Quest® NetVault® Backup Plug-in *for Informix* 4.2

User's Guide

Legend

■ **WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.**

❗ **CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.**

ℹ **IMPORTANT NOTE**, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

Contents

Introducing NetVault Backup Plug-in *for Informix*

- NetVault Backup Plug-in for Informix: at a glance
- Key benefits
- Feature summary
- Target audience
- Recommended additional reading

NetVault Backup Plug-in *for Informix*: at a glance

The NetVault Backup Plug-in *for Informix* (Plug-in *for Informix*) increases application availability through online backup of Informix databases in Linux, UNIX, and Windows environments. Without complex scripting, the plug-in offers various features, such as online backups, support for multiple database servers on a single machine, and protection of Logical Logs. Through integration with a range of backup devices, your data is protected and stored offsite to meet your disaster-recovery and business-continuity goals.

Key benefits

- **Reduce risk with flexible backup options**: Plug-in *for Informix* lets you select what must be backed up, including whole system, individual dbspaces, or blobspaces and Logical Logs. Support for Full (Level 0) and Incremental (Level 1 and 2) Backups lets you choose the preferred backup method without complex scripting. Plug-in *for Informix* increases your confidence and reduces risks when deploying the Informix database.

- **Maximize information technology (IT) staff efficiency**: By relying on the plug-in to implement backup policies, you can focus on business-critical tasks rather than repetitive and manual backup operations. Less-experienced personnel can perform routine administrative options, thus empowering administrators to create comprehensive backup policies without the need to understand Informix internals.

- **Ensure business continuity**: With offsite backups being an important part of the data-protection for business-critical applications, the plug-in takes advantage of NetVault Backup's integration with a range of backup devices. NetVault Backup lets you select which backup device to store the backup on. You can store the backup online in a virtual tape library (VTL). You can also duplicate the job to physical tape libraries shared by multiple Informix databases, other proprietary databases, or even general backup files.

Feature summary

- Full and Incremental Backups

- Whole database, database spaces, and Logical Log backup options

- Multiple database servers operating on one machine

- Automatic protection of Logical Logs

- Point-and-click WebUI

Target audience

Informix database administration skills (DBA) are required for installation and initial configuration. Although this skill level is not required for routine backup operations, Quest recommends it. Lastly, DBA skills are required for recovery operations, as they are handled by Informix itself and not NetVault Backup.

Recommended additional reading

The following documentation is also available:

- *Quest NetVault Backup Installation Guide*: This guide provides details on installing the NetVault Backup Server and Client software.

- *Quest NetVault Backup Administrator's Guide*: This guide explains how to use NetVault Backup and describes the functionality common to all plug-ins.

- *Quest NetVault Backup CLI Reference Guide*: This guide provides a description of the command-line utilities.

You can download these guides from https://support.quest.com/technical-documents.

> **i** | **IMPORTANT:** Starting with 10.0.0, NetVault Backup provides a WebUI to configure, manage, and monitor your NetVault Backup system and installed plug-ins. The procedures described in the user's guide for this version of the plug-in are intended for the new WebUI. For procedures based on the NetVault Backup Console, see the documentation for an earlier version of the plug-in.

Installing and removing the plug-in

* Available deployment types
* Prerequisites
* Installing or upgrading the plug-in
* Removing the plug-in

Available deployment types

Depending on the availability of hardware and system resources, you can select either a server-only or client/server deployment for the plug-in.

* **Server-only setup**: In this setup, both the NetVault Backup Server and the Informix Dynamic Server (IDS) are installed on the same machine. Having both servers on the same system might affect system resources and performance.

    Figure 1. Server-only setup

    ● NetVault Backup Server
    ◆ Plug-in for Informix
    ◇ Informix Database Server
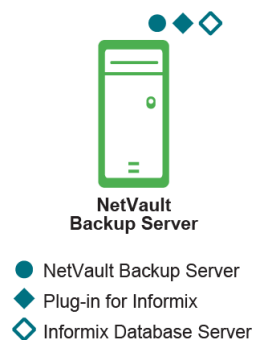
* **Client/server setup**: In this setup, the NetVault Backup Server machine is different from the one acting as the IDS.

    Figure 2. Client/server setup

    ● NetVault Backup Server
    ◆ Plug-in for Informix
    ○ NetVault Backup Server/Client software
    ◇ Informix Database Server
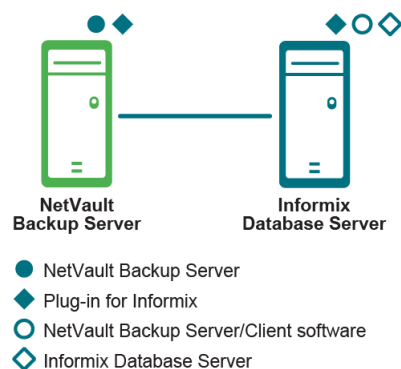
Prerequisites

Before you start the plug-in installation, verify that the following requirements are met:

- **Server-only setup**: Verify that the following items are installed:

    - **Install NetVault Backup Server**: Install the Server version of NetVault Backup on the NetVault Backup Server.

    - **Install Informix ESQL Client (Linux and UNIX only)**: On a Linux- or UNIX-based IDS, install the Informix ESQL Client software. Failure to install this component might result in error messages during database browsing on the NetVault Backup WebUI.

- **Client/server setup**: Verify that the following items are installed:

    - **Install NetVault Backup Server**: Install the Server version of NetVault Backup on the IDS.

    - **Install NetVault Backup Client**: Install at least the Client version of NetVault Backup on the IDS.

    - **Install Informix ESQL Client (Linux and UNIX only)**: On a Linux- or UNIX-based IDS or NetVault Backup Server, install the Informix ESQL Client software. Failure to install this component might result in error messages during database browsing on the NetVault Backup WebUI.

    - **Add NetVault Backup Client**: Add the NetVault Backup Client to the NetVault Backup Server. For more information, see the *Quest NetVault Backup Administrator's Guide*.

Installing or upgrading the plug-in

> **i** | **IMPORTANT:** In a client/server setup, you must install Plug-in *for Informix* on both the IDS and the NetVault Backup Server.

1 Access the **NetVault Configuration Wizard** or **Manage Clients** page.

> **i** | **NOTE:** If the selected clients are all the same type, you can use the configuration wizard to install the plug-in on multiple clients at the same time. When you select multiple clients, verify that the plug-in binary file is compatible with the operating system (OS) and platforms of the target clients. From the **Manage Clients** page, you can only select one client for plug-in installation.

- To access the **NetVault Configuration Wizard** page:

    a In the Navigation pane, click **Guided Configuration**.

    b On the **NetVault Configuration Wizard** page, click **Install Plugins**.

    c On the next page, select the applicable clients.

- To access the **Manage Clients** page:

    a In the Navigation pane, click **Manage Clients**.

    b On the **Manage Clients** page, select the machine that contains the IDS, and click **Manage**.

    c On the **View Client** page, click the **Install Plugin** button ().

2 Click **Choose Plug-in File**, navigate to the location of the **".npk"** installation file for the plug-in—on the installation CD or the directory to which the file was downloaded from the website.

Based on the OS in use, the path for this software may vary on the installation CD.

3 Select the file entitled **"inf-x-x-x-x-x.npk,"** where **xxxxx** represents the version number and platform, and click **Open**.

4 To begin installation, click **Install Plugin**.

After the plug-in is successfully installed, a message is displayed.

> **NOTE:** In a client/server setup, repeat these steps to install the plug-in on the NetVault Backup Server. Depending on the OS in use, you might require a different **.npk** file.

Removing the plug-in

1   In the Navigation pane, click **Manage Clients**.

2   On the **Manage Clients** page, select the applicable client, and click **Manage**.

3   In the **Installed Software** table on the **View Client** page, select **Plug-in** *for Informix*, and click the **Remove Plugin** button (⊟).

4   In the **Confirm** dialog box, click **Remove**.

> **NOTE:** In a client/server setup, repeat these steps to remove the plug-in from the NetVault Backup Server.

Configuring the plug-in

- Configuring default settings
- Configuring CLI options at database-level
- Setting ON-Bar configuration parameters in the ONCONFIG file
- Enabling access to NetVault Backup Server for CLI backups and restores
- Setting Informix environment values
- Checking the "sm_versions" file
- Using Informix Dynamic Server 12.10
- Configuring Windows-specific information

Configuring default settings

The plug-in lets you set default options for backup and restore jobs. You can override these options on a per-job basis.

> **i** | **NOTE:** During installation, the plug-in automatically configures some of these parameters in the ONCONFIG file. Check these values for accuracy after installation completes.
>
> Quest recommends that you review and update the default settings in the **Configure** dialog box on a per-job basis.

Configuring default settings in a server-only setup

1   In the Navigation pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list.

2   In the selection tree, open the applicable server node, and select **Plug-in** *for Informix*.

3   From the **Actions** list, select **Configure**.

4   Configure the following parameters:

   ▪   **Default NetVault Server**: Enter the name of the default NetVault Backup Server for the plug-in. This server controls the backup and restore processes for the plug-in.

   ▪   **Restore Backup taken from NetVault Client**: When restoring a Whole System Backup to an alternate IDS, use this parameter to specify the name of the original NetVault Backup machine from which the backup was taken. For more information, see Restoring data to an alternate server.

   ▪   **Preferred Parallel Index**: The Secondary Copies created using the NetVault Backup Plug-in *for Data Copy* or the **Data Copy** option on the **Advanced Options** page have their own copy of the backup index. The identification number assigned to the index file increments by one for each new copy of the saveset.

   To restore from a particular saveset, enter or select the index number for that backup. This option is useful if the original saveset has expired and you want to restore data from a secondary copy.

- **Job Start Timeout**: This parameter controls how long the ON-Bar process waits for the NetVault Backup Server to respond when starting a job. The default interval is 60 seconds. To configure a new timeout, enter or select the required value in **Job Start Timeout**. The value is specified in number of seconds.

- **OnBar log flush time**: This parameter controls how long the NetVault Backup Server waits for the ON-Bar process to complete writing log data before closing the job channel. The default interval is 10 seconds. To configure a new timeout, enter or select the required value in this field. The value is specified in number of seconds. Ensure that you allow sufficient time to list all ON-Bar activities in the NetVault Backup logs.

- **Scan OnBar Log by process id**: To scan the ON-Bar activity logs and include only the entries identified by the ON-Bar Process ID in the NetVault Backup logs, leave this check box selected. To include activity logs for all processes in the NetVault Backup logs, clear this check box.

- **OnBar Executable**: Enter the filename of the ON-Bar executable file. The filename is usually "onbar_d" for Windows and "onbar" for Linux and UNIX systems.

- **OnBar Backup Target Set**: Specify the default Target Set for backups that are initiated from the ON-Bar command line. The configured set must exist in NetVault Backup before you run a job. If you specify a set that does not exist, the job fails. For more information about creating Target Sets, see the *Quest NetVault Backup Administrator's Guide*.

- **OnBar Backup Advanced Options Set**: Specify the default Advanced Options Set for backups that are initiated from the ON-Bar command line. The configured set must exist in NetVault Backup when you run a job. If you specify a set that does not exist, the job fails.

- **Informix Account Name**: To access the IDS, specify a user account. The default user account is **"informix"**. This field is a mandatory parameter and cannot be left blank.

- **Informix Unix Group (Linux- and UNIX-based IDSs only)**: For IDSs configured on Linux or UNIX, enter the name of the Informix Group to which the configured user account belongs.

- **Informix Directory**: Enter the path of the Informix directory—for example, **"C:\INFORMIX"** on Windows or **"/home/informix"** on Linux and UNIX. This field is a mandatory parameter and cannot be left blank. For Windows, use the MS-DOS-compatible filename in 8.3 format.

  > **i** | **TIP:** To determine this name, open a command prompt, navigate to the parent directory of the Informix directory, and issue a `dir /x` command. The response should display the contents of the directory in short-name format.

- **OnConfig File List**: Enter filenames of the **ONCONFIG** file for all database server instances running on the Informix machine. Use spaces to separate multiple filenames. This parameter indicates whether the Informix machine is running multiple database server instances—Multiple Residency setup.

- **Use Static Space List**: The plug-in uses SQL commands to generate a run-time list of dbspaces and blobspaces present on the IDSs. When this command fails, this information must be provided manually. To obtain this list from the **Space List** parameter, select this check box.

- **Space List**: Enter the names of the dbspaces and blobspaces on the IDSs. Use spaces to separate multiple object names. This list is used only when the **Use Static Space List** check box is selected.

- **NetVault Job Name for OnBar Initiated Backups**: Enter the default job title for backups that are initiated from the ON-Bar command line.

- **NetVault Job Name for OnBar Initiated Restores**: Enter the default job title for restores that are initiated from the ON-Bar command line.

5 To save the settings, click **OK**.

Configuring default settings in a client/server setup

In a client/server setup, the configuration procedure includes the steps outlined in the following topics.

Configuring default settings on NetVault Backup Server

1   In the Navigation Pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list.

2   In the selection tree, open the applicable NetVault Backup Server node, and select **Plug-in** *for Informix*.

3   From the **Actions** list, select **Configure**.

4   Configure the following parameters:

   ▪   **Default NetVault Server**: Enter the name of the default NetVault Backup Server for the plug-in. This server controls the backup and restore processes for the plug-in.

   ▪   **Restore Backup taken from NetVault Client**: When restoring a Whole System Backup to an alternate IDS, use this parameter to specify the name of the original NetVault Backup machine from which the backup was taken. For more information, see Restoring data to an alternate server.

      In a client/server setup, provide the NetVault Backup name of the machine configured as the IDS.

5   Use the default settings for the remaining options.

6   To save the settings, click **OK**.

Configuring default settings on NetVault Backup Client

1   In the Navigation Pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list.

2   In the selection tree, open the applicable client node, and select **Plug-in** *for Informix*.

3   From the **Actions** list, select **Configure**.

4   Using the guidelines provided in Configuring default settings in a server-only setup, configure the following parameters:

   Table 1.

• **Default NetVault Server**	• **Informix Account Name**
• **Preferred Parallel Index**	• **Informix Unix Group**
• **Job Start Timeout**	• **Informix Directory**
• **OnBar log flush time**	• **OnConfig File List**
• **Scan OnBar Log by process id**	• **Use Static Space List**
• **OnBar Executable**	• **Space List**
• **OnBar Backup Target Set**	• **NetVault Job Name for OnBar Initiated Backups**
• **OnBar Backup Advanced Options Set**	• **NetVault Job Name for OnBar Initiated Restores**

5   To save the settings, click **OK**.

Configuring CLI options at database-level

The plug-in lets you configure default values for CLI options—parameters that are used for ON-Bar initiated backups and restores—at two-levels:

- **Plug-in-level**: The settings made at the plug-in level are applied globally to the CLI backups and restores of all database server instances running on the Informix system.

- **Database-level**: To override the default settings for individual database instances, you can configure these settings at database-level. If any CLI option is not configured at database-level, the plug-in uses the global setting for it when running CLI backups and restores.

1   In the Navigation Pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list.

2   In the selection tree, open the applicable client node.

3   In the list of plug-ins, open **Plug-in** *for Informix*, and select the target database.

4   From the **Actions** list, select **CLI Options**.

5   Configure the following parameters:

- **OnBar Backup Target Set**: Specify the default Target Set for backups that are initiated from the ON-Bar command line. The configured set must exist in NetVault Backup before you run a job. If you specify a set that does not exist, the job fails. For more information about creating Target Sets, see the *Quest NetVault Backup Administrator's Guide*.

- **OnBar Backup Advanced Options Set**: Specify the default Advanced Options Set for backups that are initiated from the ON-Bar command line. The configured set must exist in NetVault Backup when you run a job. If you specify a set that does not exist, the job fails. For more information about creating Target Sets, see the *Quest NetVault Backup Administrator's Guide*.

- **NetVault Job Name for OnBar Initiated Backups**: Enter the default job title for backups that are initiated from the ON-Bar command line.

- **NetVault Job Name for OnBar Initiated Restores**: Enter the default job title for restores that are initiated from the ON-Bar command line.

6   To save the settings, click **OK**.

Setting ON-Bar configuration parameters in the ONCONFIG file

The ONCONFIG file is named **"ONCONFIG.ol<*serverName*>"** and is located in the "**<*InformixInstallDir*>\etc**" directory. Before you start using the plug-in for backups and restores, ensure that the following parameters are set correctly in the ONCONFIG file.

Tape-device parameters

Ensure that correct values are assigned to the TAPEDEV and LTAPEDEV parameters.

```
# System Archive Tape Device
TAPEDEV <devicePath>              # Tape device path
# Log Archive Tape Device
LTAPEDEV <devicePath>             # Log tape device path
```

An Informix backup or restore operation fails if *<devicePath>* is not properly configured or contains a null value (**"nul"** or **"NUL"**).

The following entries are valid for these parameters:

- **Windows**

  ```
  TAPEDEV \\.\TAPE0        # Tape device path
  ```

- **Linux and UNIX**

  ```
  TAPEDEV /dev/tapedev     # Tape device path
  ```

If no value has been set for *<devicePath>* when you install Plug-in *for Informix*, the plug-in sets it to **"NetVault"**.

```
TAPEDEV    NetVault    # Tape device path
```

BAR_BSALIB_PATH

Ensure that the **BAR_BSALIB_PATH** parameter is set to the full path name of the Plug-in *for Informix* Backup Services library—"msmdll.*<OSextension>*" file—or to a symbolic link that points to the library.

- **Windows**: During installation on Windows, the plug-in sets this path to:

  - **32-bit**: *<WinDir>*\system32\msmdll.dll. For example:

    ```
    BAR_BSALIB_PATH C:\Winnt\system32\msmdll.dll
    ```

  - **64-bit**: *<WinDir>*\SysWOW64\msmdll.dll. For example:

    ```
    BAR_BSALIB_PATH C:\Windows\SysWOW64\msmdll.dll
    ```

- **Linux and UNIX**: On Linux and UNIX, the plug-in creates the following links during installation:

  - **NetVault Backup installation directory links**

    <x> refers to the possible file extensions, **".a"**, **".o"**, **".sl"** or **".so"** in the following links.

    ```
    /usr/lib/msmdll.<x> --> <NetVaultBackupInstallDir>/lib/msmdll.<x>
    ```

    32/64-bit

    ```
    /usr/lib/ibsad001.<x> --> <NetVaultBackupInstallDir>/lib/msmdll.<x>
    ```

    64-bit only

    ```
    /usr/lib/ibsad001_64.<x> --> <NetVaultBackupInstallDir>/lib/msmdll.64<x>
    ```

  - **Informix installation directory links**

    32/64-bit

    ```
    <InformixInstallDir>/lib/ibsad001.<x> -->
        <NetVaultBackupInstallDir>/lib/msmdll.<x>
    ```

    64-bit only

    ```
    <InformixInstallDir>/lib/ibsad001.<x> -->
        <NetVaultBackupInstallDir>/lib/msmdll64.<x>
    ```

- To determine where a symbolic link is pointing to, start a terminal session, and type:

  ```
  ls -l /usr/lib/ibsad*
  ```

  If the preceding links do not exist, create them manually:

  - **NetVault Backup installation directory links**

    32/64-bit

    ```
    ln -s <NetVaultBackupInstallDir>/lib/msmdll.a /usr/lib/ibsad001.o
    ```

    64-bit only

```
    ln -s<NetVaultBackupInstallDir>/lib/msmdll64a.a /usr/lib/ibsad001_64.o
```

- ▪ **Informix installation directory links**

  32/64-bit

  ```
  ln -s /<NetVaultBackupInstallDir>/
      lib/msmdll.sl<InformixInstallDir>/lib/ibsad001.sl
  ```

  64-bit only

  ```
  ln -s /<NetVaultBackupInstallDir>/
      lib/msmdll64.sl<InformixInstallDir>/lib/ibsad001.sl
  ```

- • **Solaris 64-bit**: For IDS 64-bit software running on Solaris 64-bit, set BAR_BSALIB_PATH to the following path:

  ```
  BAR_BSALIB_PATH /usr/lib/64/ibsad001.so
  ```

BAR_MAX_BACKUP

The BAR_MAX_BACKUP parameter specifies the maximum number of parallel processes that are allowed for each ON-Bar command. Both UNIX and Windows support parallel backups.

- • To restore data backed up with the plug-in from the NetVault Backup WebUI, change the default value of **"0"** to **"1"**.

- • If multiple devices are available to serve as backup targets—that is, multiple drives are available in a single library—, you can start additional **"onbar_d"** child processes to send multiple streams of data to these devices. Such backups are called **Parallel Backups**. For parallel backups, set the **BAR_MAX_BACKUP** parameter to the number of required streams—that is, available devices—before starting the backup job. For more information about performing these types of backups and restores, see Performing parallel backups and Restoring from Parallel Backups.

  > **i** | **IMPORTANT:** Only noncritical dbspaces can be selected for Parallel Backups. These backups do not work for the **root** dbspace. For backups and restores for **root** dbspace, BAR_MAX_BACKUP must always be set to **"1"**.

Enabling access to NetVault Backup Server for CLI backups and restores

To enable access to NetVault Backup Server for jobs that are initiated from the ON-Bar command line, perform the following steps.

1. Start a terminal session on the NetVault Backup Server, and navigate to the "**…/util**" directory—where **…** represents the NetVault Backup installation directory.

2. Type the following command:

   ```
   nvpluginaccess -client <NetVaultBackupMachineThatContainsIDS>
   ```

3. In the list of available plug-ins, type **4** (Specify plugin name), press **Enter**, and enter Plug-in *for Informix* when the next prompt is displayed.

4. When the prompt is displayed for a NetVault Backup User Account, type the name, and press **Enter**.

5. When the prompt for the associated password is displayed, type the NetVault Backup password associated with the NetVault Backup User Account entered in the previous step.

   Passwords are case-sensitive. When you type the password, the actual characters are displayed on the screen. These characters are not replaced with asterisks.

6. Repeat Step 4 and Step 5 for each NetVault Backup Client on which the plug-in is installed.

Notes

- If the Access Control functionality has not been set up for NetVault Backup, use the default user account and password to grant client access:
  - **Account name**: default
  - **Password**: *<noValue>*

- To skip Step 3 and Step 4, use the following syntax:

  ```
  nvpluginaccess -client <client> -account <account> -password <password>
  ```

Using environment variables for CLI access to NetVault Backup Server

For access to NetVault Backup Server during ON-Bar initiated backups and restores, you can also use the NETVAULTCLIACCOUNT and NETVAULTCLIPASSWORD environment variables:

- NETVAULTCLIACCOUNT: Specifies a user account name. The named account must have privileges to use the CLI utility.

  ```
  NETVAULTCLIACCOUNT=<AccountName>
  ```

- NETVAULTCLIPASSWORD: Specifies the password for the CLI user account.

  ```
  NETVAULTCLIPASSWORD=<Password>
  ```

Note the following:

- If not password has been set for the **default** user, it is not necessary to configure the NETVAULTCLIACCOUNT and NETVAULTCLIPASSWORD variables.

- NETVAULTCLIPASSWORD displays the NetVault Backup password in plain text, which might create security risks. To avoid this issue, Quest recommends that you use the nvpluginaccess utility to grant client access.

Setting Informix environment values

To instruct the plug-in to set specific environment values while running backup jobs, perform the following steps.

1. In the Navigation pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list.

2. In the selection tree, open the applicable client node.

3. In the list of plug-ins, open **Plug-in** *for Informix*, and select the target database.

4. From the **Actions** list, select **Environment**.

5. In the **Informix Environment Values** dialog box, configure the following parameters:

   - **SqlHosts File (Linux and UNIX only)**: Enter the path to the Informix **"sqlhosts"** file.

     ⓘ | **NOTE:** If you are using a Windows Server, Quest recommends that you enter the path to the Informix **"sqlhosts"** file in the next field, **Extra Environment**.

   - **Extra Environment**: Enter any Informix environment variables as necessary. For example, to back up or restore a dbspace, database, or table in a non-English locale, configure the corresponding CLIENT_LOCALE variable in **Extra Environment**.

6. Click **OK**.

Checking the "sm_versions" file

Verify that the IDS **"sm_versions"** file exists in the **"$INFORMIXDIR\etc"** directory and that it refers to the version of the plug-in that you are using. To determine the plug-in version, perform the following steps.

1   In the Navigation pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list.

2   In the selection tree, open the applicable client node, and select **Plug-in** *for Informix*.

3   From the **Actions** list, select **About**, and note the version number of the plug-in.

4   In a text editor, open the **"sm_versions"** file, and verify that it contains a line similar to the following—replace the *<n.n>* with the plug-in version number:

    1|1.10.1|nvinfx|*<n.n>*

Using Informix Dynamic Server 12.10

If your Windows 32- or 64-bit environment or your Linux 32-bit environment uses IDS version 12.10, use the **IFX_BAR_NO_LONG_BUFFERS** variable to specify whether long buffers are used while running ON-Bar. This requirement is true whether you are using the CLI or NetVault Backup WebUI. If this variable is not set, backup and restore jobs might fail.

If ON-Bar is run from a CLI command prompt, set the variable in the command prompt where ON-Bar is being run. Alternatively, you can set the variable in the Windows environment, in which case it is set for each Windows command prompt that it is opened.

Setting the variable for CLI in a command prompt

1   Open a command prompt, and switch to the Informix directory, for example, **C:\IBMInformix**.

2   Type `set IFX_BAR_NO_LONG_BUFFERS=1`, and press **Enter**.

3   Enter the applicable ON-Bar backup or restore command, for example, `onbar -b -1 -c`, and press **Enter**.

Changing the variable for the WebUI

1   In the Navigation pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list.

2   In the selection tree, open the applicable client node.

3   In the list of plug-ins, open **Plug-in** *for Informix*, and select the target database.

4   From the **Actions** list, select **Environment**.

5   In the **Extra Environment** field of the **Informix Environment Values** dialog box, type `IFX_BAR_NO_LONG_BUFFERS=1`, and click **OK**.

6   Repeat these steps for each applicable target.

Configuring Windows-specific information

If your environment uses Windows, there are several additional settings that you must verify, some of which depend on the version of Windows or IDS that you are using.

- Setting the PATH system variable
- Verifying that the INFORMIXDIR path does not contain blank spaces
- Addressing Windows User Account Control (UAC) on Windows Server 2008 R2 and later
- Using Windows Server 2008, 2012, and 2012 R2

Setting the PATH system variable

Ensure that *<InformixInstallDir>\bin* is included in the PATH system variable. The backups and restores performed from the NetVault Backup WebUI fail if the path is not properly set for this directory.

1. Right-click the **Computer** icon on your Windows system, and select **Properties**.

2. Click **Advanced system settings**.

3. On the **Advanced** tab of the **System Properties** dialog box, click **Environmental Variables**.

4. Under **System variables**, select **Path**, and click **Edit**.

5. Update **Variable value** to add or change *<InformixInstallDir>\bin*.

   Use a semicolon as a delimiter to add the path.

6. To save the changes, click **OK**.

Verifying that the INFORMIXDIR path does not contain blank spaces

If you set the INFORMIXDIR variable to use a path that contains blank spaces, it can cause unexpected results when running ON-Bar. If you must use blank spaces, ensure that the ROOTPATH variable in the ONCONFIG file is entered using the MS-DOS-compatible (short) filename in 8.3 format. Otherwise, you might observe the following error when performing ON-Bar restores: Unable to write storage space restore data to the database server: ONCONFIG ROOTPATH: 'C:\Program Files\IBM Informix Software Bundle\storage\rootdbs' differs from archive: 'C:\Program'

For example, for the ROOTPATH entry in your IDS ONCONFIG file, instead of using a path that includes blanks in the ROOTPATH variable, C:\Program Files\IBM Informix Software Bundle\storage\rootdbs, enter a path that uses the short name in 8.3 format, C:\PROGRA~1\IBMINF~1\storage\rootdbs.

For more information, see IC92453: WINDOWS: INFORMIXDIR CONTAINING BLANK CAN LEAD TO PROBLEMS.

Addressing Windows User Account Control (UAC)
on Windows Server 2008 R2 and later

Windows Server 2008 R2 and later use Windows UAC. If you installed IDS on a Windows system that has UAC enabled, the installation process probably recommended that you disable UAC. If UAC is still enabled, Quest recommends that you disable it to ensure that you can browse the list of spaces in the IDS. If UAC is enabled and cannot be disabled, you might need to use the local Administrator account—instead of the Informix user—when you use the NetVault Backup WebUI to browse the list of spaces in the selection tree.

To disable UAC, perform the following steps.

1 To locate the **EnableLUA** key, open the Windows **regedit** utility.

2 Change the **Value data** setting from 1 to 0.

3 To implement the change, restart the system.

Using Windows Server 2008, 2012, and 2012 R2

If your environment uses one of these versions of Windows Server, Quest recommends that you run the **NetVault Process Manager (nvpmgr)** under a local Administrator account on the NetVault Backup Client where the plug-in is installed. To update the properties for the NetVault Process Manager, use the Windows **Administrative Tools > Services** utility.

Additionally, to run the ON-Bar application, the Administrator account under which the NetVault Process Manager runs must have the local privileges of **Create a token object** and **Replace a process level token**.

To update the local privileges, perform the following steps.

1 In the Windows **Administrative Tools** console, select **Local Security Policy > Local Policies > User Rights Assignments**.

2 In the **Policy** list, locate and right-click **Create a token object**, and add the applicable user, for example, Administrator.

3 In the **Policy** list, locate and right-click **Replace a process level token**, and add the same user.

Backing up data

- Available backup types
- Backup method comparison
- Backing up data using the plug-in
- Backing up critical files
- Backing up Logical Logs automatically
- Performing parallel backups

Available backup types

Plug-in *for Informix* supports the following types—levels—of backups:

- **Level 0:** Backs up all the used pages containing data for the selected storage spaces. To restore the database to the state that it was in at the time of backup, you require all these pages.

- **Level 1**: Backs up only the data that has changed since the last Level 0 Backup of the selected storage spaces. It contains all the table and index pages in a storage space, including those pages with deleted data.

- **Level 2**: Backs up only the data that has changed since the last Level 1 Backup of the selected storage spaces. It contains all the table and index pages in a storage space that has changed since the last Level 1 Backup.

For more information about the backup types, see the *IBM Informix Backup and Restore Guide*.

Backup method comparison

For backups of IDS, you can use the plug-in and Informix's native backup-and-recovery software, Informix Enterprise Command Center (IECC) in Windows and ON-Bar in Linux and UNIX. The following table lists the relative merits of each backup method. While this list is not comprehensive, it provides information that helps you select a backup method.

Table 2. Backup methods

Feature	Informix backup submission method	NetVault Backup backup submission method
Submit backup from local or remote IDS	Yes	No
Submit backup from local or remote NetVault Backup Server	No	Yes
Back up to specific target device	No	Yes
Back up to specific target media	No	Yes

Table 2. Backup methods

Feature	Informix backup submission method	NetVault Backup backup submission method
Submit backup by using remote NetVault Backup Domain Control, through NetVault Backup interface linked to Domain Controllable Server	No	Yes
Remotely put IDS online and submit backup from same window	Yes	No
Schedule with other backup jobs	No	Yes
Monitor progress from same window as other backup jobs	No	Yes
Incorporate pre- and post-scripts for backup job	No	Yes

Notes

- Quest recommends that you review the *IBM Informix Backup and Restore Guide* before performing any backup operations using the plug-in.

- Before backing up data with the plug-in, ensure that **BAR_MAX_BACKUP** is set to a value of at least 1, unless parallel backups are being performed. For more information, see BAR_MAX_BACKUP. If you do not set this parameter, an error occurs when you try to restore the data and the job fails.

- A CLI-initiated backup job must not be run from the NetVault Backup WebUI, for example, using the **Run Now** option. The job fails if you attempt to run it from the WebUI because the plug-in cannot access the ON-Bar script for the job.

Backing up data using the plug-in

The procedure for backing up data using the plug-in includes the steps outlined in the following topics:

- Selecting data for a backup

- Setting backup options

- Finalizing and submitting the job

Selecting data for a backup

You must use sets—Backup Selection Set, Backup Options Set, Schedule Set, Target Set, and Advanced Options Set—to create a backup job.

Backup Selection Sets are essential for Incremental Backups. Create the Backup Selection Set during a Full Backup, and use it for Incremental Backups. The backup job reports an error if you do not use a Selection Set for the Incremental Backup. For more information, see the *Quest NetVault Backup Administrator's Guide*.

ℹ️ | **TIP:** To use an existing set, click **Create Backup Job**, and select the set from the **Selections** list.

1 In the Navigation pane, click **Create Backup Job**.

You can also start the wizard from the Guided Configuration link. In the Navigation pane, click **Guided Configuration**. On the **NetVault Configuration Wizard** page, click **Create backup jobs**.

2 In **Job Name**, specify a name for the job.

Assign a descriptive name that lets you easily identify the job when monitoring its progress or restoring data. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Linux, the name can have a maximum of 200 characters. On Windows, there is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

3   Next to the **Selections** list, click **Create New**.

4   In the list of plug-ins on the **NetVault Backup Selections** page, open **Plug-in** *for Informix*.

5   If the **Enter Informix Details** dialog box is displayed, the default settings have not been set, complete the following parameters, and then click **OK** to save your settings.

- ▪ **Informix Directory**: Enter the path of the Informix directory, for example, **"C:\INFORMIX"** on Windows or **"/home/informix"** on Linux and UNIX. This field is a mandatory parameter and cannot be left blank. For Windows, use the MS-DOS-compatible (short) filename in 8.3 format.

    > ℹ **TIP:** To determine this name, open a command prompt, navigate to the parent directory of the Informix directory, and issue a `dir /x` command. The response should display the contents of the directory in short-name format.

- ▪ **OnConfig File List**: Enter filenames of the ONCONFIG file for all database server instances running on the Informix machine. Use spaces to separate multiple filenames. This parameter indicates whether the Informix machine is running multiple database server instances, Multiple Residency setup.

- ▪ **Informix Account**: To access the IDS, specify a user account. The default user account is **"informix"**. This field is a mandatory parameter and cannot be left blank.

- ▪ **Informix Group (Linux-and UNIX-based IDSs only)**: For IDSs configured on Linux or UNIX, enter the name of the Informix Group to which the configured user account belongs.

6   Open the target database server instance.

7   Select the applicable data:

- ▪ **Whole System**: To create a Whole System Backup, select this check box. A Whole System backup is a backup of all dbspaces and Logical Logs.

    > ℹ **NOTE:** If the Whole System Backup does not include related critical files, such as ONCONFIG and ixbar, Quest recommends that you manually back up these critical files. For more information, see Backing up critical files.

- ▪ **Spaces**: To create a backup of all dbspaces on the server, select this check box. To back up individual dbspaces, open this node, and select the required dbspaces.

    > ℹ **NOTE:** Before you open the **Spaces** folder, ensure that the IDS is online or a NetVault Backup error message is displayed. Do not attempt to back up **Spaces** unless a Whole System Backup has been performed first. Before backing up the individual dbspaces, perform a backup of the root db_space alone.

- ▪ **Logical Log**: The logical-log files store a record of database server activity that occurs between backups. A logical-log backup is a backup of all full logical-log files. Logical-log backups are always Level 0 Backups.

    You can either back up the Logical Logs manually or enable automatic backup on the server. For more information about automatic backups of Logical Logs, see Backing up Logical Logs automatically.

8   Click **Save**, enter a name in the **Create New Set** dialog box, and click **Save**.

The name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Linux, the name can have a maximum of 200 characters. On Windows, there is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

Setting backup options

The next step involves creating the Backup Options Set or selecting an existing one.

> **TIP:** To use an existing set, in the **Plugin Options** list, select the set that you want to use.

1 Next to the **Plugin Options** list, click **Create New**.

2 In the **Choose default options** dialog box, select the set to use as a template for the new set.

   For example, you might use the **Default Backup Options - Plug-in** *for Informix* option.

3 Configure the following options:

   ▪ Under **Informix Backup Type**, select one of the following:

      ▫ **Level 0**

      ▫ **Level 1**

      ▫ Level 2

   For more information about backup types, see Available backup types.

   > **IMPORTANT:** Only complete databases can be selected for Level 1 and Level 2 Backups (Incremental Backups). You cannot select individual dbspaces for these backup types.

   ▪ Under **Logical Log Backup Options**, select the **Include Current Logical if Logical Log Backup is Selected** check box if you want to include the current Logical Log in a backup. This option is equivalent to the **-c** option in the ON-Bar command line.

4 Click **Save** to save the set.

5 In the **Create New Set** dialog box, specify a name for the set, and click **Save**.

   The name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Linux, the name can have a maximum of 200 characters. On Windows, there is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

Finalizing and submitting the job

The final steps include setting additional options on the Schedule, Target Storage, and Advanced Options pages, submitting the job, and monitoring the progress through the Job Status and View Logs pages. These pages and options are common to all NetVault Backup Plug-ins. For more information, see the *Quest NetVault Backup Administrator's Guide*.

1 Use the **Schedule**, **Target Storage**, and **Advanced Options** lists to configure any additional required options.

2 Click **Save** or **Save & Submit**, whichever is applicable.

   > **TIP:** To run a job that you have already created and saved, select **Manage Job Definitions** in the Navigation pane, select the applicable job, and click **Run Now**.

   You can monitor progress on the **Job Status** page and view the logs on the **View Logs** page. For more information, see the *Quest NetVault Backup Administrator's Guide*.

Backing up critical files

Starting with IDS 11, Whole System Backups run by Plug-in *for Informix* automatically include the critical IDS files. If you are using an earlier version of IDS, manually back up the critical files after the Whole System backup is finished.

- You can use the NetVault Backup Plug-in *for FileSystem* (Plug-in *for FileSystem*) to back up critical files. For more information, see Backing up critical files using the Plug-in for FileSystem.

- Whole System Backups run by Plug-in *for Informix* might include the following message:

  ```
  You must now backup ixbar.<serverID>, ismixd.<serverID> and your ONCONFIG files
  to complete the whole system backup. These files must be restored in case of
  hard disk failure or file corruption.
  ```

  Ensure that your Whole System Backup includes the critical files. If not, complete the steps outlined in the next topic to back up these files using the Plug-in *for FileSystem*.

Backing up critical files using the Plug-in *for FileSystem*

ℹ **IMPORTANT:** For the following example to work properly, all steps must be performed *before* a Whole System Backup is submitted using the Plug-in *for Informix*.

This example describes how to use the Plug-in *for FileSystem* to back up critical files and how to run this backup automatically in a Post Script.

1 In the Navigation pane, click **Create Backup Job**.

2 In **Job Name**, specify a name for the job.

   Assign a descriptive name that lets you easily identify the job when monitoring its progress or restoring data. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Linux, the name can have a maximum of 200 characters. On Windows, there is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

3 Next to the **Selections** list, click **Create New**.

4 In the list of plug-ins, open **File System**.

5 In the Selections tree, navigate to the Informix directory, and select the following files:

   - **ixbar.<serverID>**
   - **ismixd.<serverID>**
   - **ONCONFIG** (select all ONCONFIG files)

6 Click **Save** to save the set, enter a name in the **Create New Set** dialog box, and click **Save**.

   The name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Linux, the name can have a maximum of 200 characters. On Windows, there is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

7 Click **Create New** next to the **Schedule** list, select the **Triggered** schedule type, enter a suitable name in **Trigger Name**, and click **Save**.

8 Open a text editor, and create a script containing the following line:

   - **Linux and UNIX: "$NV_HOME/bin/nvtrigger <triggerName>"**
   - **Windows: "%NV_HOME%\bin\nvtrigger <triggerName>"**

9 Save the script as an executable file—as **".bat"** or **".cmd"** in Windows or as **".sh"** in Linux and UNIX—in the **"…\NetVault Backup\scripts"** directory.

10 In the NetVault Backup WebUI, click **Create New** next to the **Advanced Options** list.

11 Click **Pre & Post Scripts**, enter the name of the script file in the **Post Script** box, and click **Set**.

12 Submit the job.

Each time you run the Whole System Backup job, the Post Script runs the **nvtrigger** command to back up the critical files using the Plug-in *for FileSystem*.

Backing up Logical Logs automatically

To set up automatic backup for Logical Logs as they become full, perform the following steps.

1 In the ONCONFIG file, locate **"ALARMPROGRAM"**.

2 Ensure that it calls the script file named **"log_full.sh" (Linux or UNIX) or "log_full.bat" (Windows)**.

This script calls the ON-Bar utility to back up Logical Logs automatically after the database server issues a log-full event alarm.

> i | When you set the **ALARMPROGRAM** parameter in the onconfig file to run the "log_full.sh" (Linux and UNIX) or "log_full.bat" (Windows) script, and you run scheduled backups using Plug-in *for Informix*, the "bar_act.log" might report the following message for each job: "**A log backup is already running. Can't start another.**" You can ignore this message.

Performing parallel backups

1 Set **BAR_MAX_BACKUP** to the number of required streams, that is, available devices.

2 Ensure that these devices are added to the NetVault Backup Server from the **Manage Devices** page.

3 If you want to include the root dbspace in a backup, perform an initial backup of this dbspace alone.

4 Back up the required dbspaces.

> i | NOTE: If you do not want to include the root dbspace in a backup, two separate backup jobs are not required.

Restoring data

- Understanding restore types
- Restoring individual dbspaces
- Restoring Whole System Backups
- Performing a Point-in-Time Restore
- Performing a Point-in-Log Restore
- Restoring from Parallel Backups
- Restoring data to an alternate server

ℹ | **IMPORTANT:** IDS restores are performed using Informix's ON-Bar backup-and-recovery utility.

Understanding restore types

IDS supports the following types of restores:

- **Warm Restore**: A Warm Restore is performed when the database server is in online, quiescent, or fast-recovery mode. It can only be used to restore noncritical dbspaces. A Warm Restore can be selected in the following situations:

    - The dbspace is online, but one of its chunks is offline, recovering, or inconsistent.

    - The dbspace is offline or down.

    - The database server is offline, but the critical dbspaces are in a consistent state. In this situation, bring the database server online and perform a warm restore.

- **Cold Restore**: A Cold Restore is performed when the database server is offline. It is typically used to restore critical dbspaces, such as the root dbspace or the dbspaces containing the Logical Logs.

- **Mixed Restore**: In a Mixed Restore, the critical dbspaces are restored first in offline mode. Then, the database server is brought back online and the remaining dbspaces are restored. This approach lets you bring the server online faster than if you were to perform a cold restore of the entire server.

- **Point-in-Time**: A Point-in-Time Restore allows you to restore the database server up to a specified point. It can be used to undo some mistakes, such as if you drop a table accidentally or commit an incorrect transaction. A Point-in-Time Restore applies to the whole database. It cannot be used to restore individual dbspaces. A Point-in-Time restore is a cold restore, that is, the database server must be offline when it is performed.

- **Point-in-Log Restores**: A Point-in-Log Restore is similar to a Point-in-Time Restore restore, but uses the Logical Log as a point of reference. It recovers data up to the last committed transaction in the specified log. The Point-in-Log Restore restore also requires the database server to be offline and cannot be used to restore individual dbspaces.

Restoring individual dbspaces

1 Depending on whether the dbspaces are online or offline, type the following command:

- Online dbspaces

  ```
  onbar -r -O dbspace_name
  ```

- Offline dbspaces

  ```
  onbar -r <dbspace_list>
  ```

dbspace_list	Names of dbspaces to restore. For a Cold Restore, specify all critical dbspaces. Use spaces to separate multiple dbspace names.
-r	Restores all storage spaces and Logical Logs in a Cold Restore. Restores all offline storage spaces and Logical Logs in a Warm Restore. This option must be specified first.
-O	Forces ON-Bar to restore online storage spaces in Warm Restores.

2 On the **Job Status** page of the NetVault Backup WebUI, verify that the ON-Bar-initiated restore job has completed successfully.

3 Verify that dbspace is online:

```
onstat -d
```

Restoring Whole System Backups

Before completing a Whole System Backup, verify that the following prerequisites are met.

- **Install the IDS**: Install IDS on the target system. The software version must be the same as the version on the original server. Recreate the rootdbs and other dbspaces that existed on the original server. Ensure that the path to the dpspaces is the same.

- **Install NetVault Backup and the Plug-in** *for Informix*: Install the NetVault Backup Server and Client software and the plug-in on the target system. The software version must be the same as the version on the original server.

1 Depending on how the critical files were backed up, use Informix's native software or the Plug-in *for FileSystem* to restore the critical files.

2 Take the new IDS offline:

```
onmode -ky
```

3 Restore the physical database:

```
onbar -r -p
```

4 On the **Job Status** page of the NetVault Backup WebUI, verify that the ON-Bar-initiated restore job has completed successfully.

5 To recover the database server, restore the Logical Logs.

```
onbar -r -l
```

6 On the **Job Status** page, verify that the ON-Bar-initiated restore job has completed successfully.

7 Bring the Informix instance online.

```
onmode -m
```

Performing a Point-in-Time Restore

1   Using **onlog** or any other utility to determine the date and time of the last transaction up to which you want to restore the data.

   The **onlog** output displays the date and time of committed transactions in the Logical Logs. For more information about the **onlog** utility, see *IBM Informix Administrator's Reference*.

2   Take the server offline for a cold restore.

```
onmode -ky
```

3   Issue the **onbar** command with the **-t** option.

```
onbar -r -t "yyyy-mm-dd hh:mm:ss"
```

   For example:

```
onbar -r -t "2011-10-28 14:00:00"
```

   The time string must be enclosed in quotes.

4   On the **Job Status** page of the NetVault Backup WebUI, verify that the ON-Bar-initiated restore job has completed successfully.

5   Bring the server online.

```
onmode -m
```

6   Verify that dbspace is online.

```
onstat -d
```

7   Use **DB-Access** or other SQL query tools to verify that database is restored correctly.

Performing a Point-in-Log Restore

1   Determine the log number up to which the data is to be restore.

2   Take the server offline for a cold restore.

```
onmode -ky
```

3   Issue the **onbar** command with the **-n** option.

```
onbar -r -n "LogNumber"
```

   For example:

```
onbar -r -n "168"
```

4   On the **Job Status** page of the NetVault Backup WebUI, verify that the ON-Bar-initiated restore job has completed successfully.

5   Bring the server online.

```
onmode -m
```

6   Verify that dbspace is online.

```
onstat -d
```

7   Use **DB-Access** or other SQL query tools to verify that database is restored correctly.

Restoring from Parallel Backups

To restore Parallel Backups, a backup performed using multiple data streams to multiple devices, perform the following steps.

1. Ensure that the value set for **BAR_MAX_BACKUP** matches the value set for this parameter at the time of backup.

   For example, if this parameter was configured to use four devices for the backup, set it four for the restore also. For more information about editing this variable, see BAR_MAX_BACKUP.

2. Based on the OS in use, do the following:

   - **Linux or UNIX**: Perform a restore job to restore the root dbspace first, followed by a secondary restore job to restore the individual dbspaces.

     If the root dbspace was not included in a backup, you do not require two separate restore jobs.

   - **Windows**: To restore the required dbspaces, perform a single restore job. No separate restore procedures are required on Windows.

Restoring data to an alternate server

Plug-in *for Informix* lets you restore a Whole System Backup to an alternate server, which is useful when you want to migrate a server or perform a disaster recovery operation. The procedure to restore data to an alternate server includes the following steps:

- Prerequisites
- Preparing for restore
- Post-restore requirements

ℹ **IMPORTANT:** Although this process describes how to restore a backup to an alternate server, the instructions provided only detail the configuration steps required to perform the operation. The actual restore of data is still performed with Informix's native software utilities.
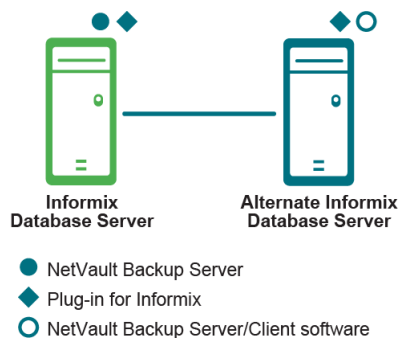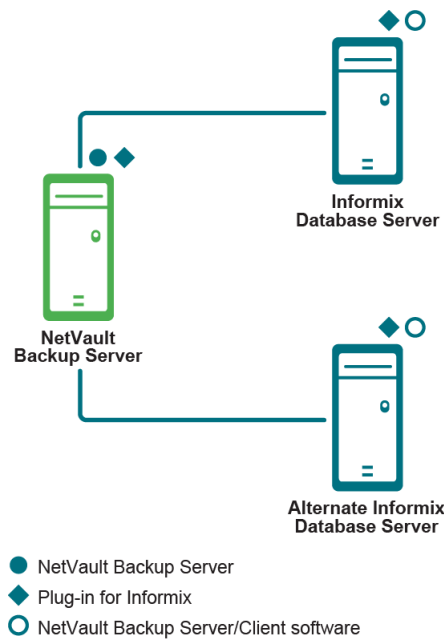
Prerequisites

Figure 3. Server-only setup

- ● NetVault Backup Server
- ◆ Plug-in for Informix
- ○ NetVault Backup Server/Client software

Figure 4. Client/server setup

- NetVault Backup Server
- Plug-in for Informix
- NetVault Backup Server/Client software

- **Install the IDS**: Install IDS on the target system. The software version must be the same as the version on the original server. Recreate the rootdbs and other dbspaces that existed on the original server. Ensure that the path to the dpspaces is the same.

- **Install NetVault Backup and Plug-in *for Informix***: Install the NetVault Backup Server or Client software and the plug-in on the target system. The software version must be the same as the version on the original server.

- **Install NetVault Backup and Plug-in *for Informix***: Install the NetVault Backup Server or Client software and the plug-in on the Restore Target. The software on both the source and destination machines must be the same.

- **Install Plug-in *for Informix* on the NetVault Backup Server**: Install the plug-in on the NetVault Backup Server regardless of setup in use.

- **Add the Clients to the NetVault Backup Server**: Add the Restore Target to the NetVault Backup Server. For more information, see the *Quest NetVault Backup Administrator's Guide*.

Preparing for restore

Before restoring data to an alternate server, complete the following steps:

1   Create the necessary dbspaces on the Restore Target.

2   Note the path for the following critical Informix files on the Original Server:

- **ixbar.<*x*>**

- **ONCONFIG (oncfg_<*serverName*>.<*serverID*>)**

3   Use Plug-in *for FileSystem* to back up critical files stored on the original server.

For more information, see Backing up critical files using the Plug-in for FileSystem.

4   On the Restore Target, create directories to mirror the paths for the critical files.

5   In the Navigation pane of the NetVault Backup WebUI, click **Create Restore Job**.

6   In the saveset table, open the saveset that contains the critical-file backup, select the root-level node, and click **Next**.

7   Click **Save** to save the settings, and then click **Next**.

8   In the **Target Client** list, select the Restore Target.

   Alternatively, click **Choose**, select the Restore Target in the **Choose the Target Client** dialog box, and click **OK**.

9   Submit the restore job.

10 On the Restore Target, navigate to the directory containing the **ONCONFIG** file, for example, **"oncfg_*<serverName>*.*<serverID>*,"** and rename this file to correspond to its new server information.

11 Change the permissions and owner of these files, if necessary.

   For more information, see the relevant Informix documentation.

12 From the NetVault Backup WebUI, open the **Configure** dialog box for the Original Server.

   To do so, in the Navigation pane, click **Create Backup Job**, and click **Create New** next to the **Selections** list. In the selection tree, open the applicable server node, and select **Plug-in** *for Informix*. From the **Actions** list, select **Configure**.

13 Note the settings in the **Configure** dialog box, and close the dialog box.

14 Open the **Configure** dialog box for the Restore Target.

15 In the **Restore Backup taken from NetVault Backup Client** field, enter the name of the Original Server.

16 Configure the default settings to match the settings of the Original Server, and click **OK** to apply the changes.

17 Restore the data to the Restore Target.

Post-restore requirements

After restoring data to the alternate server, delete the existing **"ixbar.*<serverID>*"** file to avoid any conflict when the new file is generated during a backup. To delete this file, start a terminal session. Navigate to the location of this file, and type:

```
rm ixbar.<serverID>
```

Troubleshooting

- Accessing the activity log
- Troubleshooting

Accessing the activity log

The Informix ON-Bar backup-and-recovery utility maintains an activity log that describes all the actions that it is performing. This log is useful in troubleshooting errors that occur during backups or restores. The log file is named "bar_act.log" and located in the Informix installation "tmp" directory. The actual name and location is the modifiable setting **BAR_ACT_LOG** setting in the ONCONFIG file.

Troubleshooting

This topic describes some common errors and their solutions.

Table 3. Troubleshooting

Symptom	Error	Explanation
NetVault Backup 10.x service (netvault-pgsql) does not start on Windows.	Check the Windows Event Viewer for the following message: PDT FATAL: lock file "postmaster.pid" already exists.	NetVault Backup 10.x uses a PostgreSQL database. If the PostgreSQL database does not start, NetVault Backup cannot start. To correct this issue, delete the **"postmaster.pid"** file from the location referenced in the log and restart the NetVault Backup Server. For more information, see https://support.quest.com/netvault-backup/kb/122475.

Table 3. Troubleshooting

Symptom	Error	Explanation
Backup fails. Activity Log indicates that ON-Bar did not run.	PATH system variable does not include INFORMIX/bin.	ON-Bar executable did not run.
	OnBar executable name is incorrect.	Correct ON-Bar executable did not run.
	Environment variables are not set correctly.	Unable to determine and provide correct environment for ON-Bar to run.
	"bar_act.log" contains this message: Error: You must be Informix user to run OnBar	Incorrect Informix user name or password.
	"bar_act.log" contains this message: Error: Unable to open connection to server: Informix Dynamic Server Stopped	Informix must be online to enable backup or browsing. Restores require Informix to be offline.
	"bar_act.log" contains this message: Error: There are no DB/BLOB spaces to backup/restore	Verify that you can use the NetVault Backup WebUI to browse the selected server's "Spaces" node. If not, verify that the Informix user name and password are correct.
	"bar_act.log" contains this message: Error: Unable to find file '.....\msmdll.dll'	Verify that Windows-based IDS has the correct entry for **BAR_BSALIB_PATH** in the **ONCONFIG** file and that the DLL is present in the expected location.
	OnBar ran but stopped responding or stopped immediately	Unable to load the DLL "msmdll.dll" / shared library "ibsad…so"; verify that the path to the library is correct and does not contain spaces.
	"bar_act.log" contains this message: (-43075) Unable to open file C:\IBMInformixSoftwareBundle\etc\sm_versions. No such file or directory	The IDS "sm_versions" file does not exist. Manually create **the file in the** directory specified in the error message. For more information about the contents of the file, see Checking the "sm_versions" file.
	"bar_act.log" contains this message: (-43078) Open or close failed on file 'C:\IBMInformixSoftwareBundle\etc\ixbar.0', errno = 2. No such file or directory	The IDS "ixbar.0" file does not exist. Manually create an empty text file named "ixbar.0" in the "**<InformixInstallDir>\etc**" directory.
	"bar_act.log" contains this message: (-43207) Unable to open connection to database server: could not fork server connection, SQLCODE -25553.	The INFORMIXSQLHOSTS or INFORMIXSERVER environmental variable is not set or cannot be found in the Windows Registry. Enter the INFORMIXSQLHOSTS or INFORMIXSERVER environment variable in the Informix Environment Values dialog box. For more information, see Tape-device parameters.
Backup fails. Activity Log indicates that ON-Bar did not run. (continued)	"bar_act.log" contains this message: (-43336) Logical Logs cannot be backed-up because the database server is dismissing the logical logs. "bar_act.log" contains this message: Log backups to device '/dev/null' are not allowed.	The **LTAPEDEV** parameter in the ONCONFIG file is set to "/dev/null", "nul", or "NUL". To set **LTAPEDEV** to "NetVault," update the file. For more information, see Tape-device parameters

Table 3. Troubleshooting

Symptom	Error	Explanation
Backup fails.	OnBar fails to connect to NetVault Backup.	Verify that there is an allowable entry for *<DevicePath>*, for example, TAPEDEV or LTAPEDEV.
Backup fails.	"Error getting index: No suitable backup to base incremental on No previous full backup index for set Fatal error: Backup failed"	This message usually occurs after you have upgraded the system from a previous version of the plug-in. To eliminate this error, save the Backup Selections as a Selection Set. For more information about Selection Sets, see the *Quest NetVault Backup Administrator's Guide*.
Backup or restore fails when attempting a command-line-invoked backup or restore.	"bar_act.log" contains this message: XBSA Error (BSACreateObject): A system error occurred. Aborting XBSA session	The **nvpluginaccess** utility has not been run on the NetVault Backup Server. For more information, see Enabling access to NetVault Backup Server for CLI backups and restores.
Restore fails when attempting to restore data to an alternate IDS.	"bar_act.log" contains this message: XBSA Error (BSAQueryObject) Backup object does not exist in Storage Manager	The value set in the **Restore Backup taken from NetVault Client** field of the **Configure** dialog box is set incorrectly on the NetVault Backup Server. The default value is blank. NetVault Backup requires that you enter the correct name of Client, that is, the original Informix database machine name that is being restored to a different machine.

About us

We are more than just a name

We are on a quest to make your information technology work harder for you. That is why we build community-driven software solutions that help you spend less time on IT administration and more time on business innovation. We help you modernize your data center, get you to the cloud quicker and provide the expertise, security and accessibility you need to grow your data-driven business. Combined with Quest's invitation to the global community to be a part of its innovation, and our firm commitment to ensuring customer satisfaction, we continue to deliver solutions that have a real impact on our customers today and leave a legacy we are proud of. We are challenging the status quo by transforming into a new software company. And as your partner, we work tirelessly to make sure your information technology is designed for you and by you. This is our mission, and we are in this together. Welcome to a new Quest. You are invited to Join the Innovation™.

Our brand, our vision. Together.

Our logo reflects our story: innovation, community and support. An important part of this story begins with the letter Q. It is a perfect circle, representing our commitment to technological precision and strength. The space in the Q itself symbolizes our need to add the missing piece—you—to the community, to the new Quest.

Contacting Quest

For sales or other inquiries, visit https://www.quest.com/company/contact-us.aspx or call +1-949-754-8000.

Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at https://support.quest.com.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request.
- View Knowledge Base articles.
- Sign up for product notifications.
- Download software and technical documentation.
- View how-to-videos.
- Engage in community discussions.
- Chat with support engineers online.
- View services to assist you with your product.