

BrightStor® ARCserve® Backup for Linux

Agent for Apache Web Server Guide

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Chapter 1: Introducing the Agent

BrightStor® ARCserve® Backup offers the BrightStor® ARCserve® Backup Agent for Apache Web Server as one of its agents to extend its functions. The agent lets BrightStor ARCserve Backup for Linux work with the Apache Web Server to provide a reliable and comprehensive backup solution for the server. After you install and configure the agent, BrightStor ARCserve Backup displays virtual hosts, directories, and files on an Apache Web Server in a logical tree for easy management. You can back up documents, configuration files, and log files from this logical tree with the agent.

Note: The Apache Project is a collaborative software development effort aimed at creating a robust, commercial-grade, and freely available source code implementation of HTTP (Hypertext Transfer Protocol) servers. Apache is one of the most widely used web servers on the Internet. You can find out more information about the Apache Web Server on the Apache Software Foundation web site.

This guide provides introductory information about the BrightStor ARCserve Backup Agent for Apache Web Server. It contains information about how to install, configure, and use the agent.

Agent Architecture

The BrightStor ARCserve Backup Agent for Apache Web Server contains two modules:

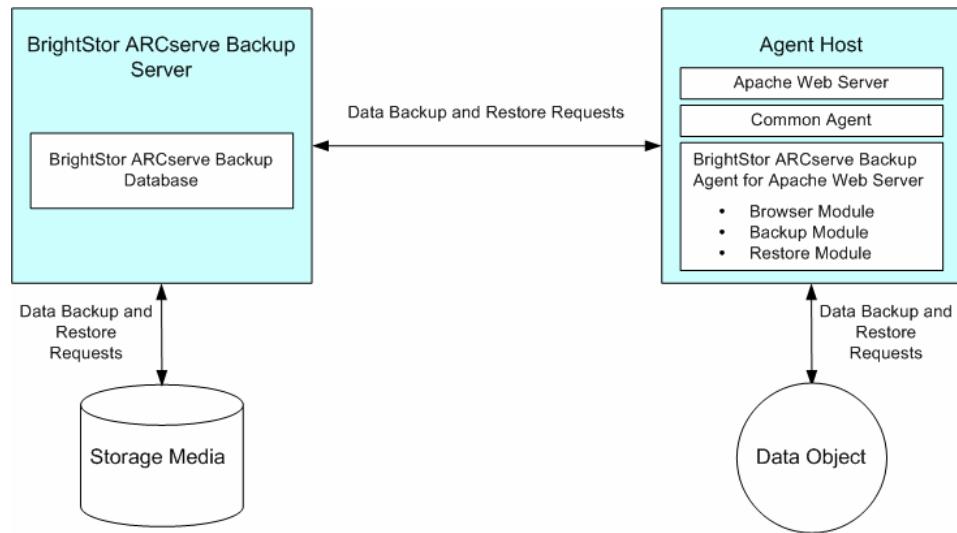
- The browser module—The browser module lets you browse and select Apache Web Server data. For more information about the browser module, see the Browser Module section later in this chapter.
- The backup and restore module—The backup and restore module backs up and restores selected Apache Web Server data to and from media. For more information about the backup and restore module, see the Backup and Restore Module section later in this chapter.

Both modules work with the Common Agent. The Common Agent facilitates backup and restore requests, detects remote Apache Web Server instances, and enables and disables agents. For more information about the Common Agent, see the section called The Common Agent later in this chapter.

The BrightStor ARCserve Backup database resides on the BrightStor ARCserve Backup server. It stores agent host information, backup and restore information, job information, media information, and so on.

The BrightStor ARCserve Backup Agent for Apache Web Server and the Apache Web Server software must reside on the same host computer. The BrightStor ARCserve Backup base product can reside on the same host computer as the agent or on a remote host computer.

The following diagram illustrates the agent's architecture in a multiple-host environment. In this configuration, BrightStor ARCserve Backup and the BrightStor ARCserve Backup Agent for Apache Web Server are installed on different hosts. The Common Agent is a daemon that resides on the machine hosting the Apache Web Server.



Browser Module

The browser module provides browsing functions for Apache web servers. This module parses Hypertext Transfer Protocol daemon (httpd) configuration files to compile lists of virtual hosts, virtual directories, and files on a web server. The browser module compiles and reorganizes the data into a logical tree that appears in the BrightStor ARCserve Backup user interface.

The browser design helps Apache server administrators easily locate and specify documents from which to perform backup and restore tasks. The browser can also help the Apache server administrator back up individual Apache configuration files and log files together.

The BrightStor ARCserve Backup Agent for Apache Web Server supports specifying multiple httpd configuration files. Each configuration file corresponds to an Apache Web Server instance. Multiple configuration files let you increase the granularity of the instances displayed in the logical tree in the BrightStor ARCserve Backup user interface.

Backup and Restore Module

The backup and restore module provides the backup and restore functionality for Apache documents, configuration files, and log files. However, the backup and restore module cannot back up Apache Web Server binaries.

To perform a full restore on Apache Web Server binaries, you must first reinstall the Apache Web Server, and then use the BrightStor ARCserve Backup Agent for Apache Web Server to restore all of the data.

The Common Agent

The Common Agent (caagent) is a standard component for all BrightStor ARCserve Backup for Linux agents. The Common Agent runs at all times as a daemon; its primary functions include:

- Enabling and disabling all BrightStor ARCserve Backup agents and options
- Listening for requests on behalf of all the agents and options that are installed on the system

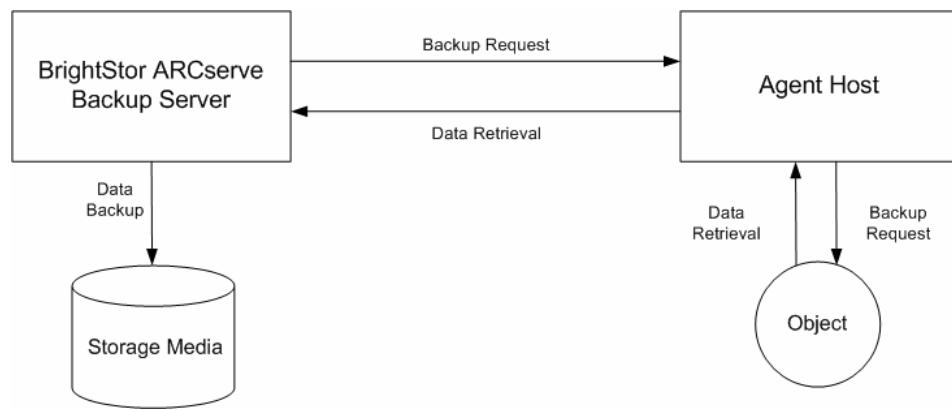
The Common Agent installs automatically when you install BrightStor ARCserve Backup. It tracks all of the BrightStor ARCserve Backup agents and options you installed in your system in a configuration file called agent.cfg. When you install a new agent, the system updates the agent.cfg file with the new agent's information. The Common Agent uses the new agent's information to detect the new agent in your system and to enable and disable it, as needed.

You will not have to modify the agent.cfg file often. You only need to make manual changes to this file to enable certain debugging messages or to change the default TCP/IP port on which the Common Agent runs. You can also use the agent.cfg file to set the status of the agent to enabled or disabled. For more information on modifying the agent.cfg file, see the *Client Agents Guide*.

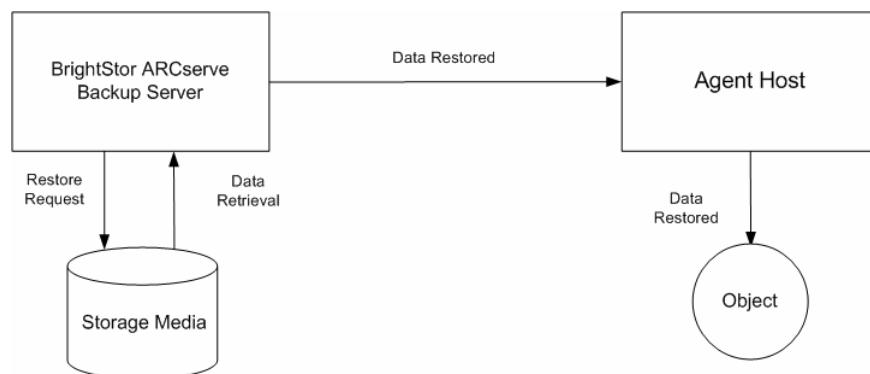
How the Agent Works

To use the BrightStor ARCserve Backup Agent for Apache Web Server effectively, you should understand the basic backup and restore processes. When BrightStor ARCserve Backup starts backing up an object, it sends a request to the Common Agent. The Common Agent passes the request to the agent. The agent retrieves the object from the data source and sends it to BrightStor ARCserve Backup, where the object is backed up to media. Similarly, when BrightStor ARCserve Backup starts restoring an object, BrightStor ARCserve Backup retrieves the object from storage media and transfers it to the agent host where the object can be restored.

The following diagram illustrates how the BrightStor ARCserve Backup Agent for Apache Web Server backs up data:



The following diagram illustrates how the BrightStor ARCserve Backup Agent for Apache Web Server restores data:



You can back up Apache Web Server data from one computer and restore it to an alternate computer, provided you installed the BrightStor ARCserve Backup Agent for Apache Web Server or the BrightStor® ARCserve® Backup Client Agent for Linux on the alternate computer. For additional information about client agents, see the *Client Agents Guide*.

Chapter 2: Installing the Agent

This chapter provides the information that you need to install and configure the BrightStor ARCserve Backup Agent for Apache Web Server. The information in this chapter assumes you are familiar with the characteristics and requirements of the specified operating systems in general, and with superuser responsibilities on those operating systems in particular.

Installation Prerequisites

Before installing the BrightStor ARCserve Backup Agent for Apache Web Server, verify that:

- Your system meets the hardware requirements needed to install the agent. For a list of these requirements, see the *readme* file.
- You have superuser privileges or the proper authority to install software on the computers where you will be installing the agent.
- You know the name and password of the machine you are installing the agent on.
- Apache Web Server Version 1.3 or Version 2.0 is running on the host computers.
- If you are using multiple Apache Web Server instances, each instance needs an *httpd* configuration file. As such, you must know the paths to each *httpd* configuration file.

Install the Agent

For detailed information about how to install the BrightStor ARCserve Backup Agent for Apache Web Server, see the *Getting Started*.

Instead of installing the agent during a BrightStor ARCserve Backup installation session, you can install the agent using the Red Hat Package Manager (RPM). To install the agent using RPM, enter the following command at the Linux prompt:

```
rpm -i BABapagent.rpm
```

Agent Configuration Tasks

The BrightStor ARCserve Backup Agent for Apache Web Server enables BrightStor ARCserve Backup to display the virtual hosts, directories, and files on a server in a logical tree for easy management. However, you must configure the agent to enable these features.

If the agent and BrightStor ARCserve Backup are installed on the same computer, then agent configuration consists of setting up the agent. Set Up the Agent explains this procedures later in this chapter.

If the agent and BrightStor ARCserve Backup are installed on different computers, agent configuration is a two-part process:

1. Set up the agent. Follow the steps in Set Up the Agent to complete this part of the process.
2. Add the agent hosts to the BrightStor ARCserve Backup database. Follow the steps in Add Agent Hosts to complete this part of the process.
3. Modify the `httpd.conf` file as needed.

Set Up the Agent

To display virtual hosts, directories, and files in the logical tree, you must configure the agent, regardless of the agent's location. To set up the BrightStor ARCserve Backup Agent for Apache Web Server, follow these steps:

1. Change your current directory to the BrightStor ARCserve Backup Agent for Apache Web Server installation directory. Enter the following command if you are using the default installation path:

```
# cd /opt/CA/BABapagent
```

(If you used a different installation path, enter the command for the directory that you installed the agent.)

You are now in the installation directory for BrightStor ARCserve Backup Agent for Apache Web Server.

2. Start the setup program by issuing the following command at the command prompt:

```
./apagentsetup
```

The script locates the default Apache Web Server configuration file in the /etc/httpd/conf directory and asks if this is the correct configuration file.

3. Enter **y** if this is the correct location and file; enter **n** if it is not.

Note: You must specify the path to at least one configuration file.

The system responds by asking if you have additional configuration files.

4. Enter the full path to any additional configuration file as prompted by the script. A sample path is shown next.

```
/opt/CA/BrightStorARCserve/httpd/conf/httpd.conf
```

Repeat steps 3 and 4 until you have defined all of your configuration files.

Note: You will have multiple httpd files only if you have multiple Apache Web Server instances. You will need one httpd file for each instance you have installed.

You have now defined your configuration files for the BrightStor ARCserve Backup Agent for Apache Web Server.

5. Enter **n** as shown in the following sample script to exit the setup script and save your changes:

```
Do you still have other HTTPD configuration files want to input? [y/n/q]
```

Note: To exit the setup script without modifying your configuration files, enter **q**.

When you are finished specifying your httpd configuration files, the setup script updates the Apache configuration file and enables the BrightStor ARCserve Backup Agent for Apache Web Server.

Add Agent Hosts

Agent detection occurs transparently when BrightStor ARCserve Backup and the BrightStor ARCserve Backup Agent for Apache Web Server are installed on the same computer. However, to enable BrightStor ARCserve Backup to detect an agent installed on a remote computer, you must add the agent host to the BrightStor ARCserve Backup database.

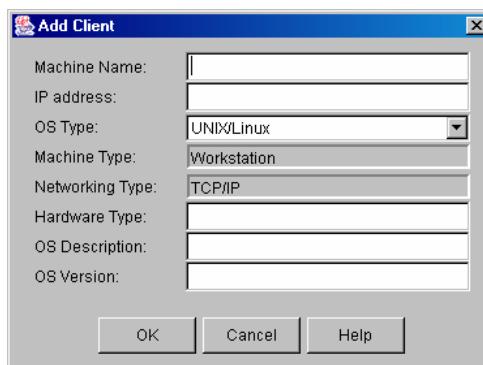
To add an agent host to the BrightStor ARCserve Backup database, follow these steps:

1. Log in to your BrightStor ARCserve Backup domain, open the Database Manager from the BrightStor ARCserve Backup Home Page, and select the Clients tab.

The Clients tab on the Database Manager displays.

2. Click the Add toolbar button to open the Add Client dialog.

The Add Client dialog appears:



3. Enter the machine name and IP address of the agent host, select UNIX/Linux from the OS Type drop-down list, and then click OK.

The agent host is now in the BrightStor ARCserve Backup database.

Virtual Host Configuration

On Mandrake platforms, the Agent for Apache Web Server browser module cannot detect virtual hosts when you expand Apache Web Server instances in the Backup Manager directory tree.

To enable BrightStor ARCserve Backup to detect Apache instance virtual hosts, modify the configuration file (httpd.conf) for each defined Apache Web Server instance when running the Setup script. In the httpd.conf file, enclose the virtual host configuration section with <VirtualHost> and </VirtualHost> and modify the section so that the Include directive is not used for any virtual node.

Uninstall the Agent

You can use the BrightStor ARCserve Backup uninstallation script located in the Common Agent's home directory to uninstall the Agent for Apache Web Server. The path to the script is as follows:

```
/opt/CA/BABcmagt/uninstall
```

To uninstall the agent, run the uninstallation script and specify the Agent for Apache Web Server, when prompted. The following is a sample from the BrightStor ARCserve Backup uninstallation script:

```
Getting package information ...
#####
BAB r11.5 Uninstallation Options
#####
1.BrightStor ARCserve Backup for Linux Server & Manager
2.BrightStor ARCserve Backup for Linux Common Agent
3.BrightStor ARCserve Backup for Linux Client Agent
4.BrightStor ARCserve Backup for Linux Agent for Apache Web Server
5.BrightStor ARCserve Backup for Linux eTrust Antivirus Engine

0.Quit
#####
Please give your selection, separated by ,. For example: 1,2
Your choices are: 4

The choices you selected are:

.Agent for Apache Web Server (BABapagent)

Do you want to continue? [y|n|q]:(default:y)

Log file for this uninstall session: [ /tmp/BrightStorUnInstall052804-1648.log ]

Agent for Apache Web Server (BABapagent) ==> [ UNINSTALL SUCCESSFUL ]

Product removed! Thank you
```


Chapter 3: Using the Agent

This chapter describes how to enable and disable the BrightStor ARCserve Backup Agent for Apache Web Server. It also explains how to perform a backup or a restore. For a complete description of backup and restore features, see the *Administrator Guide*.

Enable the Agent

The BrightStor ARCserve Backup Agent for Apache Web Server must be enabled so that BrightStor ARCserve Backup can back up or restore objects on an Apache Web Server. The agent is automatically enabled at the end of the configuration process. However, situations can arise that require you to enable the agent.

To enable the agent, follow these steps:

1. Log in to the host as root.
2. Enter the following command:

```
caagent enable 41
```

Note: You do not need to change to the agent's home directory because you can issue this command from any directory.

Disable the Agent

Situations might also arise that require you to disable the BrightStor ARCserve Backup Agent for Apache Web Server. To disable the agent, follow these steps:

1. Log in to the host as root.
2. Enter the following command:

```
caagent disable 41
```

Note: You do not need to change to the agent's home directory because you can issue this command from any directory.

Check the Status of the Agent

To verify that your backups and restores occur as scheduled, you may need to check the status of the BrightStor ARCserve Backup Agent for Apache Web Server. To check the agent's status, follow these steps:

1. Log in to the host as root.
2. Enter the following command:

```
caagent list 41
```

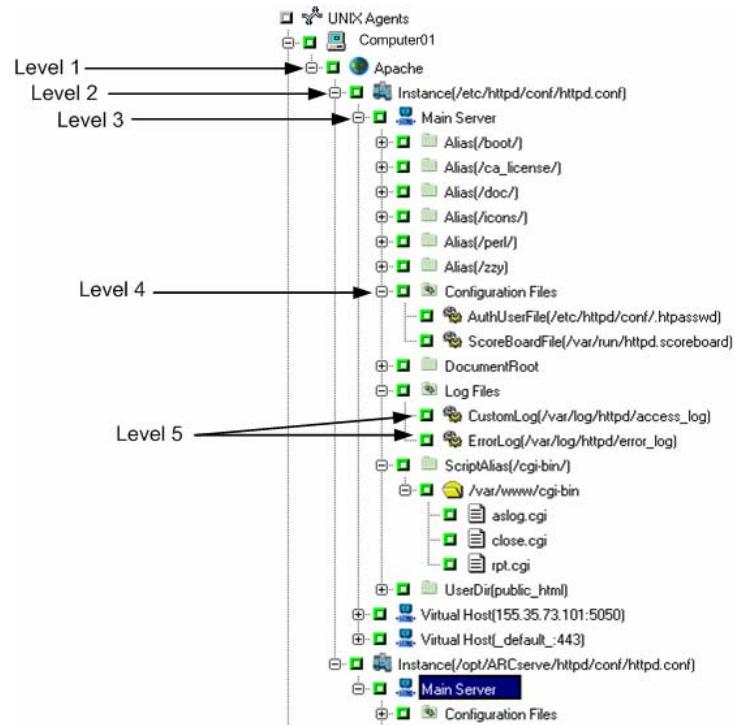
Note: You do not need to change to the agent's home directory because you can issue this command from any directory.

Logical Tree Structure for Apache Web Server Objects

The agent organizes the objects of an Apache Web Server into a logical tree using the hierarchy described in the following table:

Level	Description
1	The BrightStor ARCserve Backup Agent for Apache Web Server.
2	Server instance. A server instance is an instance associated with a specific httpd configuration file.
3	Virtual host. This level includes the main Apache Web Server and all virtual hosts.
4	Virtual directory. This level includes all virtual directories, configuration file groups, and log file groups.
5	Real path. This level includes the real path that is associated with all of the virtual directories, configuration files, and log files. You can expand a real path that points to a file system.

The following example illustrates the agent's logical tree hierarchy.



Backup Options for Apache Web Server Data

Installing the BrightStor ARCserve Backup Agent for Apache Web Server enables the following:

- Logical tree representation of the objects on the Apache Web Server
- Backup options for the Apache Web Server

For additional information about the backup features and functionality of BrightStor ARCserve Backup, see the *Administrator Guide*.

Backup Options

In addition to the basic backup options provided with BrightStor ARCserve Backup, the BrightStor ARCserve Backup Agent for Apache Web Server lets you choose one of the following options to back up data on the Apache Web Server:

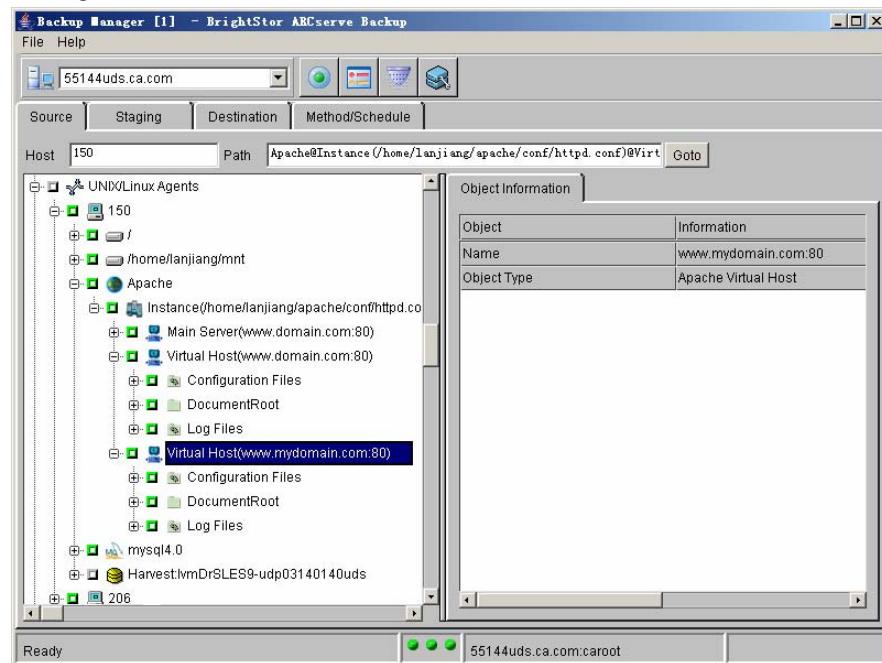
- Back up the Apache Web Server as a single session. This option lets you back up the entire web server **volume** as a unique backup session.
- Back up each Apache Web Server instance as a session. This option lets you back up each Apache Web Server **instance** as a unique backup session.

Perform a Backup

The section describes how to back either an entire Apache Web Server volume or an Apache Web Server instance as a unique backup session. To perform this type of backup, follow the basic procedure described in the *Administrator Guide*. After selecting the Apache Web Server on the Source tab of the Backup Manager, follow these steps:

1. Select the instances or components of an instance that you want to back up.

When you select the Apache icon in the source tree, the option tabs specific to the Apache Web Server appear in the right pane of the Backup Manager as shown next:



2. Click the Apache Option tab and choose one of the following options:
 - Full Volume in One Session
 - Each Instance A Session
3. Click the Destination tab.
4. Select the media to hold your backup from the tree in the left pane.
5. Click the Submit toolbar button to submit the backup job and follow standard procedures for job submission, as described in the *Administrator Guide*.

Restore Options for Apache Web Server Data

Use one of the following options to restore your Apache Web Server data:

- Restoring a full instance
- Restoring separate data

Both options let you restore data to one of these locations:

- The original location
- A user-specified location

For additional information about the restore features and functionality of BrightStor ARCserve Backup, see the *Administrator Guide*.

Restore a Full Instance

You can restore a full volume instance only if you backed up the full volume instance. If you want to restore a full volume instance, follow the basic procedures described in the *Administrator Guide*. After selecting the Destination tab on the Restore Manager, follow these steps:

1. Expand the host to which the BrightStor ARCserve Backup Agent for Apache Web Server belongs.
2. Select the location where you want the restored data to be placed.
 - To restore the Apache Web Server instance to the original location, select the Apache icon as the destination.
 - To restore the Apache Web Server instance to a customized location, specify the path to the file system that you want as the destination.
3. Click the Submit toolbar button to submit the restore job and follow standard procedures for job submission, as described in the *Administrator Guide*.

Note: If you plan to restore a full volume instance to a customized location, ensure that you have the BrightStor ARCserve Backup Client Agent for Linux installed on the other computer. For additional information about Linux client agents, see the *Client Agents Guide*.

Note: The directory structure of the data for the Apache Web Server instance is the same as the original directory structure after the instance is restored.

Restore Individual File Systems

If you want to restore individual file systems, follow the basic procedures described in the *Administrator Guide*. On the Source tab of the Restore Manager, select Restore By File System or Restore By Session, and then follow these steps:

1. Expand the Apache object until it reaches Level 5, which is the actual path to the file system. For the illustration showing level 5, see Logical Tree Structure for Apache Web Server Objects in this chapter.
2. Select the data that you want to restore as the source.
3. Click the Destination tab.
4. Expand the host to which the BrightStor ARCserve Backup Agent for Apache Web Server belongs.
5. Select the location for restoring the data.
 - To restore the Apache data to the original location, select the Apache icon as the destination.
 - To restore the Apache data to a customized location, specify the path to the file system that you want as the destination.

Note: If you plan to restore an instance to a customized location, ensure that you have the BrightStor ARCserve Backup Client Agent for Linux installed on the other computer. For additional information about Linux client agents, see the *Client Agents Guide*.
6. Click the Submit toolbar button to submit the restore job and follow standard procedures for job submission, as described in the *Administrator Guide*.

Note: The directory structure of the restored data depends on your selection in the Option dialog in the Restore Manager. For information about the options you can select, see the *Administrator Guide*.

Restore a Full Server Site

BrightStor ARCserve Backup does not back up the Apache Web Server code. To restore the full Apache Web Server site, you must reinstall the Apache Web Server before restoring the backed up data.

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