. • Kill Running Jobs When Total Running Time Expires - Option to kill the job when the specified Total Running Time has elapsed, even if its state is "Running". This option is available only if you have specified a Total Running Time. <p>Refer to the Job Management documentation for a comprehensive overview prior to using these features.</p>
Start New Media	<p>This option is accessible from the Media tab in the Advanced Backup Options window.</p> <p>This option starts the backup/archive operation on a new media, which causes the following to occur:</p> <ul style="list-style-type: none"> • If removable media is used, the current active media is marked as Appendable and a new media is used for the backup/archive. • If disk media is used, a new volume folder is created for the backup/archive. <p>If cleared, the operation automatically uses the current active media or volume.</p> <p>This media management feature provides a degree of control over where the data physically resides, for example helping you to meet security or performance goals. This feature is useful in situations where you would like the data to reside on a new media, not appended to a media already containing backup/archive data.</p> <p>Refer to the Creating an Exportable Media Set section of the Export Media documentation for a comprehensive overview prior to using this feature.</p> <p>Another form of the Start New Media option is available from the library properties. Refer to the Start New Media section of the Library Properties documentation for a comprehensive overview.</p>
Mark Media Full	<p>This option is accessible from the Media tab in the Advanced Backup Options window.</p> <p>This option marks media full, 2 minutes after the completion of the backup/archive operation. If any jobs are initiated within the 2 minutes, they are allowed to write to the media. If the job was associated with the prior media, new media (such as a new tape) will be used for subsequent jobs. (Applies to all backup/archive types.)</p> <p>This media management feature provides a degree of control over where the data physically resides, for example helping you to meet security or performance goals. This feature prevents any other data from being written to the</p>

	<p>media. If the job was associated with the prior media, new media (such as a new tape) will be used for subsequent jobs. (Applies to all backup/archive types.)</p> <p>Refer to the Create an Exportable Media Set section of the Export Media documentation for a comprehensive overview prior to using this feature.</p> <p>Refer to the Export Media documentation for a comprehensive overview prior to using this feature.</p>
Allow other Schedules to use Media Set	<p>This option is accessible from the Media tab in the Advanced Backup Options window.</p> <p>This option allows jobs that are part of a schedule policy or schedule and using a specific storage policy to start a new media and also prevent other jobs from writing to the set of media. It is available only when the Start New Media and Mark Media Full options are enabled, and can be used in the following situations:</p> <ul style="list-style-type: none"> • When one scheduled job initiates several jobs and you only want to start new media on the first job. • When you want to target specific backups to a media, or a set of media if multiple streams are used. <p>Refer to the Creating an Exportable Media Set section of the Export Media documentation for a comprehensive overview prior to using this feature.</p>
Data Path Options	<p>The data path options can be accessed from the Data Path tab in the Advanced Backup Options window.</p> <p>Data can be backed up to any compatible library and drive type in the CommCell. By default the system automatically identifies the data path for backup operations as configured in the CommCell. You can change this data path at the backup level by selecting a specific MediaAgent, library or drive pool in the Advanced Backup Options dialog. The data path change can be specified at the backup, schedule and the schedule policy levels. Note that the data path changes specified are only applicable only for the specific backup job/backup schedule.</p> <p>Ensure that the specified MediaAgent and the library or drive pool are available and accessible, failing which the job will go into Pending state; failover protection does not apply here. Also, note that this setting overrides all other settings, including the data path settings at the Storage Policy, Subclient and the alternate data path (Gridstor).</p> <p>The change data path options are useful in the following situations:</p> <ul style="list-style-type: none"> • The preferred MediaAgent, library or drive pool is not available during the backup. • You wish to use a different MediaAgent, library or drive pool for load balancing purposes. • You wish to direct that backup to a particular location for compliance purposes. <p>Refer to Change Data Path documentation for a comprehensive overview prior to using this feature.</p>
Vault Tracker	<p>You can access the vault tracking options from the Vault Tracker tab in the Advanced Backup Options window.</p> <p>Several Vault Tracking options are available to export and track media. These options are available only when a Vault Tracker license is available in the CommServe, and are only applicable for data protection operations using a storage policy associated with a library containing removable media (e.g., tape, optical or stand-alone.)</p> <p>Refer to the following documentation for a comprehensive overview prior to using this feature:</p> <ul style="list-style-type: none"> • VaultTracker if a standard CommServe license is available. • VaultTracker Enterprise if the VaultTracker Enterprise license is available.
Alerts	<p>You can configure alerts for the specific backup job from the Alert tab in the Advanced Backup Options window.</p> <p>Refer to Alerts documentation for comprehensive overview prior to using this feature.</p>

[Back to Top](#)

Restore - PostgreSQL iDataAgent

Basic | Advanced

TABLE OF CONTENTS

Overview

Your First Restore

- Basic Restore
- Browse and Restore

Viewing Restore Job History

View Restored Items Associated With a Restore Job

OVERVIEW

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

Restores can be run on-demand or can be scheduled to be run at a later point of time. The following sections explain the procedure to perform your first restore operation.

YOUR FIRST RESTORE

The restore operation can be done using one of the following methods:

- Basic Restore, which is useful when you want to restore and recover an entire database with logs or just the logs or control file.
- Browse and Restore, which is useful when you need to locate and restore specific data files or table spaces.

For this first simple restore, let us perform an out-of place restore of your entire PostgreSQL server. If desired, you can perform subsequent test restores as desired. Refer to the Advanced documentation for information on other types of restoring data.

BASIC RESTORE

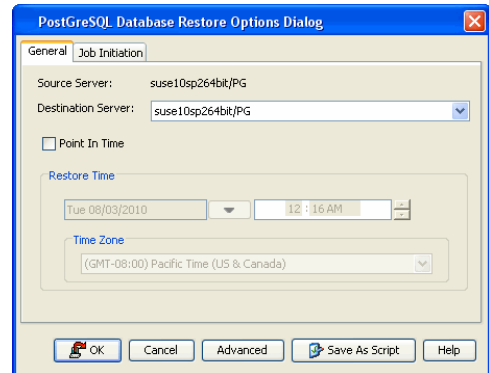
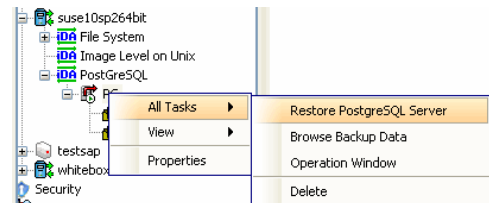
To perform a basic restore of the entire database, do the following:

- From the CommCell Browser, right-click the instance, select **All Tasks**, and then click **Restore PostgreSQL Server**.
- From the **Restore Options (General)** tab, select the name of the client computer with the database you want to restore in the **Destination Server** from the list.
- If you need to run the restore operation immediately, select **Immediate** from the **Job Initiation** tab.
Go to step 8.

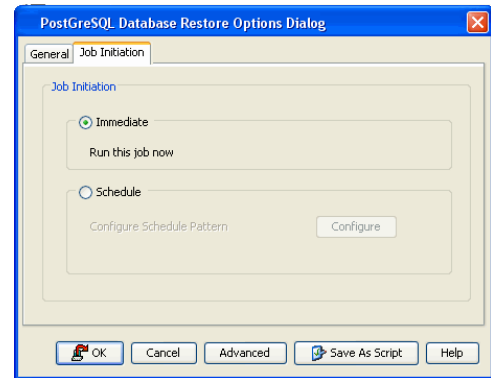
RELATED TOPICS

Capabilities and Required Actions

Provides comprehensive information on licensing.

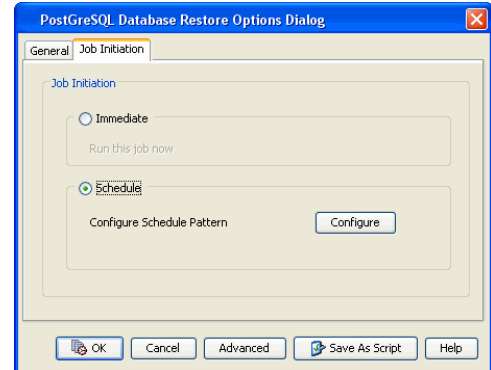


- If you need to schedule the restore operation, select **Schedule** from the Job Initiation tab and click **Configure**.



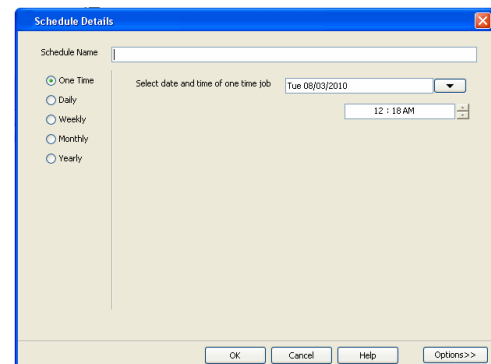
- From the **Schedule Details** dialog box that appears, select the appropriate scheduling options.

Click **Options** to view the **Advanced Schedule Options** dialog box.



- From the **Advanced Schedule Options** dialog box, select a specific time zone from which the job schedule time will be based.

Click **OK** to close the **Advanced Schedule Options** dialog box.

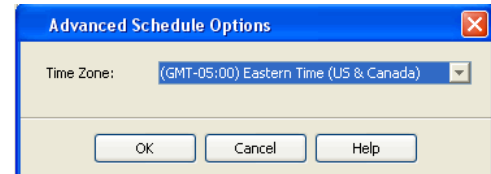


- Click **OK**.

- Click **OK** to perform the **Restore** operation.

You can track the progress of the restore job from the **Job Controller** window.

You can view the details of the job in the **Job History** window, once the restore is completed.

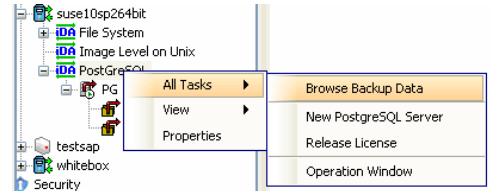


BROWSE AND RESTORE

To browse and restore the entire database:

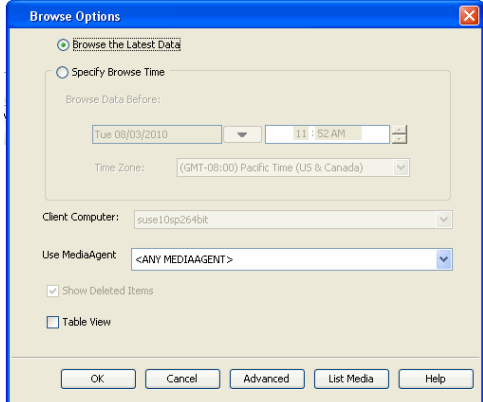
- From the CommCell Browser, right-click the level whose data you want to browse, click **All Tasks**, and then click the **Browse Backup Data** option from that level.

- From the **Browse Options** dialog box, click **OK** to execute the browse using the **Browse the Latest Data** option.

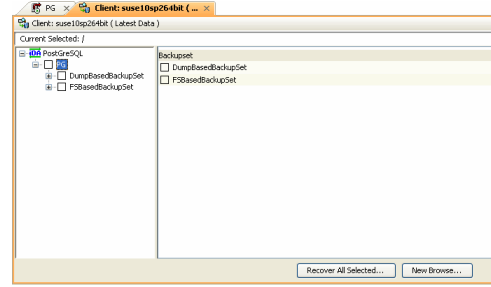


- The **Browse** window is displayed, containing data objects such as files, folders, databases, etc. and consists of two parts:
 - The left pane displays the object tree at the selected level.
 - The right pane displays the contents of the selected object.

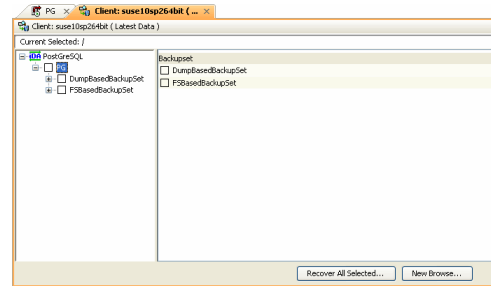
Note that the window displays only the data that was obtained by a data protection operation. Data that is excluded by a filter, or data which did not exist as of the specified browse time does not appear in the window.



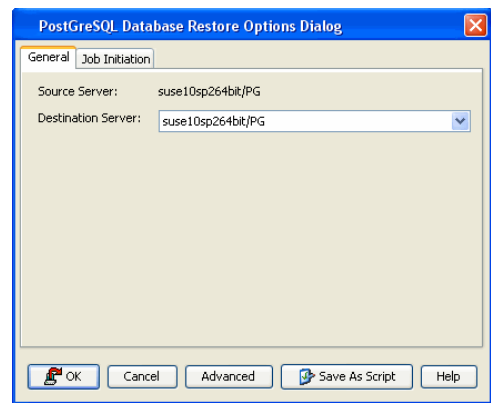
- Under an instance node, either select the DumpBasedBackupSet or the FSBasedBackupSet in the left pane. You can also browse to select any backupset of your choice.
Click **Recover All Selected** at the bottom of the window.



- For Dump based backupset, select the name of the client server with the database to restore in the **Destination Server** from the list available in the **Restore Options (General)** tab.

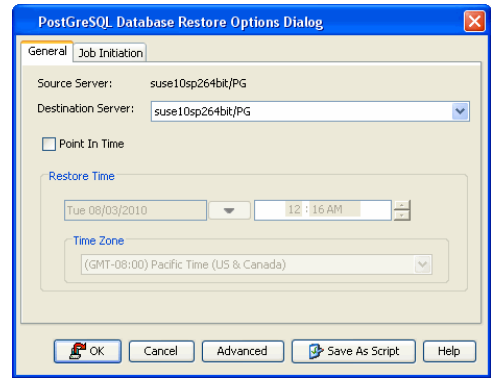


- For File System based backupset, select the name of the client server with the database to restore in the **Destination Server** from the list available in the **Restore Options (General)** tab.

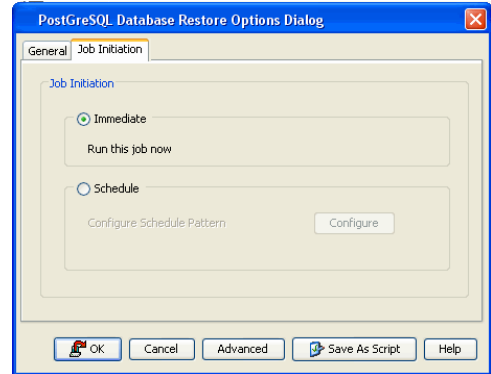


- 7. If you need to run the backup operation immediately, select **Immediate** from the **Job Initiation** tab.

Go to step 12.

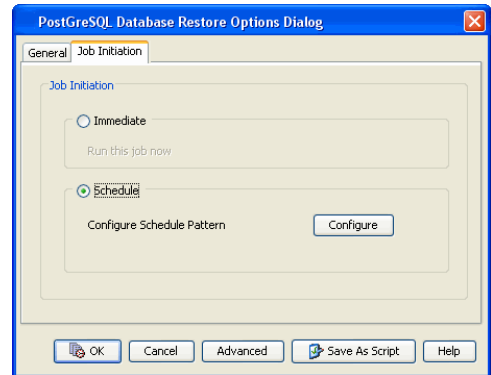


- 8. If you need to schedule the restore operation, select **Schedule** from the Job Initiation tab and click **Configure**.



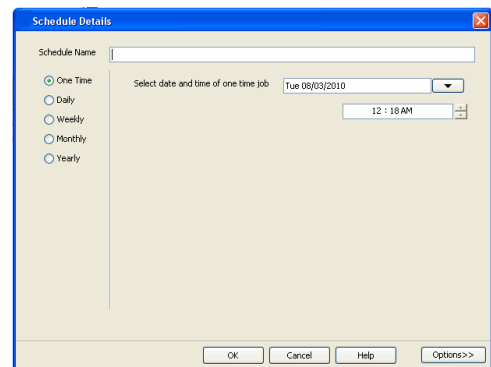
- 9. From the **Schedule Details** dialog box that appears, select the appropriate scheduling options.

Click **Options** to view the **Advanced Schedule Options** dialog box.

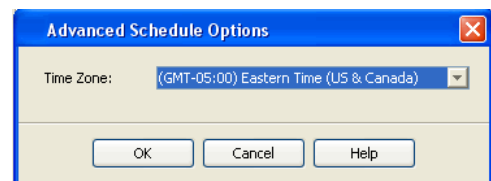


- 10. From the **Advanced Schedule Options** dialog box, select a specific time zone at which the job schedule time will be based.

Click **OK** to close the **Advanced Schedule Options** dialog box.



- 11. Click **OK** to close the **Schedule Details** window.



12. Click **OK** to close the **Restore Options** window.

You can track the progress of the restore job from the **Job Controller** window.

You can view the details of the job in the **Job History** window, once it is completed.

VIEWING RESTORE JOB HISTORY

Once a restore job has completed, it may be useful to view specific historical information about the job, such as the following:

- View Restore Items; items in the job that were **Successful, Failed, Skipped** or **All**.
- View Job Details
- View Events of the restore job.
- View Log files of the restore job.

This information can be viewed in the Job History window, which is accessible at the client computer, iDataAgent, instance, or subclient level in the CommCell Console.

The history provided depends on the entity from which the job history is viewed. For example, viewing job history from the instance level will yield information for the jobs performed for that instance. Conversely, viewing job history from the agent level will yield information for jobs run from all subclients within that instance.

VIEWING RESTORED ITEMS ASSOCIATED WITH A RESTORE JOB

1. From the CommCell Browser, right-click the entity (e.g., instance, client computer, etc.) whose job restore history you want to view, click **View**, and then click **Restore History**.
2. From the **Job History** filter window, select the filter options, if any, that you want to apply, and then click **OK**.
3. From the **Job History** window, right-click the job whose restored items you want to view; click **View Restore Items**, and select from the type of items to view: **Successful, Failed, Skipped** or **All**.
4. The **Restored Files** window will display the selected type of restored items for the job.
5. Click **OK**.

[Back to Top](#)

Restore - PostgreSQL iDataAgent

Basic | Advanced

TABLE OF CONTENTS

Overview

- Restore_Destinations
- In-Place Restore
- Out-of-place Restore
- Cross Machine Restore

Restore Operations

- Restoring Entire Server
- Restoring Individual Databases
- Point In Time Restores
- Table Restores

Browse Data

- Selecting Objects From the Browse Window for Restore
- Controlling the Browse Time Interval
- Browsing Data Associated with Specific Jobs
- Global Browse / Restore Options
- Browse Error Reporting
- Browsing and Restoring Using a Specific MediaAgent, Library or Drive Pool
- Browsing and Restoring From Copies

List Media

- Listing Media For a Subclient
- Listing Media For a Backup Set or Instance

Restore by Jobs

Manage Restore Jobs

- Restart Jobs
- Resubmit Jobs
- Control Jobs

Additional Restore Options

OVERVIEW

There will be situations when you need to restore either the entire database that was lost due to a system failure or hardware malfunction or recover specific portions of the data that was corrupted. Depending on your requirement, you can perform a basic restore or browse and restore to retrieve the lost data. In addition, you can also use several alternate restore methods to restore the required data.

You can perform restore operations to recover an entire database or specific data that was lost due to a system failure or hardware malfunction. This iDataAgent supports the following types of restores:

- Restore entire PostgreSQL server (File System)
- Restore individual PostgreSQL databases (dumps)
- Restore transactionlogs

You can restore data immediately or schedule them to restore automatically. The schedule restore set when the client computer is not in use and network utilization is low helps the restore be faster.

RESTORE DESTINATIONS

By default, the iDataAgent restores data to the client computer from which it originated; this is referred to as an in-place restore. You can also restore the data to another client computer in the CommCell. Keep in mind the following considerations when performing such restores:

- The destination client must reside in the same CommCell as the client whose data was backed up.
- Note that when you perform restores other than in-place restores, the restored data assumes the rights (i.e., permissions) of the parent directory.

The following section enumerates the types of restore destinations that are supported by this iDataAgent.

IN-PLACE RESTORE

When restoring data, the iDataAgent provides the facility to restore the data to the same path/destination on the client computer from which the data originated; this is referred to as an in-place restore.

OUT-OF-PLACE RESTORE

All restore levels provide the facility to restore data to a different directory on the client computer from which the data originated; this is referred to as an out-

RELATED TOPICS

Capabilities and Required Actions

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of-place restore to a different path/destination. You can also restore data to a different client computer in the CommCell using the same path/destination. This can include restoring either individual data files or tablespaces, or the entire database to another computer.

Keep in mind the following considerations when performing out-of-place restores:

- The destination client must reside in the same CommCell as the client whose data was backed up.
- Note that when you perform an out-of-place restore, the restored data assumes the rights (i.e., permissions) of the parent directory.

CROSS MACHINE RESTORES

If the original client computer is damaged, you need to restore the PostgreSQL database to a different host. This is called cross-machine restore. Whenever you perform cross machine restore, ensure that the destination machine has sufficient disk space to restore the database.

This iDataAgent provides the facility to restore the data associated with different versions of the operating system. For example, you can restore file system data secured from a Solaris 7 client computer to a client computer with Solaris 8.

If you plan to do a full system restore on a Windows Server with x64 platform, use an x64 iDataAgent for backup. You cannot do a full system restore on an x64 platform if you are using a 32-bit iDataAgent.

RESTORE OPERATIONS

This iDataAgent supports the following types of restore operations:

- Restore entire PostgreSQL Server (File System Based)
- Restore individual PostgreSQL databases (dumps)
- Point-in-time restores
- Table level Restores

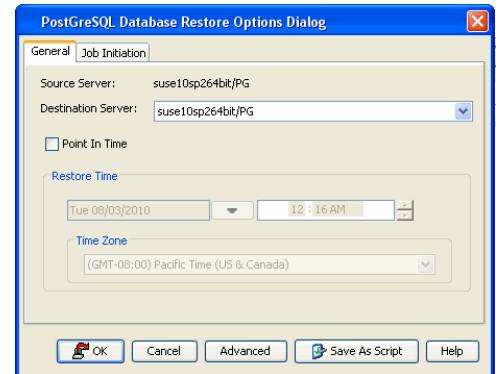
RESTORING ENTIRE SERVER

You need to restore the server with its data and logs and recover it back to the current state if the server is corrupted. However, to recover the database, you also need to restore the logs. Both the data and the logs can be restored using the File System backupsets. You can perform the in-place or out-of-place restores to recover the server.

Before performing the File System restore to recover the entire PostgreSQL server, you need to stop the PostgreSQL server and ensure that the wal and data directories need to be deleted or renamed. Restore File System backups of same version of PostgreSQL and not from higher to lower or lower to higher.

1. From the CommCell Browser, right-click the instance, select **All Tasks** then click **Restore PostgreSQL Server**. Alternatively, right-click the **FSBasedBackupset**, click **All Tasks** and then click **Browse Backup Data** to perform a restore PostgreSQL Server.
2. From the **PostgreSQL Database Restore Options** dialog, select the name of the client computer to which you want to restore as the **Destination Server** from the list.
3. Select the advanced restore options such as startup priorities, copy precedence, datapaths, encryption options and alerts as per your requirement.
4. Select **Immediate** or **Schedule** from the **Job Initiation** tab.
5. Click **OK** to continue with the restore procedure.
6. After restoring the File System backups, the PostgreSQL server restarts with default configuration. To start the server with the specific configuration, stop the server and start it manually with user specific configuration. Use the following command to manually start the PostgreSQL server:

```
su - postgres -c '/opt/PostgreSQL/8.x/bin/pg_ctl -w -D /opt/PostgreSQL/8.x/data start -l /tmp/postgresLog5432'
```

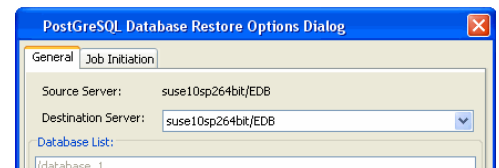


RESTORING INDIVIDUAL DATABASES

You can restore the individual databases (dumps) that are specifically created using dump based backup sets. If the Database you are trying to restore is already existing in the PostgreSQL server, then make sure that you are not connected to the database. The system will drop the existing database before restoring it. If you are connected to the database, dropping the database will fail. As a result, the restore job fails.

Before performing the dump based restore operations, verify the following:

- Disconnect the database(s) prior to restoring the database(s).
 - Restore the same versions or from lower to higher versions of databases.
1. From the CommCell Browser, right-click the level whose data you want to browse, click **All Tasks**, and then click the **Browse Backup Data** option from that level.
 2. From the **Browse Options** dialog box, click **OK** to execute the browse using the **Browse the Latest Data** option.



- From the **Browse** window, select the instance node in the left pane and browse and select the required database(s) to be restored from the right pane.
- Click **Recover All Selected** at the bottom of the window.
- From the **PostgreSQL Database Restore Options** dialog, select the name of the client computer with the database to restore in the **Destination Server** from the list. The selected database is displayed in **Database List**.
- Select **Immediate** or **Schedule** from the **Job Initiation** tab.
- Click **OK** to continue with the restore procedure.

POINT IN TIME RESTORES

Point In Time Restores allows you to restore the backup created at or before the specified point in time. You can restore and recover an entire database to a point in time from an instance level and File System Based Backup Set level.

- You need to stop the PostgreSQL server before performing the File System restore to recover the entire PostgreSQL server to a point in time.
 - Make sure to delete or rename the wal and data directories.
 - Restore the File System backups of same version of PostgreSQL and not from higher to lower or lower to higher.
- From the CommCell Browser, right-click the instance, select **All Tasks** then click **Restore PostgreSQL Server**. Alternatively, right-click the **FSBasedBackupset**, click **All Tasks** and then click **Browse Backup Data** to perform a Point In Time restore operation.
 - From the **PostgreSQL Database Restore Options** dialog, select the name of the client computer to which you want to restore as the **Destination Server** from the list.
 - Select **Point In Time** option and specify **Restore Time** and **Time Zone** to restore the database. In this option, the backups are restored to the specified date, time and time zone.
 - Select **Immediate** or **Schedule** from the **Job Initiation** tab.
 - Click **OK** to continue with the restore procedure.

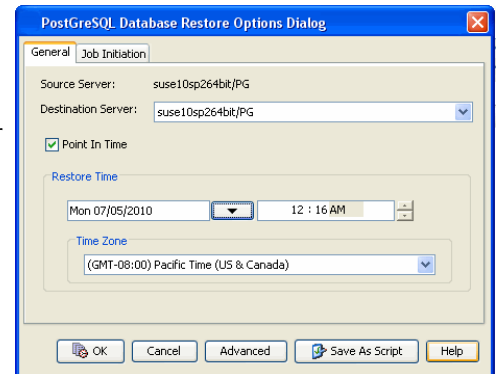


TABLE RESTORES

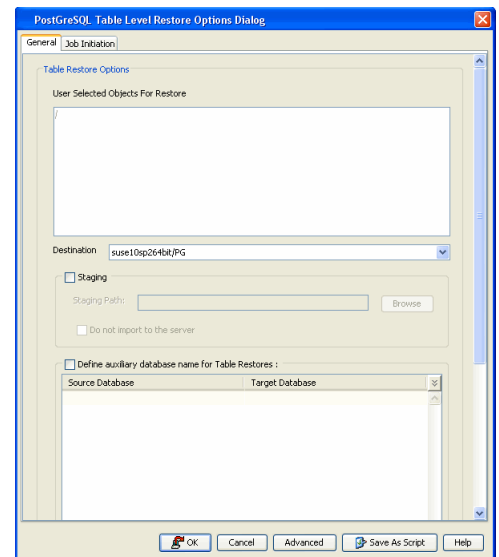
To restore individual PostgreSQL database tables, select the individual tables from the list of database tables in a tree view and restore them to a destination location.

Before performing the table restore operations, verify the following:

- Select the parent tables along with all the dependant tables for a successful restore operation.
- If the tables containing the large objects (blobs), use database restores instead of table level restores.
- Use dump based database restore to restore all the tables in a database. If you still use table level restore, the restore job may not successfully restore all the tables to destination database. In place table restores may fail in certain conditions due to inherent limitations of PostgreSQL database.
- Ensure that the tables to be restored are not having any user defined data types.

PostgreSQL Table View Browse and Table Restore are supported only for DumpBasedBackupSets.

- From the CommCell Browser, right-click the **DumpBasedBackupset** that contains the tables you want to restore. Click **All Tasks** and then click **Browse Backup Data**.
- From the **Browse Options** dialog box, select **Table View**.
- Click **OK**.
- In the Browse window, select the tables to be restored and click **Recover All Selected**.
- From the **PostgreSQL Table Level Restore Options** Dialog box, select the destination path or provide a staging path to export table data to any external location or import it to the server.
- If there is auxiliary database associated to the table restores, define the auxiliary database name.
- Click **OK** to continue with the restore procedure.



BROWSE DATA

The option to browse the backup data provides the facility to view and if necessary, selectively restore/recover the data that was backed up. This option is

especially useful to search for specific data, which includes a specific version of the object.

The browse option can be invoked from the client, agent, instance, backup set, or subclient level depending on the functionality of a given agent. This helps to narrow the search to a specific part of the data.

Depending on the agent, there are several additional options to customize your browse, including:

- Capability to browse the most recent (latest) data.
- Capability to browse data in a specified time range.
- Capability to limit the browse to a specified path.
- Facility to specify the page size of the browse window.
- Ability to browse the image of the data as it existed at the specified browse time.
- Ability to browse from a specified storage policy copy.
- Ability to browse folders/files owned by specific users.

After selecting the necessary browse options, the browse window provides a list of data objects that meets the specified criteria. This window also provides the capability to select multiple or specific data object(s) that you wish to restore/recover.

Note that most of the Unicode / International characters are automatically displayed in the browse window. If these characters are not displayed, make sure that the necessary fonts or other software required to display these characters are installed on the computer in which the CommCell Console is displayed. For example, if you run the CommCell Console as a web-based application, make sure that the necessary fonts or other software required to display the characters are installed on the local computer from which the Console is run.

If necessary, you can also perform the following operations in the browse window, depending on whether the agent supports the operation:

- Search the data using the Find option to restore/recover specific data objects.
- View and restore/recover multiple version(s) of data objects.

Use the following steps to browse data:

1. From the CommCell Browser, right-click the client, agent, backup set or instance, or subclient, click **All Tasks**, and then click the **Browse/Browse Backup Data** option from that level.
2. From the **Browse Options** dialog box, click **OK**.

The Browse window will be displayed.

SELECTING OBJECTS FROM THE BROWSE WINDOW FOR RESTORE

The browse window displays data objects such as files, folders, databases, mailbox, etc. 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 tree.

Note that the window displays only the data that was obtained by a data protection operation. 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.

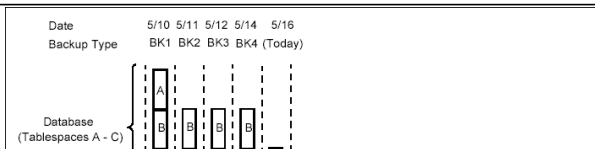
The buttons in this dialog box include the following:

Recover All Selected	Provides access to the Restore Options dialog box which allows you to control how the selected data must be restored.
New Browse	Provides access to the Browse Options dialog box which allows you to re-browse with new browse settings.

CONTROLLING THE BROWSE TIME INTERVAL

The browse operation provides you with the ability to **Browse the Latest Data** or **Browse to Point-in-Time**. The **Browse the Latest Data** option is selected by default. This option returns a list of objects that existed any time and have a backup at the time the command is issued.

You can browse to a point-in-time by specifying the date and time in the **Browse To Point-in-Time** box. The list returned in the Browse window includes all objects which were backed



up before the specified date and time.

A table space or data file must have been backed up during the specified browse time span for it to be listed in a browse. If a table space or data file was created and deleted and no backup was performed it will not show up in the browse window.

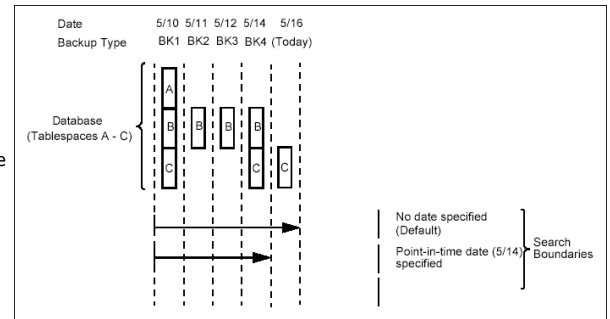
THE TIME-OF-DAY ELEMENT

The specifications for **Exclude Data Before** options include not only the date, but the time-of-day (i.e., hours and minutes) as well.

Specifying the time is necessary when isolating a backup on a date on which two or more backups occurred. (Note that this condition can occur even if backups are scheduled only once a day. For example, someone may have launched a backup using the Run Immediately option in addition to a scheduled backup. Also, depending on the size of a backup and the time it is scheduled to begin, a backup can start on one date and complete on the next, since the backup need only span 12:00 midnight.)

In determining whether to include a backup in a search, the system uses the time that a backup completes. The **Exclude Data Before** option causes the system to begin its search on the backup that completed after the specified date and time, unless it encounters a full backup first.

The diagram on your right shows the minimum and maximum times that can be given for the **Browse Data Before** and **Exclude Data Before** options in order to define the search boundaries as shown. Notice that the point of delineation is the backup completion time, 2:25am in this case.



BROWSE LATEST DATA

1. From the CommCell Browser, right-click the level whose data you want to browse, click **All Tasks**, and then click the **Browse/Browse Backup Data** option from that level.
2. From the **Browse Options** dialog box, click **OK** to execute the browse using the **Browse the Latest Data** option.

BROWSE DATA BY SPECIFIC TIME RANGE

1. From the CommCell Browser, right-click the level whose data you want to browse, click **All Tasks**, and then click the **Browse/Browse Backup Data** option from that level.
2. From the **Browse Options** dialog box, select the **Specify Browse Time** option and then select the date and time to which you wish to view the data in the browse window.
3. Change the time zone for the specified date and time, if necessary.
4. Click **OK** in the Browse Options dialog box to execute the browse.

BROWSE DATA BETWEEN A SPECIFIED TIME RANGE

1. From the CommCell Browser, right-click the level whose data you want to browse, click **All Tasks**, and then click the **Browse** option from that level.
2. From the **Browse Options** dialog box, select the **Specify Browse Time** option and then select the date and time to which you wish to view the data in the browse window.
3. Change the time zone for the specified date and time, if necessary.
4. Click the **Advanced** button.
5. In the **Advanced Browse Options** dialog box select the **Exclude Data Before** option and then select the date and time from which you wish to view the data in the browse window.
6. Click **OK** in the Advanced Browse Options dialog box.
7. Click **OK** in the Browse Options dialog box to execute the browse.

BROWSING DATA ASSOCIATED WITH SPECIFIC JOBS

You can browse and restore data associated with specific backup jobs. You can do this from the backup history window as follows:

1. From the CommCell Browser, right-click the entity (client computer, iDataAgent, backup set or subclient) whose backup history you want to view, click **View**, and then click **View Backup History**.
2. From the **Backup History** filter window select the filter options, if any, that you want to apply, and then click **OK**.
3. From the **Backup Job History** window, right-click on a job (of a supported agent type) and click **Browse**.

GLOBAL BROWSE / RESTORE OPTIONS

Certain browse options can be set globally, to enable it as the default option. Such options include the following:

- **Displaying Aged Data during Browse**
Aged data which are available on media can be included in the browse operation and subsequent recovery if needed.
Refer to *Accessing Aged Data* documentation for detailed information on this feature.
- **Using Exact Index for Browse**
Use this option to browse data restore and use the index from the specified point-in-time instead of from the last-in-cycle backup. This is useful in situations when you want to restore data from specific media.
- **Disabling Confirmation Message for Restore Jobs**
Confirmation messages for restore jobs can be turned off using this option.
- **Automatically Switching the Copy to Read Data from any Copy**
Use this option to automatically change the copy precedence if the primary copy is unreachable during browse and restore operations.

Follow the steps below to enable these options:

1. From the CommCell Browser, right-click the CommServe, and select **Control Panel**.
2. From the **Control Panel**, select the **Browse/Search/Recovery** option.
3. From the **Browse/Search/Recovery Option** dialog box, select the options you want enabled during the browse and recover operations.
4. Click **OK**.

BROWSE ERROR REPORTING

During a Browse operation, if one of the following error conditions occurs, an accurate problem description will be reported in the **Browse** window. This is extremely useful for troubleshooting.

- MediaAgent Offline
- Index Cache Inaccessible
- Offline Requested Data Not Found

BROWSING AND RESTORING USING A SPECIFIC MEDIAAGENT, LIBRARY OR DRIVE POOL

Data can be restored/recovered from any compatible library and drive type in the CommCell. By default the system automatically identifies and restores/recovers 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. Data Recovery operations use a specific data path - MediaAgent, Library and Drive Pool - to perform the restore operations. When the default options are selected, the system automatically chooses the most appropriate data path. For comprehensive information on choosing an alternate data path, see *Alternate Data Paths*.

In some situations you may want to use another data path to perform a data recovery operation. In such a situation, you can specify the MediaAgent, Library and/or the Drive Pool.

Consider the following examples:

- You may want to use a specific MediaAgent to perform the browse and restore operation instead of the system selected default MediaAgent. For example, the default MediaAgent may be busy and you wish to use another MediaAgent which is idle, or you know the library attached to a specific MediaAgent contains the media associated with the data you wish to restore.
- The default MediaAgent may have a problem accessing the devices (library, drive) and hence you wish to use another MediaAgent sharing the library to perform the browse and restore operation.

This feature is applicable only for tape/optical libraries. The operation will fail if the requested data is not available in the disk library attached to the specified MediaAgent.

CONSIDERATIONS FOR BROWSING DATA

When you perform a browse operation, the system returns the list of files requested by the browse by reading the most recent version of the index in the MediaAgent. If the index is either not available in the MediaAgent's index cache, or not accessible to browse/restore operation then it is restored to the selected MediaAgent from any available MediaAgent. If the MediaAgent used for Browse happens to have visibility to the media then that MediaAgent is used for the browse operation. The same MediaAgent will also get selected in the subsequent restore options. If necessary you can change the MediaAgent in the subsequent restore operation.

BROWSE AND RESTORE USING A SPECIFIC MEDIAAGENT

1. From the CommCell Browser, right-click the agent or instance that contains the data you want to browse, click **All Tasks** and then click **Browse Backup Data**.

2. From the **Browse Options** dialog box, choose the MediaAgent that must be used to perform the browse, from the **Use MediaAgent** drop-down box.
3. If necessary, select the other additional options available in the dialog box.
4. Click **OK** to execute the browse.

RESTORE DATA USING A SPECIFIC MEDIAAGENT, LIBRARY OR DRIVE POOL

1. From the CommCell Browser, right-click the agent or instance that contains the data you want to browse, click **All Tasks** and then click **Browse Backup Data**.
2. From the **Restore Options** dialog box, click **Advanced**.
3. From the **Advanced Restore Options (Data Path)** tab, select the **MediaAgent, Library or Drive Pool** that you wish to perform the restore.
4. Click **OK**.

BROWSING AND RESTORING FROM COPIES

By default, when a browse and restore/recover/retrieve operation is requested, the software attempts to browse and restore/recover/retrieve from the storage policy copy with the lowest copy precedence. If the data that you want to browse and restore/recover/retrieve was already pruned from the primary copy, the software searches the other copies of the storage policy in the following order:

1. Lowest copy precedence to highest copy precedence among all synchronous copies.
2. Lowest copy precedence to highest copy precedence among all selective copies (if your agent supports selective copies).

If the data that is to be browsed and restored/recovered/retrieved was secured through multiple storage policies, the software will search for the requested data first from the copy with the lowest copy precedence number to the copy with the highest copy precedence number in the storage policy.

BROWSING AND RESTORING DATA FROM A SPECIFIC COPY

1. From the CommCell Browser, right-click the level whose data you want to browse, click **All Tasks**, and then click the **Browse** option from that level.
2. From the **Browse Options** dialog box, click **Advanced**.
3. In the Advanced Browse Options dialog box select the **Browse from copy precedence** option.
4. Specify the precedence number in **Copy Precedence**.
5. Click **OK** in the Advanced Browse Options dialog box.
6. Click **OK** in the Browse Options dialog box to execute the browse. The Backup Data browse window appears.
7. From the Backup Data browse window, select the objects that you want to restore, and then click **Recover All Selected**. The Restore Options dialog box appears.
8. From the Restore Options dialog box, select the desired restore options. If desired, click **Advanced** to choose additional restore options.
9. Click **OK** from the Restore Options dialog box to begin the restore operation.

For comprehensive information on restoring data from copies, see Browse and Restore/Recover/Retrieve from Copies.

LIST MEDIA

List media option is useful to predict media required for the following operations:

- To restore data associated with a specific backup set, subclient or instance
- To restore the index required to browse data associated with a specific backup set or subclient
- To restore a specific file (or specific files and folders)
- To restore data associated with a specific job

The list media operation can be performed for instances, backup sets, and subclients. The following sections describe each of these methods.

The List Media feature can also be used in a number of other capacities. Refer to the List Media documentation for a complete overview of this feature.

LISTING MEDIA FOR A SUBCLIENT

1. From the CommCell Browser, right-click the subclient for which you wish to list media and then click **List Media**.
2. From the **List Media** dialog box choose one of the following options:
 - Click **Media For the Latest Data** to list media associated with the most recent data protection cycle.
 - Click **Specify Time Range** to list media associated with data protection operations up to the specified date and time range.
 - Use the **Data Before** box to specify the end date and time.
 - Click **Advanced** and then click **Exclude Data Before** to list media associated with data protection operations after the specified date and time.

Note that you can use the **Specify Browse Time** and **Exclude Data Before** options to list media between a specified date and time range.

3. Click **OK**.

The appropriate media is listed in the **Media** dialog box.

LISTING MEDIA FOR A BACKUP SET OR INSTANCE

1. From the CommCell Browser, right-click the backup set or instance for which you wish to list media, click **All Tasks** and then click **Browse**.
2. From the **Browse Options** dialog box, if required, select the following options:
 - Click **Browse the Latest Data** to list media associated with the most recent data protection cycle.
 - Click **Specify Browse Time** to list media associated with data protection operations up to the specified date and time range.

Use the **Browse Data Before** box to specify the end date and time.
 - Click **Advanced** and then click **Exclude Data Before** and then select the date and time from which you wish to list media associated with data protection operations.

Note that you can use the **Specify Browse Time** and **Exclude Data Before** options to list media between a specified date and time range.

3. Click **List Media**.
4. From the **List Media** dialog box, click **List Media for restore within specified time range** and click **OK**.

The appropriate media is listed in the **Media** dialog box.

RESTORE BY JOBS

The Restore By Jobs feature provides the facility to select a specific backup job to be restored. This method of restoring data is considerably faster as it reads continuously on the tape and retrieves the data and does not depend on the indexing subsystem to get the seek offsets on the media.

This feature can be used in different scenarios such as the followings:

- To restore point-in-time data associated with a specific backup job, such as full, incremental, differential, and so on.
- To restore CommServe DR data for the disaster recovery or for creating a hot-site purposes.
- To restore multiplexed data from the same client.

Consider the followings:

- Run a restore by jobs whenever you want to restore the entire contents of the job.
- Avoid running restores by jobs for jobs associated with the default subclient. If you do this, the entire contents of the machine are restored and it ends up with out of memory error or restoring operating system files and other unwanted directories and files.
- Avoid modifying the contents of any associated subclients since this results in the retrieval of older data.

Use the following steps to restore data by jobs.

1. From the CommCell Browser, right-click the level whose data you want to browse, click **View** and then click the **Backup History**.
2. From the **Backup History Filter** window, select the filter options, if any, that you want to apply and click **OK**.
3. From the Backup Job History window, right-click the backup job that need to be restored and select **Browse**.
4. From the **Browse Options** dialog box, click **OK** to execute the browse using the **Browse the Latest Data** option.
5. From the **Browse** window, select the instance node in the left pane, select the required data and logs in the right pane, and click the **Recover All Selected** button at the bottom of the window.
6. Select the desired restore options and click **OK**.

MANAGE RESTORE JOBS

Once you initiate the restore operation, a restore job is generated in the Job Controller. If a Job fails, the dump based restore job will not restart from the beginning, but will resume from the point of failure. However, File System based restores will restart from the beginning.

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

RESTART JOBS

Jobs that fail to complete successfully are automatically restarted based on the job restartability configuration set in the Control Panel. This configuration can be changed at any time; however, changes to this configuration will affect all jobs run in the entire CommCell.

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.

Restore jobs for this Agent are re-started from the beginning.

CONFIGURE JOB RESTARTABILITY AT THE COMMSERVE LEVEL

1. In the CommCell Console, click the **Control Panel** icon, then double-click **Job Management**.
2. In the **Job Restarts** tab of the Job Management dialog box, select a job type from the **Job Type** list, and then select the **Restartable** check box.
3. To change the maximum number of times the Job Manager will try to restart a job, select a number in the **Max Restarts** box.
4. To change the time interval between attempts by the Job Manager to restart the job, select a number of minutes in the **Restart Interval (Mins)** box.
5. Click **OK** to save your changes.

CONFIGURE JOB RESTARTABILITY FOR AN INDIVIDUAL JOB

1. From the **Restore Options** dialog box, click **Advanced**, then select the **Job Retry** tab and specify the following as desired:
 - o **Total Running Time** - The maximum elapsed time, in hours and minutes, from the time that the job is created.
 - o **Number of Retries** - The number of times that Job Manager will attempt to restart the job.
 - o **Kill Running Jobs When Total Running Time Expires** - Option to kill the job when the specified Total Running Time has elapsed, even if its state is "Running".
2. Click **OK**.

RESUBMIT JOBS

If a restore job fails to complete successfully, you can resubmit the job without the need to reconfigure the original job's restore options using the **Resubmit Job** feature. When a job is resubmitted, all the original options, restore destinations, and other settings configured for the job remain in tact.

RESUBMIT A RESTORE JOB

1. From the CommCell Browser, right-click a client computer whose data recovery history you want to view, click **View**, then click to view a job history.
2. From the **Job History Filter** dialog box, select **Restore**.
 - o If you want to view more advanced options for restores, from the Job History Filter, select **Restore**, then click **Advanced**.
 - o From the **Data Recovery History Advanced Filter** select the destination client computer of the restores you would like to view, then click **OK**.
3. The system displays the results of the options you selected in the **Data Recovery Job History** window.
4. Right-click on any job, and select **Resubmit**.
5. Select the job options.
6. Click **OK**.

CONTROL 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. Only preemptible jobs can be suspended.
RESUME	Resumes a job and returns the status to Waiting, Pending, Queued, or Running depending on the availability of resources or the state of the operation windows and activity control settings. Restore jobs for this Agent are resumed from the beginning.
KILL	Terminates a job.

These controls can be applied to:

- All jobs in the Job Controller.
- All selected jobs in the Job Controller providing you have the correct security associations at the proper level for each job selected.
- All data protection operations running for a particular client or client/agent.
- All data protection operations running for a particular MediaAgent.

CONTROL A JOB

1. From the Job Controller of the CommCell Console, right-click the job and select **Kill**, **Suspend**, or **Resume** as desired.
 - o When killing a job:

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.

- o When suspending a job:

The job status may change to **Suspend Pending** for a few moments while the operation completes. The job status then changes to **Suspended**.

- o When resuming a job:

As the Job Manager attempts to restart the job, the job status changes to **Waiting, Pending, or Running**.

ADDITIONAL RESTORE OPTIONS

The Additional Restore Options provide additional options to further refine your restore operations.

To access the **Advanced Restore Options** window:

1. From the CommCell Browser, expand **Client Computers** by double-clicking **Client Computers | PostgreSQL | <instance name> | default BackupSets**. The default and other subclients are displayed on the right-hand windowpane.
2. To restore from the instance level, right-click the instance, and click **Restore PostgreSQL Server**.
3. From the **PostgreSQL Restore Options** dialog box, click **Advanced**.
4. To restore from the BackupSet level, right click the backup set you want to browse, click **All Tasks**, and then click the **Browse Backup Data** option from that level.
5. From the **Browse Options** dialog box, click **OK** to execute the browse using the **Browse the Latest Data** option. The **Browse** window is displayed, containing data objects such as files, folders, databases, etc.
6. Select the instance node in the left pane. The contents will be selected in the right pane. Click **Recover All Selected** at the bottom of the window.
7. From the **PostgreSQL Restore Options** dialog box, click **Advanced**.

The following table describes the additional options:

Startup Options	<p>The start options are accessible from the Startup tab in the Advanced Restore Options window.</p> <p>These options facilitate the startup behavior of the restore job.</p> <p>The Default Priority option dictates the type of job that will be used in determining how the Job Manager will allocate resources for this job.</p> <p>The Change Priority option specifies the priority for the job, between 0 (highest priority) and 999 (lowest priority). The Job Manager will use the priority setting when allocating the required resources. This is useful if you have jobs that are very important and must complete, or jobs that can be moved to a lower priority.</p> <p>The Start up in Suspended State specifies that this job will start in the Job Controller in a suspended state and cannot run until the job is manually resumed using the Resume option. This option can be used to add a level of manual control when a job is started. For example, you could schedule jobs to start in the suspended state and then choose which scheduled jobs complete by resuming the operation started in the suspended state.</p> <p>Refer to the Job Priority and Priority Precedence documentation for a comprehensive overview prior to using these options.</p>
Copy Precedence	<p>The Copy precedence options are accessible from the Copy Precedence tab in the Advanced Restore Options window.</p> <p>when you select Restore from copy precedence option, the system recovers or retrieves data from the selected storage policy copy (Synchronous Copy or Selective Copy). If data does not exist in the specified copy, the data recovery or retrieve operation fails even if the data exists in another copy of the same storage policy.</p> <p>When cleared, (or by default) the system recovers or retrieves data from the storage policy copy with the lowest copy precedence. If the data was pruned from the primary copy, the system automatically recovers or retrieves from the other copies of the storage policy in the following order:</p> <ul style="list-style-type: none"> • Lowest copy precedence to highest copy precedence among all synchronous copies. • Lowest copy precedence to highest copy precedence among all selective copies. <p>Once the data is found, it is recovered or retrieved, and no further copies are checked. For a more detailed discussion, see Recovering Data From Copies.</p>
Data Path	<p>The data path options can be accessed from the Data Path tab in the Advanced Restore Options window.</p> <p>Data can be restored to any compatible library and drive type in the CommCell. By default the system automatically identifies the data path for the restore operations as configured in the CommCell. You can change this data path at the restore level by selecting a specific MediaAgent, library or drive pool in the Advanced Restore Options dialog. The data path change can be specified at the restore, schedule and the schedule policy levels. Note that the data path changes specified are only applicable only for the specific restore job/restore schedule.</p> <p>Ensure that the specified MediaAgent and the library or drive pool are available and accessible, failing which the job will go into Pending state; failover protection does not apply here. Also, note that this setting overrides all other settings, including the data path settings at the Storage Policy, Subclient and the alternate data path (Gridstor).</p> <p>In some situations you may want to use another data path to perform a data recovery operation. In such a situation, you can specify the MediaAgent, Library and/or the Drive Pool.</p> <p>Refer to the Change Data Path documentation for a comprehensive overview prior to using this feature.</p>

Encryption	<p>You can configure encryption for the specific subclient during the data recovery operation from the encryption tab in the Advanced Restore Options window.</p> <p>To encrypt data during data protection and recovery operations using the CommCell Console, you must configure encryption at the client level first and then at the subclient level. If you configure the client for data encryption, all supported agents' content that reside on this client will be encrypted. However, no content at any level (instance or subclient) will be encrypted until the respective level's encryption property is enabled.</p> <p>If you configure data encryption with With a Pass-Phrase and do not elect to export the pass-phrase to destination clients:</p> <ul style="list-style-type: none"> • You will be required to enter the pass-phrase during immediate data recovery operations. • You will not be able to run scheduled data recovery operations. <p>If you do not require this level of security, consider using Regular encryption instead or Export an Encryption Pass-Phrase. Scheduled data recovery operations require you to export the pass-phrase.</p> <p>If you selected pass-phrase security you must enter a pass-phrase in the dialog box that appears.</p> <p>Refer to the data encryption documentation for comprehensive overview prior to using this feature.</p>
Alert	<p>You can configure alerts for the specific restore job from the Alert tab in the Advanced Restore Options window.</p> <p>Refer to the Alerts documentation for comprehensive overview prior to using this feature.</p>

[Back to Top](#)

Disaster Recovery - PostgreSQL iDataAgent

TABLE OF CONTENTS

Overview

Planning for a Disaster Recovery

Browse Databases

Performing a Full System Restore

Preparing for Full System Recovery

Restoring the Entire PostgreSQL Server

OVERVIEW

The difference between a Full PostgreSQL Server restore and a full system restore is the severity of the problem. Normally, if data is lost or removed, it is recovered from the archives using the restore procedures in the CommCell Console.

However, when a normal restore operation cannot correct a software and/or hardware corruption problem on the client system (such as a damaged or destroyed operating system, hardware, hard drives, etc.), some level of full system restore is required.

The level of system restore required may be different as described below:

- When the client system (operating system, hardware, hard drives, etc.) is damaged or destroyed, a full system restore may be required.
- When the database is corrupted and a restore is required, both the application software and database must be restored. This can be achieved by restoring the data and log files using the restore options at instance level in the iDataAgent.

PLANNING FOR A DISASTER RECOVERY

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

- Perform regular backups of application files along with their binaries. Frequent file system and dump backups will also be helpful for a successful disaster recovery.
- Ensure that the client, PostgreSQL iDataAgent software, instance names and user created subclients are the same as the corrupted or damaged client while performing a disaster recovery. The client should have the same PostgreSQL version.

BROWSE DATABASES

This iDataAgent captures the state information for the database at backup time. In the event of system failure, it is critical for administrators to know the current version of the database and any service packs that were installed on the system. If the database is upgraded, the next backup that is run automatically detects the new version that was used during backup. This version is then refreshed in the instance **Properties** dialog box.

PERFORMING A FULL SYSTEM RESTORE

The following procedure demonstrates how to perform a full system restore when the client system is damaged or destroyed.

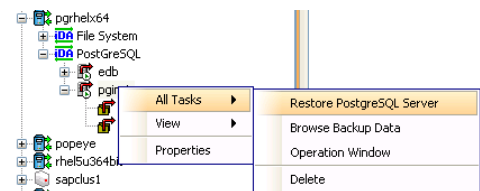
PREPARING FOR FULL SYSTEM RECOVERY

1. Rebuild the hardware as it existed before.
2. Rebuild the machine with the same operating system, PostgreSQL server and all the iDataAgent components as they existed before the corruption or damage to the client.
3. Restore the entire PostgreSQL Server from the instance level. The following sections explain the process to restore the PostgreSQL server from CommCell Console:

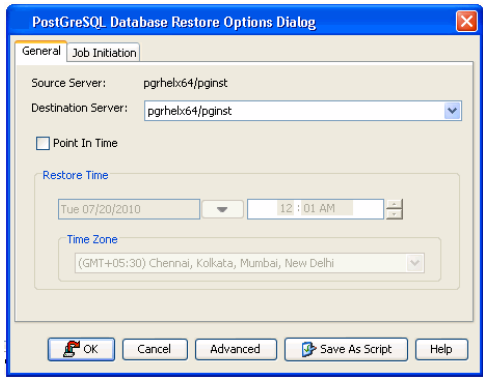
RESTORING THE ENTIRE POSTGRESQL SERVER

Perform the following steps to recover the entire PostgreSQL database server using CommCell Console:

1. From the CommCell Browser, right-click the instance, and click **Restore PostgreSQL Server** to recover the entire PostgreSQL server.
2. From the **PostgreSQL Database Restore Options** dialog box, Select the source server name only as the **Destination Server** for restoring the entire server along



with its data and logs that was lost due to the corruption or accidental damage.

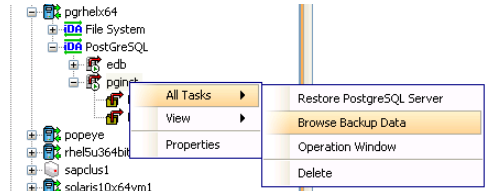


3. Click **OK** to restore the entire PostgreSQL database server. The data and logs that were lost will be restored as they existed prior to the corruption or damage.

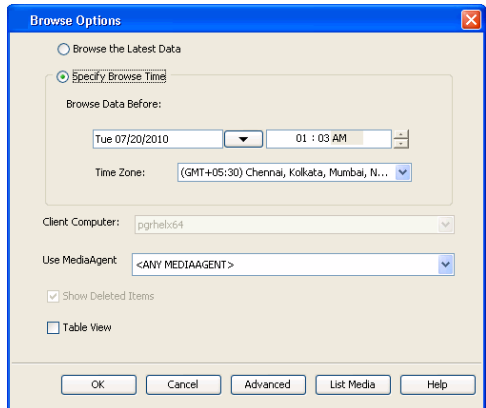
BROWSE AND RESTORE

Perform the following steps to browse and recover the PostgreSQL server:

1. From the CommCell Browser, right-click the instance, click **All Tasks**, and then click the **Browse Backup Data** option.



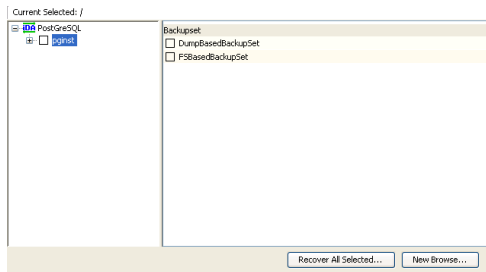
2. From the **Browse Options** dialog box, Select the **Specify Browse Time** option and specify the date and time to restore the data that was lost due to corruption or accidental damage. Select your Time Zone and click **OK** to execute the browse option.



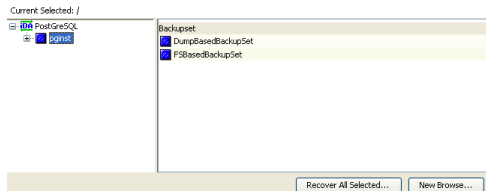
3. The **Browse** window displays data objects in a tree format. The Browse window consists of two parts:
 - The left pane displays the object tree at the instance level.
 - The right pane displays the contents of the Dump based backupset and File System based backupset.

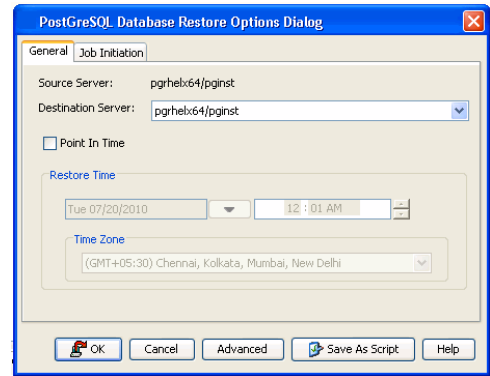
You need to select the File System based backupset only to recover the entire PostgreSQL server (data and logs).

4. Select all the content in File System based backupset in the right pane and click **Recover All Selected** at the bottom of the window.



5. From the **PostgreSQL Database Restore Options** dialog box, Select the source server name only as the **Destination Server** for restoring the entire server along with its data and logs that was lost due to the corruption or accidental damage.





6. Click **OK** to restore the server along with its lost contents.

[Back to Top](#)

Supported Features - PostgreSQL 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		
ALERTS AND MONITORING	Restore Data Using a Map File		
	Comments		
	Global Alerts		
	Job-Based Alerts*		
AUTOMATIC UPDATES	Comments		
	Automatic Updates	✓	
BACKUP/ARCHIVE OPTIONS	Comments		
	Differential Backup		
	Full Backup	✓	
	Incremental Backup	✓	
	Other Backup Types		
	Synthetic Full Backup		
BACKWARD COMPATIBILITY	Comments	✓	Transaction Logs are supported for File System backup.
	Version 7		
	Version 8		
	Version 9		
	Comments	✓	New Agent for 9.0
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		
CLUSTERING	Comments		
	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		
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		
	Not Restartable		

JOB RESTART - DATA RECOVERY			
	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		
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		
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	✓	New Agent for 9.0
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

Additional Operations - PostgreSQL iDataAgent

TABLE OF CONTENTS

- Audit Trail**
- Storage Policy**
- Schedule Policy**
- Auxiliary Copy**
- Operation Window**
- Operating System and Application Upgrades**
- Online Help Links**
- Uninstalling Components**

RELATED TOPICS

Support

Provides comprehensive information on PostgreSQL iDataAgent support.

Additional Operations - Concepts

Provides comprehensive information on additional operations procedures contained on this page.

- Audit Trail
- Storage Policies
- Storage Policy Copies
- Schedule Policy
- Auxiliary Copy
- Operation Window

The following reports are applicable for this agent.

- **Backup Job Summary Report** provides a summary of backup jobs for each client.
- **Calendar Backup Job Summary Report** provides the total amount of backup jobs run (along with their job status) for a specified time period.
- **Restore Job Summary** provides a summary of restore jobs for each client.

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.

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**.

POLICIES

The following policies enable you to plan and schedule the data protection and data recovery operations for your agent.

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. From the CommCell Browser, expand the Policies node, right-click the Storage Policies node, and select **New Storage Policy** from the shortcut menu.
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. Click Next
8. Select the default library for the primary copy from the drop down box and click Next.
9. Select the MediaAgent and from the drop down box and click Next.
10. Enter number of data streams and aging rules and click Next.

11. Click the Browse button and browse to the deduplication store location and click next.
12. The **Review Summary** window is displayed. Confirm your selections and click Finish.

STORAGE POLICY COPIES

Each storage policy has one or more storage policy copies. Storage policy copies enable you to make additional copies of the data. Copies can be created by performing an auxiliary copy operation, or by performing a data protection operation that creates Inline copies.

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. From the CommCell Browser, expand the Policies node, right-click the **Schedule Policies** node, then click **Add**.
2. Type the **Name** of the schedule policy.
3. Select the **Type** of schedule policy from the drop down box.
4. Select the **Agent Type** from the drop down box.
5. Type a description of the schedule policy.
6. Click **Add**.
7. Enter a schedule in the **Schedule Details** dialog box.
8. Click **OK**.
9. Select the **New Schedule Policy - Associations** tab. Select the objects to be associated with the schedule policy.
10. Click **OK**. The schedule policy is displayed in the CommCell Browser.

AUXILIARY COPY

An auxiliary copy operation allows you to create secondary copies of data associated with data protection operations, independent of the original copy. Auxiliary copies have several uses, such as off-site tape storage of scheduled backups.

STARTING AN AUXILIARY COPY

1. From the CommCell Browser, expand the Policies node and right-click the 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.

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.

NEED FOR OPERATION RULE...	APPLY RULE TO...	RULE
Users need uninterrupted access to virtual machines during working hours.	Virtual Server iDataAgent	Disallow data protection operations to run between 8 am and 6 pm, Monday through Friday.

To add an operation rule at the CommServe, Agent, or Subclient level:

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 Rule Details** 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** to save the changes.

OPERATING SYSTEM AND APPLICATION UPGRADES

This section contains guidelines and procedures for upgrading the operating system or application(s) on a computer with CommServe, MediaAgent, and/or Agent software.

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), and two methods of upgrading are supported:

- **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.

Whichever path you select to upgrade the OS, all backup data and histories will be preserved and available after the upgrade. 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.

NOTES ON POSTGRESQL APPLICATION UPGRADES

To upgrade the PostgreSQL application software:

1. Uninstall the PostgreSQL iDataAgent.
2. Upgrade the PostgreSQL Database.
3. Reinstall the PostgreSQL iDataAgent.
4. Relink the PostgreSQL Database.

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	PostgreSQL Agent Properties (General) PostgreSQL Agent Properties (Version) PostgreSQL Agent Properties (Security) PostgreSQL Agent Properties (Activity Control)	
	Instance	PostgreSQL Instance Properties (General) PostgreSQL Instance Properties (Accounts) PostgreSQL Instance Properties (Security) PostgreSQL Instance Properties (Log Backup)	PostgreSQL Create Instance
	BackupSet	PostgreSQL Backup Set Properties (General)	
	Subclient	PostgreSQL Subclient Properties (General) PostgreSQL Subclient Properties (Content) PostgreSQL Subclient Properties (Pre/Post Process) PostgreSQL Subclient Properties (Activity Control) PostgreSQL Subclient Properties (Data Storage Policy) PostgreSQL Subclient Properties (Data Transfer)	PostgreSQL Database Configuration

		PostgreSQL Subclient Properties (Deduplication) PostgreSQL Subclient Properties (Encryption)	
BACKUP	Backup Options	Backup Options	Save As Script Command Line XML Options
	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)	
BROWSE		Browse Options Advanced Browse Options	
RESTORE	Restore Options	PostgreSQL Restore Options (General) PostgreSQL Restore Options (Job Initiation) PostgreSQL Table Level Restore Options (General)	Save As Script Command Line XML Options
	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)	

UNINSTALLING COMPONENTS

Once you have uninstalled a component, you will no longer be able to perform data protection operations. The protected data, however, is still available on the media for the length of time expressed in the `Retention Time` defined in the associated Storage Policy Copy. If desired, you can browse the backup data from another active client within the same CommCell or perform data recovery operations from the component to another active client within the same CommCell.

Once you have uninstalled the component software, the corresponding icon in the CommCell Browser will appear dimmed. While this icon exists, most components can still perform data recovery operations. If you delete this icon, all of the component's data is irretrievably lost.

You cannot, however, restore the data to the component's original host computer because the necessary software is no longer present. You will have to reinstall the component software to the original computer in order to perform data recovery operations on such data. See [Reinstalling Uninstalled Agents](#) for comprehensive information on reinstalling the uninstalled agents.

If you want to browse backup data from a client computer whose component software has been removed, simply follow the standard browse procedures.

GENERAL UNINSTALL CONSIDERATIONS

Removing a component is a two-phase process:

- First, you need to uninstall the component software from the client computer hosting the software.
 - If you are unable to uninstall the component from a computer using the recommended procedures, you can use the `Deconfigure Agents` feature to release the license and clean up entries from the CommServe database. However, files and registry entries relating to the component will not be removed from its host computer.
- Next, you must delete the component icon from the CommCell Browser.
 - Once you decide that you wont need to browse and/or restore the data after an uninstall or deconfigure, you can manually delete the component from the CommCell Browser. Doing so invalidates the corresponding backup data which may also release backup media to the system. See [Delete the Agent](#) for step-by-step instructions.

Consider the following prior to uninstalling any component:

- Verify that the CommServe is running (except when uninstalling the CommServe software).
- Verify that no jobs are in progress or scheduled to occur while the software is being uninstalled. If jobs are scheduled, either perform the uninstall at another time or disable the jobs on the client computer using the CommCell Console.
- Verify that the CommCell Console and Service Control Manager window are closed.
- If components were not installed in the default location, you will have to manually delete the directory/folders once the uninstall is complete.
- When uninstalling software, you may need to remove additional components and drivers if any had been installed.
- If the **Authentication for Agent Installs** feature has been enabled on the CommCell, users must have Agent Management capabilities to uninstall agents. During the uninstall, users will be prompted for their account information to continue with the uninstall. If the user is not authorized, the uninstall process will abort. For more information, see [Authentication for Agent Installs](#).
- If uninstalling a component from the command line using an uninstall shortcut in the `<software_installation_directory>\Uninstall` folder, the command should not be run with the `<software_installation_directory>\Uninstall` folder open in the command. Instead, the command should be run

with the uninstall package included in the command.

For example, the correct command would appear as follows:

```
<software_installation_directory>\Uninstall\<uninstall_package>
```

UNINSTALLING UNIX COMPONENTS

In order to uninstall the PostgreSQL iDataAgent on a Unix computer, you need to remove the `CVGxPostGres` Unix component using the `cvpkrm` utility.

UNINSTALL SEQUENCE

When uninstalling a component on a Unix or Macintosh computer, the following sequence must be used:

1. Uninstall all application components and updates.
2. Uninstall the MediaAgent (if one exists)
3. Uninstall the Base software

Since the component software depends upon the Base software, you must uninstall the component software first.

UNINSTALLING COMPONENTS FROM A CLUSTER

The following sections provide general guidelines for uninstalling components from a Windows or Unix cluster.

UNIX CLUSTERS

- Verify that the cluster is set to its original state (i.e., the active and passive nodes are in the same state of ownership for their disk groups as they were during installation).
- If the computer from which the component has been uninstalled is rebooted, services will not be restarted following the reboot. However, any cluster plugins available will continue to run.
- Clustered environments pertain only to HP-UX, Linux, and Solaris clients.
- You will need to deconfigure the Unix File System iDataAgent from each virtual machine first before uninstalling it from the physical nodes.
- You will then need to uninstall the Unix File System iDataAgent and Base software (`cvpkrm`) from the client computer hosting the software. You can uninstall the Base software from your client computer by entering the `cvpkrm` command from a command line and then completing the directives in the resulting script. This script deletes the appropriate files and executables, and it removes the registry entries from the system.
- The component software allows you to Deconfigure virtual machines completely. It also allows you to Deconfigure individual modules for the virtual machines.

To Deconfigure a virtual machine, the virtual machine must be Deconfigured from all of the physical machines (hosts) on which it has been configured. This means that, within a clustered environment, each virtual machine must be Deconfigured from at least two hosts. To do this, follow the sequence outlined in Components on Unix.

[Back to Top](#)

Online Help Topics

PostgreSQL Agent Properties (General)

Use this dialog box to obtain or provide general and/or user account information for the agent.

Client Name

Displays the name of the client computer on which this Agent is installed.

Billing Department

Displays the name of the billing department, when the Agent is associated with a billing department.

iDataAgent

Displays the identity of the Agent that is installed on the client computer.

Installed date

Displays the date on which the Agent was installed or upgraded on the client computer.

Description

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

PostgreSQL Agent Properties (Version)

Use this dialog box to view the software version.

Version Information

Displays the Agent software version installed on the computer.

PostgreSQL Agent Properties (Security)

Use this tab to:

- Identify the user groups to which this CommCell object is associated.
- Associate this object with a user group.
- Disassociate this object from a user group.

Available Groups

Displays the names of the user groups that are not associated with this CommCell object.

Associated Groups

Displays the names of user groups that are associated with this CommCell object.

PostgreSQL Agent Properties (Activity Control)

Use this dialog box to enable or disable backups and restores on a selected subclient.

If data management and data recovery operations are disabled at the client computer group or client level, then these operations below these levels will be disabled. If data management / data recovery operations are enabled at the client computer group or client level, then these operations below these levels will be enabled.

Enable Backup

Specifies whether Backups will occur from this agent or subclient. .

If cleared:

- Backup operations from this agent or subclient cannot be started and are skipped.
- Running and waiting data management operations for this agent or subclient run to completion.
- Stopped data management operations for this agent or subclient cannot be resumed until this option is enabled.
- Pending data management operations for this agent or subclient do not run until this option is enabled.

Enable Restore

Specifies whether Restores will occur from this agent or subclient. .

If cleared:

- Restore operations from this agent or subclient cannot be started and are skipped.
- Running and waiting data recovery operations for this agent or subclient run to completion.
- Stopped data recovery operations for this agent or subclient cannot be resumed until this option is enabled.
- Pending data recovery operations for this agent or subclient do not run until this option is enabled.

PostgreSQL Instance Properties (Accounts)

Use this tab to indicate the account the system uses to access the instance.

User Name

Type the name of the user account that will have permission to execute the desired commands. This is the account used by the user to log in to and use the application to run jobs. Use this space to change this name.

Postgres User Name

Type the name of the database administrator who has permissions to perform jobs. Use this space to change this name.

Postgres Account Password

Use this space to change the password for the account discussed in either the previous field or the `User Name` field.

Postgres Confirm Password

Retype the Account Password to confirm it.

PostgreSQL Instance Properties (Security)

You can view this tab associated only to an existing Instance.

Use this tab to:

- Identify the user groups to which this CommCell object is associated.
- Associate this object with a user group.
- Disassociate this object from a user group.

Available Groups

Displays the names of the user groups that are not associated with this CommCell object.

Associated Groups

Displays the names of user groups that are associated with this CommCell object.

PostgreSQL Server Properties (Log Backup)

Use this tab to specify the storage policy used for the PostgreSQL Archive Log backups.

- **Storage Policy used for all Archive Log backups**

Specifies the storage policy used by the subclients in this instance to back up Archive log files. You can use this space to select another storage policy.

- **Number of Archive Log Backup Streams**

PostgreSQL supports log backup using a single stream only.

Archive Delete

When selected, backed up logs will be deleted.

PostgreSQL Create Instance

Use this dialog box to define a new instance or view the properties of an existing instance.

Server Name

Use this space to specify the name of PostgreSQL Server

Postgres User Name

Displays the name of the database administrator who has permissions to perform jobs. Use this space to change this name.

Postgres Account Password

Displays the password for the User Name. Use this space to change this password.

Postgres Confirm Password

Retype the Account Password to confirm it.

Maintenance DB

Specify the name of system database which is used as maintenance db.

Binary Directory

Displays the path of the binary directory for the instance. Click **Browse** to change this path.

Lib Directory

Displays the path of the Library directory for the instance. Click **Browse** to change this path.

Archive Log Directory

Displays the path of the archive log directory for the instance. Click **Browse** to change this path.

Port

Select the port to open the communication between PostgreSQL Server and Clients.

Log Backup

Specifies the storage policy to be used in transaction log backup jobs for the instance.

Log Backup Storage Policy

Select from the list of available storage policies that can be used in transaction log backup jobs for the instance.

Archive Delete

When selected, the archived log backup files will be deleted.

Description

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

PostgreSQL Database Configuration

Use the Database Configuration dialog box to discover and change the location of database elements.

Database Name

Lists the names of the eligible databases for inclusion in the subclient.

Subclient (Name)

Displays the subclient to which the database is assigned. Click this space to assign the database to one of the following:

- Default subclient
- Any user-defined subclient
- Do Not Backup subclient

Change all selected databases to

When more than one database is selected, reassigns the selected databases to the selected subclient.

Discover

Discovers any databases not yet configured within the system, allowing them to be assigned to subclients other than the default.

PostGreSQL Subclient Properties (General)

Client Name

Displays the name of the Client computer to which this subclient belongs.

Billing Department

Displays the name of the billing department, when the subclient is associated with a billing department. For more information on Billing and Costing See the *CommNet Books Online*.

iDataAgent

Displays the name of the Agent to which this subclient belongs.

Instance Name

Displays the name of the Instance to which this subclient belongs.

Subclient

Displays the name of this Subclient. You can use this space to enter or modify the name of the subclient.

Collect Object List During Backup

This option is available for Dump Based backups only. when selected, this option collects all objects related to selected databases during the backup.

Description

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

PostGreSQL Subclient Properties (Content)

Use this tab to define the contents of a new subclient or to change the content of an existing subclient. Items included in subclient content are backed up by the subclient.

Contents of subclient

Displays a list of databases/storage groups/database files included as content for this subclient.

Configure

Click to discover and change the associations of the database elements/storage groups to the subclients. Any content included for a user-defined subclient will be automatically excluded from the default subclient.

Delete

Click one or more database/file/filegroup names and then this button to remove the desired databases from the subclient content.

[Back to Top](#)

PostGreSQL Subclient Properties (Pre/Post Process)

Use the Pre/Post Process tab to add, modify or view Pre/Post processes for the selected subclient.

Pre Backup process

Displays the name/path of the backup that you want to run before the respective phase. You can use this space to enter a path for the backup process that will execute before this phase on the subclient , or you can use the **Browse** button to search for and select the name/path of the process. The system allows the use of spaces in the name/path, provided they begin with an opening quotation mark and end with a closing quotation mark.

Post Backup process

Displays the name/path of the backup process that you want to run after the respective phase. You can use this space to enter a path for the backup process that will execute after this phase on the subclient, or you can use the **Browse** button to search for and select the name/path of the process. The system allows the use of spaces in the name/path, provided they begin with an opening quotation mark and end with a closing quotation mark.

Run Post Backup Process for all attempts

Specifies whether this process will execute for all attempts to run the phase. Selecting this option will execute the post backup process for all attempts to run the phase, including situations where the job phase is interrupted, suspended, or fails. Otherwise, when the checkbox is cleared the specified process will only execute for successful, killed, or failed jobs.

Browse

Click to search for and select the Pre/Post Process.

PostgreSQL Subclient Properties (Activity Control)

Use this dialog box to enable or disable backups on a selected subclient.

Enable Backup

Specifies whether backups will occur from this subclient.

If cleared:

- Backups from this subclient cannot be started and are skipped.
- Running and waiting backups for this subclient run to completion.
- Stopped backups for this subclient cannot be resumed until this option is enabled.
- Pending backups for this subclient do not run until this option is enabled.

(Job states are indicated in the Job Controller.)

PostgreSQL Subclient Properties (Storage Device)

Use this dialog box to establish the storage device related settings on the selected subclient.

(DATA) STORAGE POLICY

Use this tab to select or view storage policy settings on the selected subclient.

Storage Policy

Displays the storage policy to which this subclient is currently associated. To associate a storage policy to a new subclient or to change the storage policy associated with an existing subclient, click one in the list.

Data Paths

Click to view or modify the data paths associated with the primary storage policy copy of the selected storage policy.

Number of Streams for Data Backup

Displays the number of streams used for backup operations. To change the number of streams, click one in the list. For DB2 DPF, be sure to set the appropriate number of streams for each database partition by double-clicking the appropriate **Stream** space and typing the desired number.

Create Storage Policy

Click to create a new storage policy. The Create Storage Policy Wizard guides you through the creation of storage policy and its primary copy.

PostgreSQL Subclient Properties (Storage Device)

Use this dialog box to establish the storage device related settings on the selected subclient.

DATA TRANSFER OPTION

Use this tab to establish the options for data transfer.

Software Compression

Indicates whether software compression for the subclient or instance is enabled or disabled, and if enabled whether it is performed on the client or MediaAgent computer.

On Client

Click to enable software compression on the client computer.

On MediaAgent

Click to enable software compression on the MediaAgent computer.

Off

Click to disable software compression.

Note that hardware compression has priority over the software compression. Hardware compression is established in the Data Path Properties dialog box. The above software compression option will take effect when the data path is associated with a disk library, or when hardware compression is disabled in the data path associated with tape libraries.



If the subclient is associated with a storage policy copy that is deduplicated, then the compression settings on the storage policy copy takes precedence. See Copy Properties (Deduplication) - Advanced tab for compression settings on deduplicated storage policy copy.

Resource Tuning

Indicates the processes used by the client to transfer data based and whether bandwidth throttling is enabled or not.

Network Agents

Specifies the number of data pipes/processes that the client uses to transfer data over a network. Increasing this value may provide better throughput if the network and the network configuration in your environment can support it. On non-UNIX computers, the default value is 2 and a maximum of 4 can be established if necessary. On UNIX computers the default value is 1 and a maximum of 2 can be established if necessary.

Throttle Network Bandwidth (MB/HR)

Specifies whether the backup throughput is controlled or not. (By default this option is not selected and therefore the throughput is not controlled). When selected, use the space to specify a value for the throughput. By default, this is set to 500. The minimum value is 1 and there is no limit to the maximum value. (In this case the backup throughput will be restricted to the maximum bandwidth on the network.)

Use this option to set the backup throughput, based on the network bandwidth in your environment. Use this option to reduce the backup throughput, so that the entire network bandwidth is not consumed, especially in slow links. Increasing this value will end up consuming the bandwidth with the maximum throughput limited to the network bandwidth capability.

Note that throttling is done on a per Network Agent basis.

PostgreSQL Subclient Properties (Storage Device)

Use this dialog box to establish the storage device related settings on the selected subclient.

DEDUPLICATION

Use this tab to establish the options for deduplication on the subclient. It indicates whether deduplication for the subclient is enabled or disabled, and if enabled whether the signature generation (a component of deduplication) is performed on the client or MediaAgent computer.

Note that deduplication is supported on disk storage devices. So the deduplication options are applicable only if the subclient is associated with a Storage Policy containing disk storage.

Enable Deduplication

When selected, enables the deduplication for the subclient.

On Client

Click to enable signature generation on the client computer.

On MediaAgent

Click to enable signature generation on the MediaAgent computer.

Note that if client-side deduplication is enabled, then this preference is overridden and signature generation is performed on the client by default.

Encryption

Use this dialog box to select the data encryption options for the selected content. When accessing this dialog box from the Subclient Properties Encryption tab, this setting applies only to the selected subclient content for operations run from the CommCell Console. When accessing this dialog box from the Instance Properties Encryption tab, this setting applies only to third-party Command Line operations. The functionality is not propagated to the Subclient Properties Encryption tabs.

None

When selected, no encryption will take place during a data protection operations.

Media Only (MediaAgent Side)

When selected, for data protection operations, data is transmitted without encryption and then encrypted prior to storage. During data recovery operations, data is decrypted by the client.

When using this setting in conjunction with the client property **With a Pass-Phrase**, you will be required to provide a pass-phrase for data recovery operations unless you export the client pass-phrase to the destination client(s). When using pass-phrase security for third-party Command Line operations or DataArchiver Agents stub recovery operations, you must export the pass- phrase to the destination client.

Network and Media (Agent Side)

When selected, for data protection operations, data is encrypted before transmission and is stored encrypted on the media. During data recovery operations, data is decrypted by the client.

When using this setting in conjunction with the client property **With a Pass-Phrase**, you will be required to provide a pass-phrase for data recovery operations unless you export the client pass-phrase to the destination clients.

Network Only (Agent Encrypts, MediaAgent Decrypts)

When selected, for data protection operations, data is encrypted for transmission and then decrypted prior to storage on the media. During data recovery operations, data is encrypted by the MediaAgent and then decrypted in the client.

When using this setting in conjunction with the client property **With a Pass-Phrase**, you will not be required to provide a pass-phrase for data recovery operations.

Script Preview

Click to display the backup script, based on the current subclient configuration, that will be submitted to RMAN when backups are performed for the selected Oracle subclient.

PostgreSQL Backup Options

Use this dialog box to schedule or immediately run a backup job.

Select Backup Type

- **Full**

Specifies the job as a Full backup, which backs up all data for the selected subclient(s).

- **Log Only**

Specifies the job as a transaction log backup, which backs up the transaction logs.



Log Only option is available for FSBasedBackupSet only.

Job Initiation

- **Run Immediately**

Specifies this job will run immediately.

- **Schedule**

Specifies this job will be scheduled. Click **Configure** to specify the schedule details.

Advanced

Click to select advanced backup options, such as job retry, startup priorities, start new media, data paths, vault tracking and alerts.

Save As Script

Click to open the Save As Script dialog, which allows you to save this operation and the selected options as a script file (in XML format). The script can later be executed from the Command Line Interface using qoperation execute command.

When you save an operation as a script, each option in the dialog will have a corresponding xml parameter in the script file. When executing the script, you can modify the value for any of these XML parameters as per need.

To view the XML values for each of the options in the dialog, see the following:

- Command Line XML Options for PostgreSQL iDataAgent

[Back to Top](#)

Save as Script

Use this dialog box to choose a name and path for the script file and the mode of execution.

Client

Enter or select the name of the client computer where the script will be created.

Path

Enter the path for the script that will be created.

Browse

Click this button to browse to a path for the command line script.

- Scripts are not supported on the Windows NT platform.
- It is recommended not to use any reserved device names (e.g., LPT1) as the name of the file.
- The file names are not case-sensitive.
- Do not end the file name with a trailing space or a period. Although the underlying file system may support such names, the operating system does not support them.

Mode

- **Synchronous**

Specifies that the script execute in synchronous mode. A synchronous operation exits only when the operation has completed. This option is only available when scripting a single job.

- **Asynchronous**

Specifies that the script execute in asynchronous mode. An asynchronous operation submits the job to the CommServe and exits immediately, returning control to the calling program or script.

Specify User Account to Run the Script

Specifies to use the given user account to save the operation as a script.

- **Use the Currently Logged in User Account**

Click to use the same user account used for logging into the CommCell Console.

- **User Name**

Type the user name that was used for logging into the CommCell Console.

- **Password**

Type the password for the user account used for logging into the CommCell Console.

- **Confirm Password**

Type to re-confirm the password.

- **Use a Different User Account**

Click to specify a different user account to save the operation as a script.

- **User Name**

Enter the different user name to be used for saving the operation as a script.

- **Password**

Enter the password for the user account to be used for saving the operation as a script.

- **Confirm Password**

Type to re-confirm the password.

[Back to Top](#)

Command Line XML Backup Options - PostgreSQL iDataAgent

Options

Task Request Information			
Description	Field Name	Data Type	Commandline Parameter
Task			task
Policy Type	policyType	enum	policyType
Type	taskType	enum	taskType
Initiated From	initiatedFrom	enum	initiatedFrom
Task Flags			taskFlags
Disabled	disabled	boolean	disabled
Common Job Options			
Description	Field Name	Data Type	Commandline Parameter
StartUp Options			startUpOpts
Startup in suspended state	startInSuspendedState	boolean	startInSuspendedState
Priority	priority	integer	priority
Use Default Priority	useDefaultPriority	boolean	useDefaultPriority
Job Retry Options			jobRetryOpts
Kill Running Job When Total Running Time Expires	killRunningJobWhenTotalRunningTimeExpires	boolean	killRunningJobWhenTotalRunningTimeExpires
Enable Number Of Retries	enableNumberOfRetries	boolean	enableNumberOfRetries
Number Of Retries	numberOfRetries	integer	numberOfRetries
Running Time			runningTime
Enable Total Running Time	enableTotalRunningTime	boolean	enableTotalRunningTime
Total Running Time	totalRunningTime	integer	totalRunningTime
Backup Job Options			
Description	Field Name	Data Type	Commandline Parameter
Backup Type	backupLevel	enum	backupLevel (t)
Run Incremental Backup	runIncrementalBackup	boolean	runIncrementalBackup
Inc Level	incLevel	enum	incLevel
Do Not Truncate Log	doNotTruncateLog	boolean	doNotTruncateLog
Sybase Skip Full after Log Backup	sybaseSkipFullafterLogBkp	boolean	sybaseSkipFullafterLogBkp
Enable Granular Recovery	collectMetaInfo	boolean	collectMetaInfo
Media Backup Option			mediaOpt
Allow Other Schedules To Use Media Set	allowOtherSchedulesToUseMediaSet	boolean	allowOtherSchedulesToUseMediaSet
Mark Media Full On Success	markMediaFullOnSuccess	boolean	markMediaFullOnSuccess
Start New Media	startNewMedia	boolean	startNewMedia
Days	numberOfDays	integer	numberOfDays
Extend Job Retention	retentionJobType	enum	retentionJobType
Data Backup Option			dataOpt
Follow mount points	followMountPoints	boolean	followMountPoints
Perform Consistency Check	skipConsistencyCheck	boolean	skipConsistencyCheck
Vault Tracker Backup Option			vaultTrackerOpt
Exclude Media Not Copied	excludeMediaNotCopied	boolean	excludeMediaNotCopied
Export Media After Job Finishes	exportMediaAfterJobFinishes	boolean	exportMediaAfterJobFinishes
Track Transit	trackTransit	boolean	trackTransit
Use Virtual Mail Slots	useVirtualMailSlots	boolean	useVirtualMailSlots
Filter Media By Retention	filterMediaByRetention	boolean	filterMediaByRetention
Media with extended retention job (s)	mediaWithExtendedRetentionJobs	boolean	mediaWithExtendedRetentionJobs

Media Status			mediaStatus
All	all	boolean	all
Active	active	boolean	active
Full	full	boolean	full
Overwrite Protected	overwriteProtected	boolean	overwriteProtected
Bad	bad	boolean	bad
Export Location:			exportLocation
Location Name	locationName	string	exportLocation/locationName (loc)
In Transit Location			inTransitLocation
Location Name	locationName	string	inTransitLocation/locationName (loc)
Data Path Backup Option			dataPathOpt
Library Entity for DataPath			library
Library Name	libraryName	string	libraryName (l)
Drive Pool Entity for DataPath			drivePool
Drive Pool Name	drivePoolName	string	drivePoolName (d)
SubTask Options			
Description	Field Name	Data Type	Commandline Parameter
Sub Task Type	subTaskType	enum	subTaskType (st)
Operation Type	operationType	enum	operationType (op)
Associations			
Description	Field Name	Data Type	Commandline Parameter
Backupset Name	backupsetName	string	backupsetName (b)
Subclient Name	subclientName	string	subclientName (s)
Client Name	clientName	string	clientName (c)
App Name	appName	string	appName (a)
Instance Name	instanceName	string	instanceName (i)

Usage

Task Request Information	
Task	
policyType	Home
Type: enum Default Value: DATA_PROTECTION Possible Values: DATA_PROTECTION , AUX_COPY , SRM_REPORT , SINGLE_INSTANCING , SRM_JOBS , SUBCLIENT_FILTER , CONTENT_INDEX , CONTENT_INDEX Command Line Paramter: policyType Location: taskInfo/task/policyType	
Policy Type	
taskType	Home
Type: enum Default Value: IMMEDIATE Possible Values: NONE , IMMEDIATE , SCHEDULE , SAVED_REPORT , SCHEDULE_POLICY , WORKFLOW , PREVIEW , AUTOMATIC_COPY , AGENTLESS_SRM , AGENTLESS_SRM Command Line Paramter: taskType Location: taskInfo/task/taskType	
Type	
initiatedFrom	Home
Type: enum Default Value: GUI Possible Values: NONE , GUI , COMMANDLINE , SYSTEM , SCRIPT , SCHEDULE , SCHEDULE Command Line Paramter: initiatedFrom Location: taskInfo/task/initiatedFrom	
Initiated From	
Task Flags	
disabled	Home

Type: boolean Possible Values: true/false Command Line Paramter: disabled Location: taskInfo/task/taskFlags/disabled	
Disabled	
Common Job Options	
StartUp Options	
startInSuspendedState	Home
Type: boolean Possible Values: true/false Command Line Paramter: startInSuspendedState Location: taskInfo/subTasks/options/commonOpts/startUpOpts/startInSuspendedState	
Startup in suspended state	
priority	Home
Type: integer Command Line Paramter: priority Location: taskInfo/subTasks/options/commonOpts/startUpOpts/priority	
Priority	
useDefaultPriority	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: useDefaultPriority Location: taskInfo/subTasks/options/commonOpts/startUpOpts/useDefaultPriority	
Use Default Priority	
Job Retry Options	
killRunningJobWhenTotalRunningTimeExpires	Home
Type: boolean Possible Values: true/false Command Line Paramter: killRunningJobWhenTotalRunningTimeExpires Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/killRunningJobWhenTotalRunningTimeExpires	
Kill Running Job When Total Running Time Expires	
enableNumberOfRetries	Home
Type: boolean Possible Values: true/false Command Line Paramter: enableNumberOfRetries Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/enableNumberOfRetries	
Enable Number Of Retries	
numberOfRetries	Home
Type: integer Default Value: 0 Command Line Paramter: numberOfRetries Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/numberOfRetries	
Number Of Retries	
Running Time	
enableTotalRunningTime	Home
Type: boolean Possible Values: true/false Command Line Paramter: enableTotalRunningTime Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/runningTime/enableTotalRunningTime	
Enable Total Running Time	
totalRunningTime	Home
Type: integer Default Value: 3600 Command Line Paramter: totalRunningTime Location: taskInfo/subTasks/options/commonOpts/jobRetryOpts/runningTime/totalRunningTime	
Total Running Time	
Backup Job Options	
backupLevel	Home
Type: enum Default Value: INCREMENTAL Possible Values: NONE , FULL , INCREMENTAL , DIFFERENTIAL , SYNTHETIC_FULL , ASR , TRANSACTION_LOG , PRE_SELECT , QR_SNAPSHOT ,	

QR_CREATE_QR_VOLUME , QR_INCREMENTALLY_UPDATE_QR_VOLUME , SRM_ANALYSIS , SRM_DISCOVERY , MINING , DATA_VERIFICATION , DATA_VERIFICATION Command Line Paramter: backupLevel Location: taskInfo/subTasks/options/backupOpts/backupLevel	
Backup Type	
runIncrementalBackup	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: runIncrementalBackup Location: taskInfo/subTasks/options/backupOpts/runIncrementalBackup	
Run Incremental Backup	
incLevel	Home
Type: enum Default Value: BEFORE_SYNT Possible Values: NONE , BEFORE_SYNT , AFTER_SYNT , AFTER_SYNT Command Line Paramter: incLevel Location: taskInfo/subTasks/options/backupOpts/incLevel	
Inc Level	
doNotTruncateLog	Home
Type: boolean Default Value: false Possible Values: true/false Command Line Paramter: doNotTruncateLog Location: taskInfo/subTasks/options/backupOpts/doNotTruncateLog	
Do Not Truncate Log	
sybaseSkipFullafterLogBkp	Home
Type: boolean Possible Values: true/false Command Line Paramter: sybaseSkipFullafterLogBkp Location: taskInfo/subTasks/options/backupOpts/sybaseSkipFullafterLogBkp	
Sybase Skip Full after Log Backup	
collectMetaInfo	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: collectMetaInfo Location: taskInfo/subTasks/options/backupOpts/collectMetaInfo	
Enable Granular Recovery	
Media Backup Option	
allowOtherSchedulesToUseMediaSet	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: allowOtherSchedulesToUseMediaSet Location: taskInfo/subTasks/options/backupOpts/mediaOpt/allowOtherSchedulesToUseMediaSet	
Allow Other Schedules To Use Media Set	
markMediaFullOnSuccess	Home
Type: boolean Possible Values: true/false Command Line Paramter: markMediaFullOnSuccess Location: taskInfo/subTasks/options/backupOpts/mediaOpt/markMediaFullOnSuccess	
Mark Media Full On Success	
startNewMedia	Home
Type: boolean Possible Values: true/false Command Line Paramter: startNewMedia Location: taskInfo/subTasks/options/backupOpts/mediaOpt/startNewMedia	
Start New Media	
numberOfDays	Home
Type: integer Command Line Paramter: numberOfDays Location: taskInfo/subTasks/options/backupOpts/mediaOpt/numberOfDays	
Days	
retentionJobType	Home
Type: enum	

Default Value: STORAGE_POLICY_DEFAULT Possible Values: INFINITE , NO_OF_DAYS , STORAGE_POLICY_DEFAULT , STORAGE_POLICY_DEFAULT Command Line Paramter: retentionJobType Location: taskInfo/subTasks/options/backupOpts/mediaOpt/retentionJobType	
Extend Job Retention	
Data Backup Option	
followMountPoints	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: followMountPoints Location: taskInfo/subTasks/options/backupOpts/dataOpt/followMountPoints	
Follow mount points	
skipConsistencyCheck	Home
Type: boolean Default Value: false Possible Values: true/false Command Line Paramter: skipConsistencyCheck Location: taskInfo/subTasks/options/backupOpts/dataOpt/skipConsistencyCheck	
Perform Consistency Check	
Vault Tracker Backup Option	
excludeMediaNotCopied	Home
Type: boolean Possible Values: true/false Command Line Paramter: excludeMediaNotCopied Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/excludeMediaNotCopied	
Exclude Media Not Copied	
exportMediaAfterJobFinishes	Home
Type: boolean Possible Values: true/false Command Line Paramter: exportMediaAfterJobFinishes Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/exportMediaAfterJobFinishes	
Export Media After Job Finishes	
trackTransit	Home
Type: boolean Possible Values: true/false Command Line Paramter: trackTransit Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/trackTransit	
Track Transit	
useVirtualMailSlots	Home
Type: boolean Possible Values: true/false Command Line Paramter: useVirtualMailSlots Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/useVirtualMailSlots	
Use Virtual Mail Slots	
filterMediaByRetention	Home
Type: boolean Possible Values: true/false Command Line Paramter: filterMediaByRetention Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/filterMediaByRetention	
Filter Media By Retention	
mediaWithExtendedRetentionJobs	Home
Type: boolean Possible Values: true/false Command Line Paramter: mediaWithExtendedRetentionJobs Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaWithExtendedRetentionJobs	
Media with extended retention job(s)	
Media Status	
all	Home
Type: boolean Possible Values: true/false Command Line Paramter: all Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/all	
All	
active	Home
Type: boolean	

Possible Values: true/false Command Line Paramter: active Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/active	
Active	
full	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: full Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/full	
Full	
overwriteProtected	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: overwriteProtected Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/overwriteProtected	
Overwrite Protected	
bad	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: bad Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/mediaStatus/bad	
Bad	
Export Location:	
locationName	Home
Type: string Command Line Paramter: exportLocation/locationName Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/exportLocation/locationName	
Location Name	
In Transit Location	
locationName	Home
Type: string Command Line Paramter: inTransitLocation/locationName Location: taskInfo/subTasks/options/backupOpts/vaultTrackerOpt/inTransitLocation/locationName	
Location Name	
Data Path Backup Option	
Library Entity for DataPath	
libraryName	Home
Type: string Command Line Paramter: libraryName Location: taskInfo/subTasks/options/backupOpts/dataPathOpt/library/libraryName	
Library Name	
Drive Pool Entity for DataPath	
drivePoolName	Home
Type: string Command Line Paramter: drivePoolName Location: taskInfo/subTasks/options/backupOpts/dataPathOpt/drivePool/drivePoolName	
Drive Pool Name	
SubTask Options	
subTaskType	Home
Type: enum Possible Values: NONE , ADMIN , BACKUP , RESTORE , WORKFLOW , COMPLIANCE_POLICY , COMPLIANCE_POLICY Command Line Paramter: subTaskType Location: taskInfo/subTasks/subTask/subTaskType	
Sub Task Type	
operationType	Home
Type: enum Default Value: NONE Possible Values: NONE , ALL_BACKUP_JOBS , BACKUP , RECOVERY_POINT_CREATION , CONSISTENCY_POINT_CREATION , SRM , ARCHIVE , CONTENT_INDEXING , ALL_RESTORE_JOBS , RESTORE , POWER_RESTORE , BROWSE , RESTORE_BY_JOB , ONETOUCH_RECOVERY , ADMIN , WORK_FLOW , COMPLIANCE , SEARCH , SAVE , EMAIL , TAGGING , LEGAL_HOLDS , COMP_RESTORE , MOSS , PRUNE , DRBACKUP , AUX_COPY ,	

REPORT , MEDIA_INVENTORY , SCHED_EXPORT , ARCHIVE_CHECK , MEDIA_PREDICTION , TAPE_ERASE , VT , SELECTIVE_DELETE , DRIVE_VALIDATION , DRIVE_CLEANING , STAMP_MEDIA , BROWSE_DELETE , CATALOGUE_MEDIA , DATA_AGING , DOWNLOAD_UPDATES , INSTALL_UPDATES , SRM_REPORT , OFFLINE_CONTENT_INDEX , MAGLIBMAINTENANCE , SHELF_MANAGEMENT , INFOMGMT , INSTALL_CLIENT , UNINSTALL_CLIENT , SNAP_TO_TAPE , CCM_CAPTURE , CCM_MERGE , EXTERNAL_DATA_PROCESSOR , MEDIA_REFRESHING , PREPARATION , FDC , MAGLIBVOLRECON , DEDUPDBSYNC , TAPEIMPORT , WORKFLOW , QR , FS_BACKUP , IMAGE_BACKUP , SERVERLESS_BACKUP , MOUNT_SNAPSHOT , UNMOUNT_SNAPSHOT , DELETE_SNAPSHOT , MINING_BACKUP , SRM_AGENTLESS , SRM_AGENTLESS Command Line Paramter: operationType Location: taskInfo/subTasks/subTask/operationType	
Operation Type	
Associations	
backupsetName	Home
Type: string Command Line Paramter: backupsetName Location: taskInfo/associations/backupsetName	
Backupset Name	
subclientName	Home
Type: string Command Line Paramter: subclientName Location: taskInfo/associations/subclientName	
Subclient Name	
clientName	Home
Type: string Command Line Paramter: clientName Location: taskInfo/associations/clientName	
Client Name	
appName	Home
Type: string Command Line Paramter: appName Location: taskInfo/associations/appName	
App Name	
instanceName	Home
Type: string Command Line Paramter: instanceName Location: taskInfo/associations/instanceName	
Instance Name	

Advanced Backup Options (Startup)

You can specify advanced backup startup options for the operation. For more information, select one of the following:

Set Priority

- **Use Default Priority**

Select this option to use default priority for the job.

- **Change Priority**

Use this option to modify the priority of a job between 0 (highest priority) and 999 (lowest priority). The Job Manager will use the priority setting when allocating the required resources.

Start job in suspended state

Specifies that this job will start in the Job Controller in a suspended state and cannot run until the job is manually resumed using the **Resume** option.

Description

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

Advanced Backup Options (Job Retry)

You can specify advanced backup startup options for attempting to restart a job. For more information, select one of the following:

Enable Total Running Time

The maximum elapsed time, in hours and minutes, from the time that the job is created. When the specified maximum elapsed time is reached, as long as the job is in the "Running" state, it will continue; if the job is not in the "Running" state when the specified time is reached, Job Manager will kill the job.

Enable Number of Retries

The number of times that Job Manager will attempt to restart the job. Once the maximum number of retry attempts has been reached, if the job has still not restarted successfully, Job Manager will kill the job. Note that this job-based setting will not be valid if restartability has been turned off in the Job Management Control Panel.

Kill Running Jobs When Total Running Time Expires

Option to kill the job when the specified Total Running Time has elapsed, even if its state is "Running". This option is available only if you have specified a Total Running Time.

Advanced Backup Options (Data Path)

Select the data path to be used for the backup/archive operation.

Ensure that the Library, MediaAgent, Drive Pool, and Drive selected for this operation is available online and is a part of the associated Storage Policy.

Use MediaAgent

Specifies the name of the MediaAgent that will be used to perform the backup operation. If necessary, you can change the name of the MediaAgent.

For example, if the library is shared and you wish to use a specific MediaAgent (instead of the system selected MediaAgent, or a MediaAgent which may be idle, or less critical) or if you know that the library attached to the specified MediaAgent.

Use Library

Specifies the name of the library that will be used to perform the backup operation. Use this option when you wish to backup to a specific library.

Use Drive Pool

Specifies the name of the Drive Pool that will be used to perform the backup operation. Use this option when you wish to backup using a specific Drive Pool.

Use Drive

Specifies the name of the Drive that will be used to perform the backup operation. Use this option when you wish to backup using a specific Drive from the selected Drive Pool.

Vault Tracking

Select options to export and track media, using Vault Tracker.



Vault Tracking Options will be displayed only when a Vault Tracker license is available in the CommServe.

Vault Tracking options are only applicable for data protection operations using a storage policy associated with a library containing removable media (e.g., tape, optical or stand-alone.)

Export media after the job finishes

Specifies the media used by the data protection operation and media with the specific Media Status (if specified) will be exported and tracked by Vault Tracker.

Exclude Media Not Copied

When selected, allows you to exclude media with jobs that have to be copied.

Media Status

- **All**
Click to select all media. Clear this option to select media with a specific status.
- **Active**
Click to select media with its status marked as active.
- **Full**
Click to select media with its status marked as full.
- **Overwrite Protected**
Click to select media with its status marked as read-only .
- **Bad**
Click to select media with its status marked as bad.

Export Location

Specifies the destination location and lists the stationary locations entered using the **Export Location Details** dialog box.

Track Transit

Specifies that transit information must be tracked, and lists the transit locations entered using the **Export Location Details** dialog box.

Use Virtual Mail Slots

Specifies the exported media is stored within the library in the virtual mail slots defined in the **Library Properties (Media)** dialog box.

Filter Media By Retention

Specifies that the system must automatically filter media based on whether the media has extended retention jobs or not.

- **Media with extended retention job(s)**

Specifies that media with at least one extended retention job will be exported.

- **Media with no extended retention job(s)**

Specifies that media with no extended retention jobs will be exported.

Alert

Use this tab to configure an alert for a schedule policy.

Configure Alert

- **Alert**

The currently configured Alert.

- **Add/Modify Alert**

When clicked, opens the Alert Wizard to configure alerts for this operation.

- **Delete Alert**

When clicked, deletes any existing alerts that are already configured.

Browse Options

Use this dialog box to select the basic options under which you want to browse the data secured by a data protection operation in the selected client, agent, instance/partition, or backup set level depending on the functionality of a given agent. The system provides several browse options. These options influence the behavior of the browse operation in the subsequent Browse window.

Browse the Latest Data

Specifies whether the browse operation must display data from the most recent data protection operation (from now back to the last full backup) in the Browse window. (This option is selected by default.)

Specify Browse Time

Specifies whether the browse operation must display data, up to the specified date and time in the Browse window. Data secured after the specified date and time will be omitted in this window.

- **Browse Data Before/Browse to Point-In-Time**

Specifies the date and time that must be used to display the data in the Browse window.

- **Time Zone**

Lists the time zones. To change the time zone, click one in the list.

Client Computer

Lists the client computers available for the browse operation. This option is available only when the browse operation is performed either from the client node in the CommCell Browser, **Browse & Recover** option from the **Tools** menu in the CommCell Console or when the **New Browse** button is clicked in the Browse window.

Use MediaAgent

Specifies the name of MediaAgent that will be used to perform the browse (and restore) operation. If necessary, you can change the name of the MediaAgent. For example, if the library is shared and you wish to use a specific MediaAgent (instead of the system selected MediaAgent, or a MediaAgent which may be idle, or less critical) or if you know that the media containing the data you wish to restore is available in the library attached to the specified MediaAgent.

If the media containing the data is not available in the tape/optical library attached to the MediaAgent, the system will automatically prompt you to insert the appropriate media. In the case of a disk library, the operation will fail if the requested data is not available in the disk library attached to the specified MediaAgent.

Show Deleted Items

Specifies whether the operation will browse all the data (including deleted items) secured by all data protection operations for the selected backup set as of the specified browse items.

Table View

When selected, the backup data will be displayed as individual database tables during the browse operation. This option is visible only when you perform browse for a DumpBasedBackupSet.

[Back to Top](#)

Advanced Browse Options

Use this dialog to access additional browse capabilities for the browse window.

Exclude Data Before

Specifies that the browse operation must return data that has been backed up after the specified date. Select the date and time from the list.

- **Time Zone**

Lists the time zones. To change the time zone, click one in the list.

Browse from copy precedence

When selected, the system retrieves the data from the storage policy copy with the specified copy precedence number. If data does not exist in the specified copy, the operation fails even if the data exists in another copy of the same storage policy.

When cleared, (or 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 the data from the other copies of the storage policy starting with the copy with the lowest copy precedence and proceeding through the copies with higher copy precedence. Once the data is found, it is retrieved, and no further copies are checked.

PostgreSQL Restore Options (General)

Use this dialog box to select restore options.

Destination Client/Computer/Server

Displays the name of the client computer to which the selected data will be restored. To change the destination computer, select one from the list. The list includes clients:

- Which are established as clients within the CommCell.
- Clients with Operating Systems that support the cross-platform restore operation from this client. (Refer to the topic titled **Cross Platform Restore Operations** in Books Online for additional information.)

By default, data is restored to the same computer from which it was backed up.

Source Server

Displays the name of the source server or database, depending on whether an instance or database was selected for restore.

Destination Server

Displays the name of the server to which the selected data will be restored. To change the destination, click one from the list.

Advanced

Click to select additional restore options.

Save As Script

Click to open the Save As Script dialog, which allows you to save this operation and the selected options as a script file (in XML format). The script can later be executed from the Command Line Interface using `qoperation execute` command.

When you save an operation as a script, each option in the dialog will have a corresponding xml parameter in the script file. When executing the script, you can modify the value for any of these XML parameters as per need.

To view the XML values for each of the options in the dialog, see the following:

Command Line XML Options

[Back to Top](#)

Job Initiation

Select from the following options.

Immediate

Run This Job Now

Specifies this job will run immediately.

Schedule

Specifies this job will be scheduled. When you click **Configure**, the Schedule Details dialog box will open and allow you to configure the schedule pattern.

Advanced

Click to select additional options.

Save As Script

Click to open the Save As Script dialog, which allows you to save this operation and the selected options as a script file (in XML format). The script can later be executed from the Command Line Interface using `qoperation execute` command.

When you save an operation as a script, each option in the dialog will have a corresponding xml parameter in the script file. When executing the script, you can modify the value for any of these XML parameters as per need.

To view the XML values for each of the options in the dialog, see the following:

Command Line XML Options

PostgreSQL Table Level Restore Options (General)

Use this dialog box to choose the table restore options:

User Selected Objects for Restore

Displays all the selected tables from the list of database tables of each user in a tree view of a subclient.

Destination Server

Displays the name of the server to which the selected data will be restored. To change the destination, click one from the list.

Staging Path

Specifies the path used as the staging area to store data files for the auxiliary instance and the complete export tables before importing.

Browse

Click to browse and select a staging path.

Do Not import to the server

When selected, the dump database will not be imported by default to the server. It will export the tables and leave them in the staging area. You can import the tables to the destination database later or at any time

Define auxiliary database name for Table Restores:

When selected, this option allows you to import selected tables to a different database other than the specified database.

- **Source Database**

Displays the name of the source database, depending on the database selected for restore.

- **Target Database**

Displays the path to the database that is used to restore the selected tables from the source database. Click and specify the path to change the target database.

Advanced

Click to select additional restore options.

Save As Script

Click to open the Save As Script dialog, which allows you to save this operation and the selected options as a script file (in XML format). The script can later be executed from the Command Line Interface using `qoperation execute` command.

When you save an operation as a script, each option in the dialog will have a corresponding xml parameter in the script file. When executing the script, you can modify the value for any of these XML parameters as per need.

To view the XML values for each of the options in the dialog, see the following:

Command Line XML Options

[Back to Top](#)

Save as Script

Use this dialog box to choose a name and path for the script file and the mode of execution.

Client

Enter or select the name of the client computer where the script will be created.

Path

Enter the path for the script that will be created.

Browse

Click this button to browse to a path for the command line script.

- Scripts are not supported on the Windows NT platform.
- It is recommended not to use any reserved device names (e.g., `LPT1`) as the name of the file.
- The file names are not case-sensitive.
- Do not end the file name with a trailing space or a period. Although the underlying file system may support such names, the operating system does not support them.

Mode

- **Synchronous**

Specifies that the script execute in synchronous mode. A synchronous operation exits only when the operation has completed. This option is only available when scripting a single job.

- **Asynchronous**

Specifies that the script execute in asynchronous mode. An asynchronous operation submits the job to the CommServe and exits immediately, returning control to the calling program or script.

Specify User Account to Run the Script

Specifies to use the given user account to save the operation as a script.

- **Use the Currently Logged in User Account**

Click to use the same user account used for logging into the CommCell Console.

- **User Name**

Type the user name that was used for logging into the CommCell Console.

- **Password**

Type the password for the user account used for logging into the CommCell Console.

- **Confirm Password**

Type to re-confirm the password.

- **Use a Different User Account**

Click to specify a different user account to save the operation as a script.

- **User Name**

Enter the different user name to be used for saving the operation as a script.

- **Password**

Enter the password for the user account to be used for saving the operation as a script.

- **Confirm Password**

Type to re-confirm the password.

[Back to Top](#)

Startup

Select from the following options. Note that all the options described in this help may not be available and only the options displayed in the dialog box are applicable to the operation for which the information is being displayed.

Priority

- **Use Default Priority**

If selected, the default priority for this type of job will be used in determining how the Job Manager will allocate resources for this job.

- **Change Priority**

Use this option to manually specify the priority for the job, between 0 (highest priority) and 999 (lowest priority). The Job Manager will use the priority setting when allocating the required resources. This is useful if you have jobs that are very important and must complete, or jobs that can be moved to a lower priority.

Start up in suspended state

Specifies that this job will start in the Job Controller in a suspended state and cannot run until the job is manually resumed using the **Resume** option. This option can be used to add a level of manual control when a job is started. For example, you could schedule jobs to start in the suspended state and then choose which scheduled jobs complete by resuming the operation started in the suspended state.

Description

Use this field to enter a description about the entity. This description can include information about the entity's content, cautionary notes, etc.

Advanced Restore Options (Copy Precedence)

Choose the copy from which you wish to recover or retrieve. Select from the following options:

Restore from copy precedence

When selected, the system recovers or retrieves data from the selected storage policy copy (**Synchronous Copy** or **Selective Copy**). If data does not exist in the specified copy, the data recovery or retrieve operation fails even if the data exists in another copy of the same storage policy.

When cleared, (or by default) the system recovers or retrieves data from the storage policy copy with the lowest copy precedence. If the data was pruned from the primary copy, the system automatically recovers or retrieves from the other copies of the storage policy in the following order:

1. Lowest copy precedence to highest copy precedence among all synchronous copies.
2. Lowest copy precedence to highest copy precedence among all selective copies (if your agent supports selective copies).

Once the data is found, it is recovered or retrieved, and no further copies are checked.

Copy Precedence

When selected, the system recovers or retrieves data from the copy with the specified precedence number.

Advanced Restore Options (Data Path)

Select the data path for the restore/recovery operation. You can specify the MediaAgent, Library, Drive Pool, and Drive from which the restore operation must

be performed.

Use MediaAgent

Specifies the name of the MediaAgent that will be used to perform the restore operation. If necessary, you can change the name of the MediaAgent.

For example, if the library is shared and you wish to use a specific MediaAgent (instead of the system selected MediaAgent, or a MediaAgent which may be idle, or less critical) or if you know that the media containing the data you wish to restore is available in the library attached to the specified MediaAgent.

If the media containing the data is not available in the tape/optical library attached to the MediaAgent, the system will automatically prompt you to insert the appropriate media. In the case of a disk library, the operation will fail if the requested data is not available in the disk library attached to the specified MediaAgent.

Use Library

Specifies the name of the library that will be used to perform the restore operation. Use this option when you wish to restore using a specific library.

For example, if you know that the media containing the data you wish to restore is available in a specific library.

Use Drive Pool

Specifies the name of the Drive Pool that will be used to perform the restore operation. Use this option when you wish to restore using a specific Drive Pool.

To restore NAS data, select the drive pool type that was used to perform the backup, *i.e.*, if a drive pool associated with an NDMP Remote Server was used to perform the backup, select a drive pool associated with an NDMP Remote Server. Similarly, if an NDMP drive pool was used, specify an NDMP drive pool.

Use Drive

Specifies the name of the drive in the drive pool that will be used to perform the restore operation. Use this option when you wish to restore using a specific Drive in the Drive Pool.

Use Proxy

Specifies the name of the proxy server that will be used to perform the restore operation. Use this option when you wish to restore using a proxy server.

Alert

Use this tab to configure an alert for a schedule policy.

Configure Alert

- **Alert**

The currently configured Alert.

- **Add/Modify Alert**

When clicked, opens the Alert Wizard to configure alerts for this operation.

- **Delete Alert**

When clicked, deletes any existing alerts that are already configured.

Command Line XML Restore Options - SAP for Oracle iDataAgent

Options

Task Request Information			
Description	Field Name	Data Type	Commandline Parameter
Task			task
Type	taskType	enum	taskType
Initiated From	initiatedFrom	enum	initiatedFrom
Task Flags			taskFlags
Disabled	disabled	boolean	disabled
Common Job Options			
Description	Field Name	Data Type	Commandline Parameter
StartUp Options			startUpOpts

Startup in suspended state	startInSuspendedState	boolean	startInSuspendedState
Priority	priority	integer	priority
Use Default Priority	useDefaultPriority	boolean	useDefaultPriority
Restore Job Options			
Description	Field Name	Data Type	Commandline Parameter
Browse Option			browseOption
Comm Cell Id	commCellId	integer	commCellId
List Media	listMedia	boolean	listMedia
Backupset			backupset
Client Name	clientName	string	backupset/clientName (c)
Media Option			mediaOption
Use Library			library
Library Name	libraryName	string	libraryName (l)
Use MediaAgent			mediaAgent
Media Agent Name	mediaAgentName	string	mediaAgentName (m)
Copy Precedence			mediaOption/copyPrecedence
Restore from copy precedence	copyPrecedenceApplicable	boolean	copyPrecedenceApplicable
Copy Precedence Type	copyPrecedenceType	enum	copyPrecedenceType
Synchronous Copy Precedence	synchronousCopyPrecedence	integer	synchronousCopyPrecedence
Copy Precedence	copyPrecedence	integer	copyPrecedence/copyPrecedence
Restore Destination			destination
Destination client			destClient
Client Name	clientName	string	destClient/clientName (c)
Oracle Restore Option			oracleOpt
Restore Control File	restoreControlFile	boolean	restoreControlFile
Restore Control File As:	specifyControlFile	boolean	specifyControlFile
To Point In Time	specifyControlFileTime	boolean	specifyControlFileTime
Restore Archive Log	archiveLog	boolean	archiveLog
Archive Log By	archiveLogBy	enum	archiveLogBy
Start:	useStartLSN	boolean	useStartLSN
Start LSNNum	startLSNNum	string	startLSNNum
End:	useEndLSN	boolean	useEndLSN
End LSNNum	endLSNNum	string	endLSNNum
Max Open Files	maxOpenFiles	integer	maxOpenFiles
Db Incarnation	dbIncarnation	integer	dbIncarnation
Replicate	controlFileReplicate	boolean	controlFileReplicate
Restore SP File	restoreSPFile	boolean	restoreSPFile
Restore SP File As:	specifySPFile	boolean	specifySPFile
To Point In Time	specifySPFileTime	boolean	specifySPFileTime
Start:	useStartLog	boolean	useStartLog
End:	useEndLog	boolean	useEndLog
Log Target	logTarget	string	logTarget
Restore Data	restoreData	boolean	restoreData
Partial Restore	partialRestore	boolean	partialRestore
Restore From	restoreFrom	integer	restoreFrom
Check Read Only	checkReadOnly	boolean	checkReadOnly
Recover	recover	boolean	recover
Recover From	recoverFrom	integer	recoverFrom
NO CATALOG	noCatalog	boolean	noCatalog
Restore Stream	restoreStream	integer	restoreStream
Reset Database	resetDatabase	boolean	resetDatabase
No Re-do Logs	doNotRecoverRedoLogs	boolean	doNotRecoverRedoLogs
Open DB	openDatabase	boolean	openDatabase
Reset Logs			

	resetLogs	integer	resetLogs
Validate	validate	boolean	validate
Duplicate DB	duplicate	boolean	duplicate
Duplicate No File Namecheck	duplicateNoFileNamecheck	boolean	duplicateNoFileNamecheck
Duplicate Standby	duplicateStandby	boolean	duplicateStandby
Duplicate Standby Do Recover	duplicateStandbyDoRecover	boolean	duplicateStandbyDoRecover
Duplicate To	duplicateTo	boolean	duplicateTo
Duplicate To Skip Read Only	duplicateToSkipReadOnly	boolean	duplicateToSkipReadOnly
Duplicate To Open Restricted	duplicateToOpenRestricted	boolean	duplicateToOpenRestricted
Duplicate To Skip Tablespace	duplicateToSkipTablespace	boolean	duplicateToSkipTablespace
Duplicate To Log File	duplicateToLogFile	boolean	duplicateToLogFile
Disable Oracle Channel Restore Failover	restoreFailover	boolean	restoreFailover
Set DBID	setDBId	boolean	setDBId
Table View Restore	tableViewRestore	boolean	tableViewRestore
Ctrl File Backup Type	ctrlFileBackupType	enum	ctrlFileBackupType
Sp File Backup Type	spFileBackupType	enum	spFileBackupType
Restore From	ctrlRestoreFrom	boolean	ctrlRestoreFrom
Restore From	spFileRestoreFrom	boolean	spFileRestoreFrom
Os ID	osID	integer	osID
Restore Tablespace	restoreTablespace	boolean	restoreTablespace
Auto Detect Device	autoDetectDevice	boolean	autoDetectDevice
Sap Device Type	isDeviceTypeSelected	boolean	isDeviceTypeSelected
Device Type	deviceType	enum	deviceType
By Tag	restoreByTag	boolean	restoreByTag
Switch Database mode for Restore	switchDatabaseMode	boolean	switchDatabaseMode
Tag	restoreDataTag	boolean	restoreDataTag
Catalog Connect2			catalogConnect2
Password	password	string	password (p)
Control File Time			controlFileTime
Time	time	integer	controlFileTime/time
SPFile Time			SPFileTime
Time	time	integer	SPFileTime/time
Log Time			logTime
From Time	fromTime	integer	fromTime
To Time	toTime	integer	toTime
Restore Time			restoreTime
Time	time	integer	restoreTime/time
Recover Time			recoverTime
Time	time	integer	recoverTime/time
Time Zone			timeZone
Time Zone Name	TimeZoneName	string	TimeZoneName
Restore Common Options			commonOptions
Automatically Detect Regular Expressions	detectRegularExpression	boolean	detectRegularExpression
Restore device files as regular files	restoreDeviceFilesAsRegularFiles	boolean	restoreDeviceFilesAsRegularFiles
Restore Space Restrictions	restoreSpaceRestrictions	boolean	restoreSpaceRestrictions
Ignore Namespace Requirements	ignoreNamespaceRequirements	boolean	ignoreNamespaceRequirements
Skip errors and continue	skipErrorsAndContinue	boolean	skipErrorsAndContinue
Use hardware revert capability if available	revert	boolean	revert
Recover All Protected Mails	recoverAllProtectedMails	boolean	recoverAllProtectedMails
Is From Browse Backup	isFromBrowseBackup	boolean	isFromBrowseBackup
Cluster DBBackedup	clusterDBBackedup	boolean	clusterDBBackedup
SubTask Options			
Description	Field Name	Data Type	Commandline Parameter
Sub Task Type			

	subTaskType	enum	subTaskType (st)
Operation Type	operationType	enum	operationType (op)
Associations			
Description	Field Name	Data Type	Commandline Parameter
Backupset Name	backupsetName	string	backupsetName (b)
Client Name	clientName	string	associations/clientName (c)
App Name	appName	string	appName (a)
Instance Name	instanceName	string	instanceName (i)

Usage

Task Request Information	
Task	
taskType	Home
Type: enum Default Value: IMMEDIATE Possible Values: NONE , IMMEDIATE , SCHEDULE , SAVED_REPORT , SCHEDULE_POLICY , WORKFLOW , PREVIEW , AUTOMATIC_COPY , AGENTLESS_SRM , AGENTLESS_SRM Command Line Paramter: taskType Location: taskInfo/task/taskType	
Type	
initiatedFrom	Home
Type: enum Default Value: GUI Possible Values: NONE , GUI , COMMANDLINE , SYSTEM , SCRIPT , SCHEDULE , SCHEDULE Command Line Paramter: initiatedFrom Location: taskInfo/task/initiatedFrom	
Initiated From	
Task Flags	
disabled	Home
Type: boolean Possible Values: true/false Command Line Paramter: disabled Location: taskInfo/task/taskFlags/disabled	
Disabled	
Common Job Options	
StartUp Options	
startInSuspendedState	Home
Type: boolean Possible Values: true/false Command Line Paramter: startInSuspendedState Location: taskInfo/subTasks/options/commonOpts/startUpOpts/startInSuspendedState	
Startup in suspended state	
priority	Home
Type: integer Command Line Paramter: priority Location: taskInfo/subTasks/options/commonOpts/startUpOpts/priority	
Priority	
useDefaultPriority	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: useDefaultPriority Location: taskInfo/subTasks/options/commonOpts/startUpOpts/useDefaultPriority	
Use Default Priority	
Restore Job Options	
Browse Option	
commCellId	Home

Type: integer Command Line Paramter: commCellId Location: taskInfo/subTasks/options/restoreOptions/browseOption/commCellId	
Comm Cell Id	
listMedia	Home
Type: boolean Possible Values: true/false Command Line Paramter: listMedia Location: taskInfo/subTasks/options/restoreOptions/browseOption/listMedia	
List Media	
Backupset	
clientName	Home
Type: string Command Line Paramter: backupset/clientName Location: taskInfo/subTasks/options/restoreOptions/browseOption/backupset/clientName	
Client Name	
Media Option	
Use Library	
libraryName	Home
Type: string Command Line Paramter: libraryName Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/library/libraryName	
Library Name	
Use MediaAgent	
mediaAgentName	Home
Type: string Command Line Paramter: mediaAgentName Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/mediaAgent/mediaAgentName	
Media Agent Name	
Copy Precedence	
copyPrecedenceApplicable	Home
Type: boolean Possible Values: true/false Command Line Paramter: copyPrecedenceApplicable Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/copyPrecedenceApplicable	
Restore from copy precedence	
copyPrecedenceType	Home
Type: enum Default Value: SYNCHRONOUS Possible Values: SYNCHRONOUS , SELECTIVE , SELECTIVE Command Line Paramter: copyPrecedenceType Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/copyPrecedenceType	
Copy Precedence Type	
synchronousCopyPrecedence	Home
Type: integer Command Line Paramter: synchronousCopyPrecedence Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/synchronousCopyPrecedence	
Synchronous Copy Precedence	
copyPrecedence	Home
Type: integer Command Line Paramter: copyPrecedence/copyPrecedence Location: taskInfo/subTasks/options/restoreOptions/browseOption/mediaOption/copyPrecedence/copyPrecedence	
Copy Precedence	
Restore Destination	
Destination client	
clientName	Home
Type: string Command Line Paramter: destClient/clientName Location: taskInfo/subTasks/options/restoreOptions/destination/destClient/clientName	
Client Name	
Oracle Restore Option	
restoreControlFile	Home
Type: boolean	

Possible Values: true/false Command Line Paramter: restoreControlFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreControlFile	
Restore Control File	
specifyControlFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifyControlFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifyControlFile	
Restore Control File As:	
specifyControlFileTime	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifyControlFileTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifyControlFileTime	
To Point In Time	
archiveLog	Home
Type: boolean Possible Values: true/false Command Line Paramter: archiveLog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/archiveLog	
Restore Archive Log	
archiveLogBy	Home
Type: enum Default Value: BYTIME Possible Values: DEFAULT , BYLSN , BYTIME , BYTAG , BYTAG Command Line Paramter: archiveLogBy Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/archiveLogBy	
Archive Log By	
useStartLSN	Home
Type: boolean Possible Values: true/false Command Line Paramter: useStartLSN Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useStartLSN	
Start:	
startLSNNum	Home
Type: string Command Line Paramter: startLSNNum Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/startLSNNum	
Start LSNNum	
useEndLSN	Home
Type: boolean Possible Values: true/false Command Line Paramter: useEndLSN Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useEndLSN	
End:	
endLSNNum	Home
Type: string Command Line Paramter: endLSNNum Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/endLSNNum	
End LSNNum	
maxOpenFiles	Home
Type: integer Command Line Paramter: maxOpenFiles Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/maxOpenFiles	
Max Open Files	
dbIncarnation	Home
Type: integer Command Line Paramter: dbIncarnation Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/dbIncarnation	
Db Incarnation	
controlFileReplicate	Home
Type: boolean Possible Values: true/false Command Line Paramter: controlFileReplicate	

Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/controlFileReplicate	
Replicate	
restoreSPFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreSPFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreSPFile	
Restore SP File	
specifySPFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifySPFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifySPFile	
Restore SP File As:	
specifySPFileTime	Home
Type: boolean Possible Values: true/false Command Line Paramter: specifySPFileTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/specifySPFileTime	
To Point In Time	
useStartLog	Home
Type: boolean Possible Values: true/false Command Line Paramter: useStartLog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useStartLog	
Start:	
useEndLog	Home
Type: boolean Possible Values: true/false Command Line Paramter: useEndLog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/useEndLog	
End:	
logTarget	Home
Type: string Command Line Paramter: logTarget Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/logTarget	
Log Target	
restoreData	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreData Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreData	
Restore Data	
partialRestore	Home
Type: boolean Possible Values: true/false Command Line Paramter: partialRestore Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/partialRestore	
Partial Restore	
restoreFrom	Home
Type: integer Command Line Paramter: restoreFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreFrom	
Restore From	
checkReadOnly	Home
Type: boolean Possible Values: true/false Command Line Paramter: checkReadOnly Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/checkReadOnly	
Check Read Only	
recover	Home
Type: boolean Possible Values: true/false Command Line Paramter: recover Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/recover	

recoverFrom	Home
Type: integer Command Line Paramter: recoverFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/recoverFrom	
Recover From	
noCatalog	Home
Type: boolean Possible Values: true/false Command Line Paramter: noCatalog Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/noCatalog	
NO CATALOG	
restoreStream	Home
Type: integer Default Value: 1 Command Line Paramter: restoreStream Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreStream	
Restore Stream	
resetDatabase	Home
Type: boolean Possible Values: true/false Command Line Paramter: resetDatabase Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/resetDatabase	
Reset Database	
doNotRecoverRedoLogs	Home
Type: boolean Possible Values: true/false Command Line Paramter: doNotRecoverRedoLogs Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/doNotRecoverRedoLogs	
No Re-do Logs	
openDatabase	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: openDatabase Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/openDatabase	
Open DB	
resetLogs	Home
Type: integer Default Value: 1 Command Line Paramter: resetLogs Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/resetLogs	
Reset Logs	
validate	Home
Type: boolean Possible Values: true/false Command Line Paramter: validate Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/validate	
Validate	
duplicate	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicate Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicate	
Duplicate DB	
duplicateNoFileNamecheck	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateNoFileNamecheck Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateNoFileNamecheck	
Duplicate No File Namecheck	
duplicateStandby	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateStandby Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateStandby	

duplicateStandbyDoRecover	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateStandbyDoRecover Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateStandbyDoRecover	
Duplicate Standby Do Recover	
duplicateTo	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateTo Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateTo	
Duplicate To	
duplicateToSkipReadOnly	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToSkipReadOnly Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToSkipReadOnly	
Duplicate To Skip Read Only	
duplicateToOpenRestricted	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToOpenRestricted Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToOpenRestricted	
Duplicate To Open Restricted	
duplicateToSkipTablespace	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToSkipTablespace Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToSkipTablespace	
Duplicate To Skip Tablespace	
duplicateToLogFile	Home
Type: boolean Possible Values: true/false Command Line Paramter: duplicateToLogFile Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/duplicateToLogFile	
Duplicate To Log File	
restoreFailover	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreFailover Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreFailover	
Disable Oracle Channel Restore Failover	
setDBId	Home
Type: boolean Possible Values: true/false Command Line Paramter: setDBId Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/setDBId	
Set DBID	
tableViewRestore	Home
Type: boolean Possible Values: true/false Command Line Paramter: tableViewRestore Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/tableViewRestore	
Table View Restore	
ctrlFileBackupType	Home
Type: enum Default Value: AUTO_BACKUP Possible Values: AUTO_BACKUP , BACKUP_PIECE , BACKUP_PIECE Command Line Paramter: ctrlFileBackupType Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/ctrlFileBackupType	
Ctrl File Backup Type	
spFileBackupType	Home
Type: enum Default Value: AUTO_BACKUP Possible Values: AUTO_BACKUP , BACKUP_PIECE , BACKUP_PIECE	

Command Line Paramter: spFileBackupType Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/spFileBackupType	
Sp File Backup Type	
ctrlRestoreFrom	Home
Type: boolean Possible Values: true/false Command Line Paramter: ctrlRestoreFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/ctrlRestoreFrom	
Restore From	
spFileRestoreFrom	Home
Type: boolean Possible Values: true/false Command Line Paramter: spFileRestoreFrom Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/spFileRestoreFrom	
Restore From	
osID	Home
Type: integer Command Line Paramter: osID Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/osID	
Os ID	
restoreTablespace	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreTablespace Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreTablespace	
Restore Tablespace	
autoDetectDevice	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: autoDetectDevice Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/autoDetectDevice	
Auto Detect Device	
isDeviceTypeSelected	Home
Type: boolean Possible Values: true/false Command Line Paramter: isDeviceTypeSelected Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/isDeviceTypeSelected	
Sap Device Type	
deviceType	Home
Type: enum Default Value: UTIL_FILE Possible Values: UTIL_FILE , RMAN_UTIL , RMAN_UTIL Command Line Paramter: deviceType Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/deviceType	
Device Type	
restoreByTag	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreByTag Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreByTag	
By Tag	
switchDatabaseMode	Home
Type: boolean Possible Values: true/false Command Line Paramter: switchDatabaseMode Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/switchDatabaseMode	
Switch Database mode for Restore	
restoreDataTag	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreDataTag Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreDataTag	
Tag	
Catalog Connect2	
password	

	Home
Type: string Command Line Paramter: password Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/catalogConnect2/password	
Password	
Control File Time	
time	Home
Type: integer Command Line Paramter: controlFileTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/controlFileTime/time	
Time	
SPFile Time	
time	Home
Type: integer Command Line Paramter: SPFileTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/SPFileTime/time	
Time	
Log Time	
fromTime	Home
Type: integer Command Line Paramter: fromTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/logTime/fromTime	
From Time	
toTime	Home
Type: integer Command Line Paramter: toTime Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/logTime/toTime	
To Time	
Restore Time	
time	Home
Type: integer Command Line Paramter: restoreTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/restoreTime/time	
Time	
Recover Time	
time	Home
Type: integer Command Line Paramter: recoverTime/time Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/recoverTime/time	
Time	
Time Zone	
TimeZoneName	Home
Type: string Command Line Paramter: TimeZoneName Location: taskInfo/subTasks/options/restoreOptions/oracleOpt/timeZone/TimeZoneName	
Time Zone Name	
Restore Common Options	
detectRegularExpression	Home
Type: boolean Default Value: true Possible Values: true/false Command Line Paramter: detectRegularExpression Location: taskInfo/subTasks/options/restoreOptions/commonOptions/detectRegularExpression	
Automatically Detect Regular Expressions	
restoreDeviceFilesAsRegularFiles	Home
Type: boolean Possible Values: true/false Command Line Paramter: restoreDeviceFilesAsRegularFiles Location: taskInfo/subTasks/options/restoreOptions/commonOptions/restoreDeviceFilesAsRegularFiles	
Restore device files as regular files	
restoreSpaceRestrictions	Home
Type: boolean	

Possible Values: true/false Command Line Paramter: restoreSpaceRestrictions Location: taskInfo/subTasks/options/restoreOptions/commonOptions/restoreSpaceRestrictions	
Restore Space Restrictions	
ignoreNamespaceRequirements	Home
Type: boolean Possible Values: true/false Command Line Paramter: ignoreNamespaceRequirements Location: taskInfo/subTasks/options/restoreOptions/commonOptions/ignoreNamespaceRequirements	
Ignore Namespace Requirements	
skipErrorsAndContinue	Home
Type: boolean Default Value: false Possible Values: true/false Command Line Paramter: skipErrorsAndContinue Location: taskInfo/subTasks/options/restoreOptions/commonOptions/skipErrorsAndContinue	
Skip errors and continue	
revert	Home
Type: boolean Possible Values: true/false Command Line Paramter: revert Location: taskInfo/subTasks/options/restoreOptions/commonOptions/revert	
Use hardware revert capability if available	
recoverAllProtectedMails	Home
Type: boolean Possible Values: true/false Command Line Paramter: recoverAllProtectedMails Location: taskInfo/subTasks/options/restoreOptions/commonOptions/recoverAllProtectedMails	
Recover All Protected Mails	
isFromBrowseBackup	Home
Type: boolean Possible Values: true/false Command Line Paramter: isFromBrowseBackup Location: taskInfo/subTasks/options/restoreOptions/commonOptions/isFromBrowseBackup	
Is From Browse Backup	
clusterDBBackedup	Home
Type: boolean Possible Values: true/false Command Line Paramter: clusterDBBackedup Location: taskInfo/subTasks/options/restoreOptions/commonOptions/clusterDBBackedup	
Cluster DBBackedup	
SubTask Options	
subTaskType	Home
Type: enum Possible Values: NONE , ADMIN , BACKUP , RESTORE , WORKFLOW , COMPLIANCE_POLICY , COMPLIANCE_POLICY Command Line Paramter: subTaskType Location: taskInfo/subTasks/subTask/subTaskType	
Sub Task Type	
operationType	Home
Type: enum Default Value: NONE Possible Values: NONE , ALL_BACKUP_JOBS , BACKUP , RECOVERY_POINT_CREATION , CONSISTENCY_POINT_CREATION , SRM , ARCHIVE , CONTENT_INDEXING , ALL_RESTORE_JOBS , RESTORE , POWER_RESTORE , BROWSE , RESTORE_BY_JOB , ONETOUCH_RECOVERY , ADMIN , WORK_FLOW , COMPLIANCE , SEARCH , SAVE , EMAIL , TAGGING , LEGAL_HOLDS , COMP_RESTORE , MOSS , PRUNE , DRBACKUP , AUX_COPY , REPORT , MEDIA_INVENTORY , SCHED_EXPORT , ARCHIVE_CHECK , MEDIA_PREDICTION , TAPE_ERASE , VT , SELECTIVE_DELETE , DRIVE_VALIDATION , DRIVE_CLEANING , STAMP_MEDIA , BROWSE_DELETE , CATALOGUE_MEDIA , DATA_AGING , DOWNLOAD_UPDATES , INSTALL_UPDATES , SRM_REPORT , OFFLINE_CONTENT_INDEX , MAGLIBMAINTENANCE , SHELF_MANAGEMENT , INFOMGMT , INSTALL_CLIENT , UNINSTALL_CLIENT , SNAP_TO_TAPE , CCM_CAPTURE , CCM_MERGE , EXTERNAL_DATA_PROCESSOR , MEDIA_REFRESHING , PREPARATION , FDC , MAGLIBVOLRECON , DEDUPDBSYNC , TAPEIMPORT , WORKFLOW , QR , FS_BACKUP , IMAGE_BACKUP , SERVERLESS_BACKUP , MOUNT_SNAPSHOT , UNMOUNT_SNAPSHOT , DELETE_SNAPSHOT , MINING_BACKUP , SRM_AGENTLESS , SRM_AGENTLESS Command Line Paramter: operationType Location: taskInfo/subTasks/subTask/operationType	
Operation Type	
Associations	
backupsetName	

	Home
Type: string Command Line Paramter: backupsetName Location: taskInfo/associations/backupsetName	
Backupset Name	
clientName	Home
Type: string Command Line Paramter: associations/clientName Location: taskInfo/associations/clientName	
Client Name	
appName	Home
Type: string Command Line Paramter: appName Location: taskInfo/associations/appName	
App Name	
instanceName	Home
Type: string Command Line Paramter: instanceName Location: taskInfo/associations/instanceName	
Instance Name	