

Novell Archive and Version Services

2.1

September 2007

QUICK START

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Installing and Using Archive and Version Services

Novell Archive and Version Services 2.1 provides a convenient and cost-effective way for individual users to instantly restore previous versions of modified, renamed, or deleted network files, without the system administrator's intervention. User can access file versions from anywhere, at any time, using an active network or internet connection.

Archive and Version Services on Novell Open Enterprise Server 2 (OES 2) versions the user's network files that are stored on the Novell Storage Services™ (NSS) volumes.

The Key components of the Novell Archive and Version Services are:

- ♦ **ArkManager:** ArkManager is the software component that manages the file version process. The Archive server is the server that runs the arkManager software.
- ♦ **Archive database:** The Archive server stores the metadata information of the versions of the files in a PostgreSQL* database. The database is known as the Archive database and resides on the Archive server.
- ♦ **NSS Volumes:**
 - ♦ **Primary Volume:** The primary volume contains the user files to be versioned.
 - ♦ **Archive Volume:** The archive volume contains the versions of the user files.
- ♦ **Job:** A versioning job captures versions of files stored on a primary volume at specified intervals. One job can be defined for each primary volume.

This section describes how to configure and use Novell Archive and Version Services for OES 2 Linux

- ♦ "Before you install" on page 2
- ♦ "Installing and Configuring Archive Server" on page 3
- ♦ "Post-Configuration" on page 5
- ♦ "Restoring and viewing versions of files" on page 9

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BEFORE YOU INSTALL

Before installing Novell Archive and Version Services, ensure that you have met the following prerequisites:

Prerequisites

- ◆ Archive and Version Server

Type	Description
Operating System	SUSE® Linux Enterprise Server 10 SP1
Management Services	Novell iManager 2.7
Components	<ul style="list-style-type: none">◆ NCP™◆ NSS file system

- ◆ NSS File Version Utility for Linux

Type	Description
Operating System	SUSE Linux Enterprise Desktop (SLED) 10 or SLED 10 SP1
Dependencies	<ul style="list-style-type: none">◆ Novell Client™ 1.2 SP 2◆ KDE or GNOME* base libraries◆ Mono 1.2.2
File Manager	Konqueror or Nautilus

- ◆ NSS File Version Utility for Windows*

Type	Description
Operating System	<ul style="list-style-type: none">◆ Windows XP SP2◆ Windows Vista*
Dependencies	<ul style="list-style-type: none">◆ Novell Client 4.9.1 SP 2 or later for Windows XP◆ Microsoft* .NET 2.0 framework for Windows XP◆ Novell Client 1.0 for Windows Vista

INSTALLING AND CONFIGURING ARCHIVE SERVER

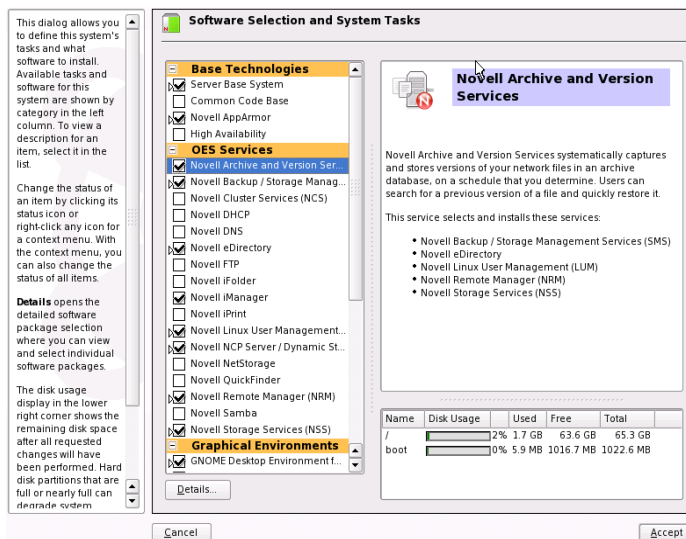
After you plan your system and meet prerequisites and guidelines, you are ready to install Archive and Version Services on your server.

- ◆ “YaST Install” on page 3

YaST Install

- 1 During installation of OES Services, in the *Software Selection* page, select the *Novell Archive and Version Services* option; the dependent components are selected along with the service. You must also select the following components for managing and restoring jobs:

- ◆ **Novell iManager:** Allows you to configure server, jobs, and to manage jobs.
- ◆ **Novell NetStorage:** Provides a Web-based interface to the user for viewing and restoring file versions.

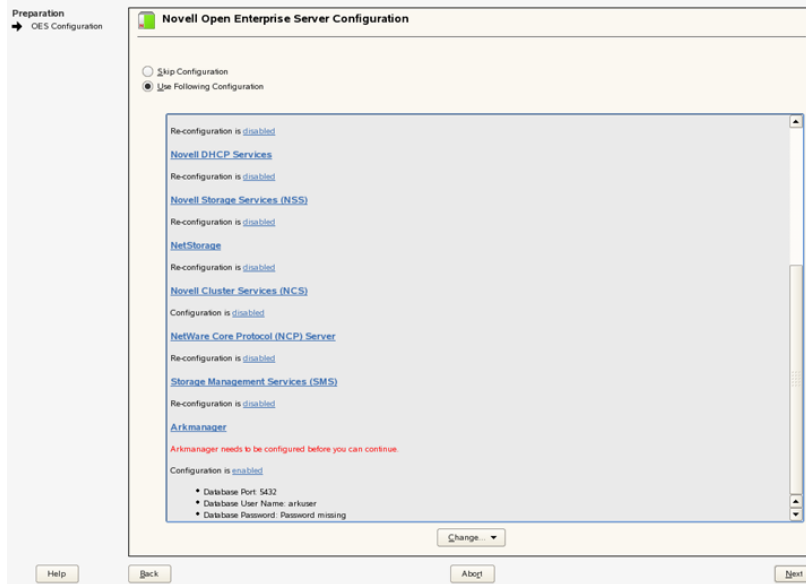


Click *Accept* and follow the on-screen instructions.

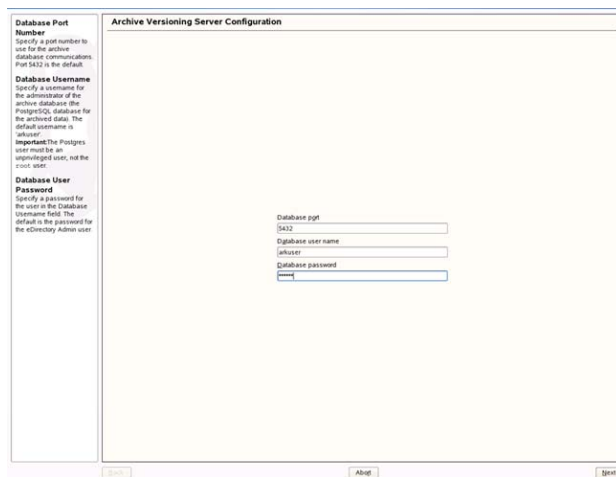
- 2 On the *Novell Open Enterprise Server Configuration* page, do one of the following:

- ◆ Click *Next* to use the default Archive server configuration, then skip to **Step 3**. With this default configuration, Archive server starts its own instance of PostgreSQL database.
- ◆ If you need to configure the Archive server to use an existing PostgreSQL database, select *Arkmanager* to change the credentials of database, then continue to **Step 2a**.

NOTE: The existing PostgreSQL database needs to be running. If it is not running, the Archive server creates its own instance of database.



2a When you select *Arkmanager*, an *Archive Versioning Server Configuration* page is displayed. Specify the database credentials in the fields. For more information, refer to the table below, or see the help on the left pane of the page.



Parameter	Description
Database Port Number	Specify the port number to use for the archive database communications. Port 5432 is the default.
Database Username	Specify a username for the administrator of the archive database (the PostgreSQL database for the archived data). IMPORTANT: The PostgreSQL user must be an unprivileged user, not the <code>root</code> user.
Database User Password	Specify the password for the database user.

The Archive server is configured with database credentials you specify.

3 Click *Next*

Follow the on-screen instructions to complete the Archive server configuration.

The Archive server is now configured with the same eDirectory™ credentials you used when you logged in. You must create an **NSS pool** and **NSS Volume** to store the archive data.

POST-CONFIGURATION

- ♦ “Creating an NSS Pool” on page 5
- ♦ “Creating NSS Volumes” on page 5
- ♦ “Using iManager to Configure Jobs” on page 6

Creating an NSS Pool

You must create an NSS pool on the server where you plan to store the archive data. For information, see [Creating pools with iManager](http://www.novell.com/documentation/oes/nss_enu/index.html?page=/documentation/oes/nss_enu/data/bqpd9rv.html#bqpd9rv) (http://www.novell.com/documentation/oes/nss_enu/index.html?page=/documentation/oes/nss_enu/data/bqpd9rv.html#bqpd9rv) in the *Novell Storage Services File System Administration Guide* (http://www.novell.com/documentation/oes/nss_enu/index.html?page=/documentation/oes/nss_enu/data/front.html#front)

Creating NSS Volumes

You need to create two encrypted or non-encrypted NSS (Primary and Archive) volumes on same or different **NSS** pool.

To use iManager to create a non-encrypted NSS volume, see [Creating and Configuring Unencrypted NSS Volumes with iManager](http://www.novell.com/documentation/oes/nss_enu/) (http://www.novell.com/documentation/oes/nss_enu/)

[index.html?page=/documentation/oes/nss_enu/data/bqpdoh2.html#bqpdoh2](http://www.novell.com/documentation/oes/nss_enu/data/bqpdoh2.html#bqpdoh2)) in the *Novell Storage Services File System Administration Guide* (http://www.novell.com/documentation/oes/nss_enu/index.html?page=/documentation/oes/nss_enu/data/front.html#front)

To use the NSS Management Utility to create an encrypted NSS volume, see [Creating an Encrypted Volume](http://www.novell.com/documentation/oes/nss_enu/index.html?page=/documentation/oes/nss_enu/data/bq2y6nb.html#bq2y6nb) (http://www.novell.com/documentation/oes/nss_enu/index.html?page=/documentation/oes/nss_enu/data/bq2y6nb.html#bq2y6nb) in the *Novell Storage Services File System Administration Guide* (http://www.novell.com/documentation/oes/nss_enu/index.html?page=/documentation/oes/nss_enu/data/front.html#front). The iManager Storage plug-in does not provide an encryption option.

To version a user's file, you must configure versioning jobs to run on the archive server. Continue with the next section for information on using iManager to configure jobs.

Using iManager to Configure Jobs

A job specifies the property settings to use when versioning files for a specified volume that resides in the same eDirectory tree as the Archive server. Versioning occurs for eligible files at scheduled intervals, called epochs. We recommend that you schedule 30-minute or longer epochs for the volume.

You must establish a schedule for each versioning job that meets users' requirements for file versioning, given limited storage and bandwidth resources.

Before you configure individual jobs, make sure you have configured the following information:

- ◆ **Archive Server Information:** Configure basic information for your archive server. For information, see ["YaST Install" on page 3](#).
- ◆ **Default Job Settings:** Default settings can optionally be used by any job on the archive server. Each job can optionally use one or more of the defaults that are set; each job's usage is independent of other jobs.

To use the defaults, you must set default job settings before the job runs. (In *Roles and Tasks*, expand the *Archive Versioning* role, select *Archive Server Properties*, then select *Default Job Settings*.) For information, see [Configuring Default Job Settings](http://www.novell.com/documentation/oes2/bkup_arc_admin_lx/index.html?page=/documentation/oes2/bkup_arc_admin_lx/data/alorrd3.html) (http://www.novell.com/documentation/oes2/bkup_arc_admin_lx/index.html?page=/documentation/oes2/bkup_arc_admin_lx/data/alorrd3.html) in the *Novell Archive and Version Services Administration Guide* (http://www.novell.com/documentation/oes2/bkup_arc_admin_lx/index.html?page=/documentation/oes2/bkup_arc_admin_lx/data/front.html#front).

The iManager utility allows you to configure the Archive server and to create and manage jobs.

- ◆ ["Configuring the Archive Server to Store File Versions" on page 7](#)
- ◆ ["Creating new Job" on page 7](#)

Configuring the Archive Server to Store File Versions

- 1 Click *Archive Versioning > Archive Server Properties* to open the *Archive Server Properties* window in the main panel.
- 2 Specify or browse to and select the eDirectory context for the Archive server you want to manage, then wait for the page to refresh.

Archive Server Properties

Server:

Properties **Default Job Settings**

required = *

Specify the volume and path on the archive server where you want to store file versions. Select Display Archive Log to also send log entries to the archive server's console. The admin users who manage Archive Versioning and PostgreSQL (MySQL on NetWare) archive database are specified in the /etc/opt/novell/arkmanager/conf/arkConfig.xml (sys:\ArkManager\arkConfig.xml on NetWare) file.

Volume Path: (ex.: ARK:/archive)

☒ Display server Archive Log entries

Authentication

eDirectory:
User Name: **cn=admin.o=novell**

Database:
User Name: **arkuser**
Port: **5432**

- 3 In the *Volume Path* field, specify the volume and path on the archive server to store the versions of files.

The *Authentication* field displays the eDirectory username, PostgreSQL username, and port.
- 4 Click **OK**.

Creating new Job

- 1 Click *Archive Versioning > Archive Jobs* to open the *Archive Jobs* window in the main panel.
- 2 Select the *Jobs* tab.
- 3 Click *New* to open the Create New Job window in the main panel.
- 4 Specify the job property settings to use when archiving file versions for a specified volume.

You must specify individual job property or use the default job property for all required fields before the job can run. Required fields are marked with an asterisk (*).

Edit Job: Weeklyjob

?

required = *

Not Configured = ***

Modify the job's property settings, using default values as desired. If you renamed the source server or volume outside this job definition, make sure to update it here.

Job Information	Source Server Information
Name : Weeklyjob <input checked="" type="checkbox"/> Copy all files first time the job is run <input type="checkbox"/> Do not run	<input type="checkbox"/> Use Default Job's Source Server Server : Archive-server.novell Mount Point : primevol2 Snapshot <input type="checkbox"/> Use Default Job's Snapshot Pool Snapshot Pool : primepool2 Free Space ID : hda_freespace1 Sectors : 419430400 Filter <div> <div> <div></div> <div></div> <div></div> </div> <div> <input type="radio"/> Include <input checked="" type="radio"/> Exclude </div> Path : <input type="text"/> Extension : .tmp Pattern : <input type="text"/> Wildcard : <input type="text"/> <input type="checkbox"/> Override Default Job's Filter </div>
Delete Policy	Run Schedule *
<input type="radio"/> No Delete Policy <input type="radio"/> Use Default Job's Delete Policy <input checked="" type="radio"/> Define Job Delete Policy Schedule Interval : <input type="text"/> Days Maximum Keep: Time : 60 Days Versions : <input type="text"/> <input checked="" type="checkbox"/> Keep latest version of current file	<input type="radio"/> Use Default Job's Run Schedule <input checked="" type="radio"/> Every : <input type="text"/> Hours <input checked="" type="radio"/> Time : 22:00 (10:00 PM) <input type="checkbox"/> Days <input checked="" type="checkbox"/> Sunday <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday

OK

Cancel

Apply

♦ Job Information


- In the *Name* field, specify a unique name for the job. For example, Weeklyjob
- Select *Copy all files first time the job is run* if you want the job to save versions of all eligible files to the archive database the first time the job is run.

For more information, refer the online help.

◆ Source Server Information

- a. Select the *Use Default Job's Source Server* option or specify the name of the source server, along with its context, in the *Server* field. The source server stores the users files to be versioned.
- b. In the *Mount Point* field, specify the name of the Primary volume or mount point. The Primary volume resides on the source server, which contains the user's files to be versioned. For example, `primevol2` or `/media/nss/primevol2`.
- c. In the *Snapshot* section, select *Use Default Job's Snapshot Pool* option or specify the snapshot pool. The pool temporarily maintains snapshots of the Primary volume at the end of an epoch until point-in-time file versions can be saved to the archive database. For example, `arc_primevol2`.

In addition, specify the *Free Space ID* and *Sectors* details for storing the snapshot data.

- d. In the *Filter* section, click  to add the first filter. You can use series of *Include* and *Exclude* elements to filter files from the Primary volume that are eligible for versioning.

◆ Delete Policy


Specify the retention of file versions by age or by number of versions. If a delete policy is set, the job deletes the file versions as per the policy setting. The job's delete policy runs if the job is in a Running, Scheduled, or Stopped state. The job's delete policy does not run if a job is in the Clean Up Users, Not Configured, or Deleted state.

◆ Run Schedule

Specify when to start the job and the frequency for running the job. The time you set in the run schedule is referred to as an epoch.

5 When you are done, click *OK* to save your changes, or click *Cancel* at any time to discard them.

6 The *Archive Jobs* window lists the scheduled job.

Jobs					
New Edit Delete Refresh Actions					
1 Item(s)					
<input type="checkbox"/>	Name	Status	Next Start Date	Source Server - Volume	
<input type="checkbox"/>	Weeklyjob	 Scheduled	5/21/07 3:10 PM	Archive-server.- PRIME VOL2	

After configuring a job, you can access file versions by using **NSS File Version Utility** or by using the Web-based Archive function in **Novell NetStorage**.

RESTORING AND VIEWING VERSIONS OF FILES

See either **"NSS File Version Utility"** on page 10 or **"NetStorage"** on page 13 for information on viewing or restoring the versions of the files.

NSS File Version Utility

- ♦ “Installing the NSS File Version Utility on Linux” on page 10
- ♦ “Installing the NSS File Version Utility on Windows” on page 11
- ♦ “Using the NSS File Version Utility” on page 11

Installing the NSS File Version Utility on Linux

After you have met the prerequisites, you are ready to install the NSS File Version Utility on your workstation.

- 1 Open the Welcome page with the following URL:

`https://svrname/`

Replace *svrname* with the actual DNS name or IP address of the Archive server.

- 2 Select *Client Software > Archive Versioning*.

- 3 Depending on your requirement install the *Archive Versioning 32-bit Client for Linux* (`novell-versioning-client-i586.tar.gz`) or *Archive Versioning 64-bit Client for Linux* (`novell-versioning-client-x86_64.tar.gz`).

NOTE: The steps listed below are for 32-bit installation. To install on 64-bit, use `novell-versioning-client-x86_64.tar.gz`.

- 4 Install the following rpms with `--nodeps` option.

- ♦ `novell-filesystem.rpm`
- ♦ `novell-xplatlib.rpm`
- ♦ `novell-xtier-core.rpm`
- ♦ `novell-xtier-xplat.rpm`

- 5 Install the following RPMs:

- ♦ `novell-fileversionutility-linux-1.0.0-x.i586`
- ♦ Depending on your desktop, install either the KDE or GNOME plug-ins:
 - ♦ **KDE:** `novell-fileversionutility-linux-kdeplugin-1.0.0-x.i586`
 - ♦ **GNOME:** `novell-fileversionutility-linux-nautilus-plugin-1.0.0-x.i586`

After successful installation, the *Restore Archived Versions* option is available when you right-click a file or directory on a network drive (that is a mapped NSS volume). If you encounter any errors, check the `log.txt` file in the `/$home/.versioning` folder.

If you are using GNOME desktop, the *Restore Archived Versions* option is available on the next login, when you right-click a file or directory on a network drive that is mapped to NSS volume. [bug:243517](#)

Installing the NSS File Version Utility on Windows

- 1 Launch a Web browser, then open the Welcome page with the following URL:

`https://svrname/`

Replace *svrname* with the actual DNS name or IP address of the Archive server.

- 2 In the left navigator, select *Client Software > Archive Versioning*.
- 3 Depending on your requirement install the *Archive Versioning Client for Windows* (`NSSFileVersionUtility.exe`) or *Archive Versioning 64-bit Client for Windows Vista* (`NSSFileVersionUtility_x64.exe`).
- 4 Download and install the executable file to your Windows workstation.

NOTE: On Windows Vista 64-bit, you need to manually register the `VshellExtn.dll` file. At the elevated command prompt, enter `regsvr32 VShellExtn.dll /s`

After a successful installation, the *Restore Archived Versions* option is available when you right-click a file or directory on a network drive (that is a mapped NSS volume). If you encounter any errors, check the `log.txt` file in the `Program Files\Application` folder. For example, `c:\Program Files\Novell\Versioning\log.txt`.

Using the NSS File Version Utility

The NSS File Version Utility integrates with your OES 2 Linux or Windows workstation to restore versions.

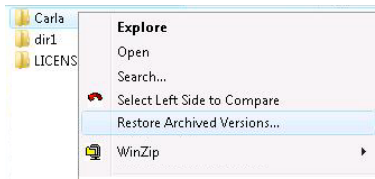
Before using NSS File Version Utility, ensure that you have met the following prerequisites:

- ◆ Map the NSS Primary volume configured for Archive server to your local workstation.
- ◆ Ensure that you have assigned trustee rights to user's file or the volume or the directory. For more information on assigning trustee rights using the Novell Client, refer to the [Novell Client for Linux documentation](http://www.novell.com/documentation/linux_client/index.html?page=/documentation/linux_client/linuxclientuser/data/bwfnrvo.html) (http://www.novell.com/documentation/linux_client/index.html?page=/documentation/linux_client/linuxclientuser/data/bwfnrvo.html) or [Novell Client for Windows documentation](http://www.novell.com/documentation/noclienu/index.html?page=/documentation/noclienu/noclienu/data/h4rudg93.html#bktitle) (<http://www.novell.com/documentation/noclienu/index.html?page=/documentation/noclienu/noclienu/data/h4rudg93.html#bktitle>).
- ◆ Ensure that you have LUM-enabled the user who will restore the versions of the file. For more information, refer to the [Novell Linux User Management Technology Guide](http://www.novell.com/documentation/oes/lumadgd/index.html?page=/documentation/oes/lumadgd/data/bookinfo.html) (<http://www.novell.com/documentation/oes/lumadgd/index.html?page=/documentation/oes/lumadgd/data/bookinfo.html>)

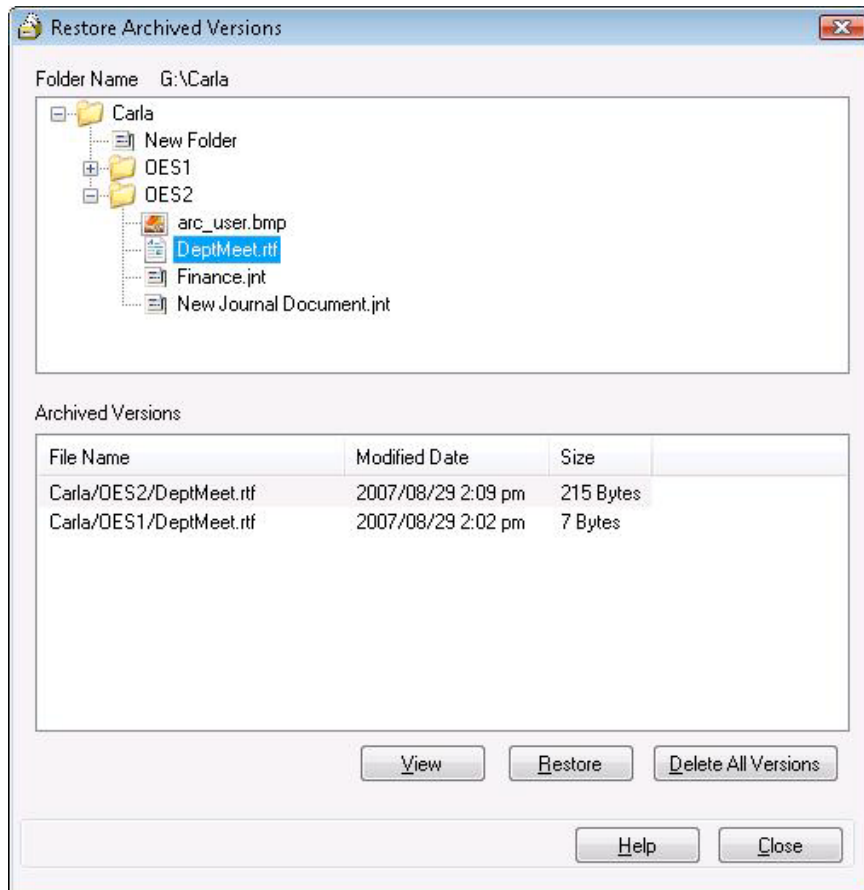
NOTE: The procedure for using the NSS File Version Utility on Windows and Linux are similar. We have used Windows Vista screen shots for our example.

To view and restore the archived file versions:

- 1 In your file browser, browse to locate the network directory or file that might have versions available in the archive database.
- 2 To view versions of the files and folders in the `Carla` directory, right-click the directory, then select *Restore Archived Versions*.



- 3 Browse the *Archived Versions* list to select the file you want to see versions of.



- 4 Use the *View* option to view the contents of a selected file version.

IMPORTANT: Your workstation must have the appropriate application software to open the file.

- 5 Use the *Restore* option to restore the versions of the file or directory.
- 6 Use the *Delete All Versions* option to delete all file versions currently listed in the *Archived Versions* list.

For more information on using NSS File Version Utility, see [OES 2: Archive Version and Services User Guide](http://www.novell.com/documentation/oes2/bkup_arc_user_lx_nw/index.html?page=/documentation/oes2/bkup_arc_user_lx_nw/data/front.html#front) (http://www.novell.com/documentation/oes2/bkup_arc_user_lx_nw/index.html?page=/documentation/oes2/bkup_arc_user_lx_nw/data/front.html#front).

NetStorage

Novell NetStorage provides Web-based interface for retrieving files from the Novell Archive and Version Services server. To restore files using NetStorage services, ensure that the you have met the following prerequisites:

- ☐ Install a [Novell NetStorage server](http://www.novell.com/documentation/oes/netstor_lx/index.html?page=/documentation/oes/netstor_lx/data/h9izvdye.html#h9izvdye) (http://www.novell.com/documentation/oes/netstor_lx/index.html?page=/documentation/oes/netstor_lx/data/h9izvdye.html#h9izvdye).
- ☐ Configure NetStorage services to access the primary volume of the Archive service.

For information, see [Using NetStorage](http://www.novell.com/documentation/oes/netstor_lx/index.html?page=/documentation/oes/netstor_lx/data/ae7tz76.html#ae7tz76) (http://www.novell.com/documentation/oes/netstor_lx/index.html?page=/documentation/oes/netstor_lx/data/ae7tz76.html#ae7tz76) in the *OES NetStorage Administration Guide* (http://www.novell.com/documentation/oes/netstor_lx/index.html?page=/documentation/oes/netstor_lx/data/h9izvdye.html#h9izvdye).

Users can search for file versions and restore them with Novell NetStorage from anywhere, at any time, using a compatible Web browser and a network or Internet connection.

For information on restoring file versions, see [Restoring File Versions with NetStorage](http://www.novell.com/documentation/oes/arc_users/index.html?page=/documentation/oes/arc_users/data/alscjtp.html#alscjtp) (http://www.novell.com/documentation/oes/arc_users/index.html?page=/documentation/oes/arc_users/data/alscjtp.html#alscjtp).

Troubleshooting Issues

♦Archive server fails to start

View the server log files available at `/var/opt/novell/arkmanager/logs`.

Possible cause: NSS is not running

Action: Use `rcnovell-nss status` to check whether NSS is running. If it is not running, start NSS with the `rcnovell-nss start` command.

Possible cause: Adminfs is not running

Action: Check to see if adminfs is running with `rcadminfs status`. If it is not running, start adminfs with the `rcadminfs start` command.

Possible cause: Postgresql driver not found.

Action: Check to see if the `postgresql-8.1-404.jdbc3.jar` file is available in `/usr/share/pgsql` directory. If the file does not exist, you need to install the `postgresql-jdbc.8.1.rpm` file.

♦PostgreSQL start error, "Unable to start the PostgreSQL database. Start the database manually "

Action: Ensure that the data base credentials are accurate. You can check the credentials in CASA and the configuration file.

To start the database manually, log in as the `root` user and enter the following command:

```
su <db user> -c "postmaster -D <data directory> -h 127.0.0.1 -p <port> -i "
```

♦PostgreSQL stop error, "Stopping PostgreSQL database for Novell Archive and Version Service failed"

Action: To stop the Archive server instance of PostgreSQL database, enter the following command:

```
su <db user> -c "pg_ctl stop -D <data directory> -m s"
```

♦Versions are not available

Possible cause: The user does not have access to unix workstation or is not LUM-enabled.

Action: The eDirectory user needs to be LUM-enabled and given access to the Unix workstation by the administrator.

♦**Archive server fails to archive remote NSS volumes**

Possible cause: DNS resolution problem.

Explanation: No versioning jobs can be scheduled because Archive server uses DNS for contacting the remote server.

Action: Resolve the DNS problem and restart the Archive server.

♦**In the Roles and Tasks of Novell iManager, Archive Versioning option is not listed**

Possible cause: The Storage Shared Management Plug-in is not installed.

Action: In the iManager Header frame, click *Configure* icon. In *Plug-in Installation > Available Novell Plug-in Modules*, select *Storage Shared* and click *Install*.

Documentation

- ◆ Novell Archive and Version Services User Guide (http://www.novell.com/documentation/oes2/bkup_arc_user_lx_nw/index.html?page=/documentation/oes2/bkup_arc_user_lx_nw/data/front.html#front)
- ◆ Novell Archive and Version Services Administration Guide (http://www.novell.com/documentation/oes2/bkup_arc_admin_lx/index.html?page=/documentation/oes2/bkup_arc_admin_lx/data/front.html#front)

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