

# Null Service and Loopback Service Drivers Implementation Guide

## Novell® Identity Manager

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# About This Guide

This guide provides information about the Identity Manager Loopback Service and Null Service drivers. Service drivers are used only for Metadirectory engine functions, not for connecting with external systems. They are automatically installed when you install Identity Manager.

The guide is organized as follows:

- ♦ [Chapter 1, “Overview,” on page 9](#)
- ♦ [Chapter 2, “Creating a New Null Service Driver,” on page 11](#)
- ♦ [Chapter 3, “Creating a New Loopback Service Driver,” on page 17](#)
- ♦ [Chapter 4, “Upgrading an Existing Driver,” on page 23](#)
- ♦ [Chapter 5, “Managing the Driver,” on page 25](#)
- ♦ [Appendix A, “Driver Properties,” on page 27](#)

## Audience

This guide is intended for administrators, consultants, and network engineers who require a high-level introduction to Identity Manager business solutions, technologies, and tools.

## Documentation Updates

For the most recent version of this document, see the [Identity Manager Documentation Web site \(http://www.novell.com/documentation/idm36/index.html\)](http://www.novell.com/documentation/idm36/index.html).

## Additional Documentation

For documentation on other Identity Manager drivers, see the [Identity Manager Drivers Web site \(http://www.novell.com/documentation/idm36drivers/index.html\)](http://www.novell.com/documentation/idm36drivers/index.html).

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In Novell documentation, a greater-than symbol (>) is used to separate actions within a step and items in a cross-reference path.

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When a single pathname can be written with a backslash for some platforms or a forward slash for other platforms, the pathname is presented with a backslash. Users of platforms that require a forward slash, such as Linux\* or UNIX\*, should use forward slashes as required by your software.





# Overview

# 1

Novell® Identity Manager includes two utility drivers, Null Service and Loopback Service, whose purpose is to implement custom behavior through policies established on the drivers' Subscriber and Publisher channels. Like other service drivers such as Entitlement and Workflow, the Null Service and Loopback Service drivers do not connect to external applications or systems.

The Null Service driver performs any tasks that are implemented through policies on the Subscriber channel. The Publisher channel is not used; the driver does not connect the Subscriber channel to the Publisher channel, but rather acts as a sink for most operations, simulates doing something with operations, and then returning success. Typical uses for the Null Service driver include the following:

- ◆ Adding the classes and attributes that you want to monitor for change in the Subscriber Filter as *Synchronize* for the class and *Notify* for the attribute.
- ◆ Adding Subscriber Event Transformation policies that react to specific object or attribute changes, and performing actions such as:
  - ◆ Making modifications back into the Identity Vault (using actions that manipulate source attributes and objects).
  - ◆ Sending e-mail.
  - ◆ Generating custom Audit Events.
  - ◆ Calling extension functions to communicate the change outside of Identity Manager.
- ◆ Adding a final Subscriber Event Transformation policy that vetoes all events.

The Null Service driver should be sufficient for the majority of the tasks you'll want to perform. However, if you need to process policies on both the Subscriber and Publisher channels, you can use the Loopback Service driver instead. The only difference between the two drivers is that the Loopback driver's Subscriber channel connects to the Publisher channel so that events can also be processed on the Publisher channel.



# Creating a New Null Service Driver

# 2

The Null Service driver files are installed on the Metadirectory server at the same time as the Metadirectory engine. No other installation configurations are supported; you cannot use the Remote Loader to run the Null Service driver.

The installation program extends the Identity Vault's schema and installs both the driver shim and the driver configuration file. It does not create the driver in the Identity Vault. You create the driver by importing the driver configuration file and then modifying the driver configuration to suit your environment. The following sections provide instructions:

- ♦ [Section 2.1, “Creating the Driver in Designer,” on page 11](#)
- ♦ [Section 2.2, “Creating the Driver in iManager,” on page 13](#)
- ♦ [Section 2.3, “Activating the Driver,” on page 16](#)

## 2.1 Creating the Driver in Designer

You create the Null Service driver by importing the driver's basic configuration file and then modifying the configuration to suit your environment. After you've created and configured the driver, you need to deploy it to the Identity Vault and start it.

- ♦ [Section 2.1.1, “Importing the Driver Configuration File,” on page 11](#)
- ♦ [Section 2.1.2, “Configuring the Driver Settings,” on page 12](#)
- ♦ [Section 2.1.3, “Configuring the Driver Policies,” on page 12](#)
- ♦ [Section 2.1.4, “Deploying the Driver,” on page 12](#)
- ♦ [Section 2.1.5, “Starting the Driver,” on page 13](#)

### 2.1.1 Importing the Driver Configuration File

- 1 In Designer, open your project.
- 2 In the Modeler, right-click the driver set where you want to create the driver, then select *New > Driver* to display the Driver Configuration Wizard.
- 3 In the Driver Configuration list, select *GenericNull*, then click *Run*.

At this point, the driver is created from the basic configuration file and will run. As with all Identity Manager drivers, the Null Service driver includes configuration settings you can use to customize and optimize the driver for your environment.

- 4 To review or modify the default configuration settings, click *Configure*, then continue with the next section, [Configuring the Driver Settings](#).

or

To skip the configuration settings at this time, click *Close*. When you are ready to configure the settings, continue with the next section, [Configuring the Driver Settings](#).

## 2.1.2 Configuring the Driver Settings

After you import the driver configuration file, the Null Service driver will run. However, there are many configuration settings that you can use to customize and optimize the driver. The settings are divided into categories such as Driver Configuration, Engine Control Values, and Global Configuration Values (GCVs). The settings are described in [Appendix A, “Driver Properties,” on page 27](#).

If you do not have the Driver Properties page displayed in Designer:


- 1 Open your project.
- 2 In the Modeler, right-click the driver icon  or the driver line, then select *Properties*.

## 2.1.3 Configuring the Driver Policies

The basic driver configuration does not include any policies. To have the driver perform any work, you need to create the appropriate policies. For information about creating policies, see the [Policies in Designer 3.5](#) guide.

## 2.1.4 Deploying the Driver

After a driver is created in Designer, it must be deployed into the Identity Vault.

- 1 In Designer, open your project.
- 2 In the Modeler, right-click the driver icon  or the driver line, then select *Live > Deploy*.
- 3 If you are authenticated to the Identity Vault, skip to [Step 5](#); otherwise, specify the following information:
  - ♦ **Host:** Specify the IP address or DNS name of the server hosting the Identity Vault.
  - ♦ **Username:** Specify the DN of the user object used to authenticate to the Identity Vault.
  - ♦ **Password:** Specify the user’s password.
- 4 Click *OK*.
- 5 Read the deployment summary, then click *Deploy*.
- 6 Read the successful message, then click *OK*.
- 7 Click *Define Security Equivalence* to assign rights to the driver.

The driver requires rights to objects within the Identity Vault. The Admin user object is most often used to supply these rights. However, you might want to create a DriversUser (for example) and assign security equivalence to that user. Whatever rights that the driver needs to have on the server, the DriversUser object must have the same security rights.


- 7a Click *Add*, then browse to and select the object with the correct rights.
  - 7b Click *OK* twice.
- 8 Click *Exclude Administrative Roles* to exclude users that should not be synchronized. You should exclude any administrative User objects (for example, Admin and DriversUser) from synchronization.
  - 8a Click *Add*, then browse to and select the user object you want to exclude.
  - 8b Click *OK*.

- 8c Repeat [Step 8a](#) and [Step 8b](#) for each object you want to exclude.
- 8d Click *OK*.
- 9 Click *OK*.

## 2.1.5 Starting the Driver

When a driver is created, it is stopped by default. To make the driver work, you must start the driver and cause events to occur. Identity Manager is an event-driven system, so after the driver is started, it won't do anything until an event occurs.

To start the driver:

- 1 In Designer, open your project.
- 2 In the Modeler, right-click the driver icon  or the driver line, then select *Live > Start Driver*.


For information about management tasks for the driver, see [Chapter 5, “Managing the Driver,”](#) on [page 25](#).

## 2.2 Creating the Driver in iManager

You create the Null Service driver by importing the driver's basic configuration file and then modifying the configuration to suit your environment. After you've created and configured the driver, you need to start it.

- ♦ [Section 2.2.1, “Importing the Driver Configuration File,”](#) on [page 13](#)
- ♦ [Section 2.2.2, “Configuring the Driver Settings,”](#) on [page 15](#)
- ♦ [Section 2.2.3, “Configuring the Driver Policies,”](#) on [page 15](#)
- ♦ [Section 2.2.4, “Starting the Driver,”](#) on [page 15](#)

### 2.2.1 Importing the Driver Configuration File

- 1 In iManager, click  to display the Identity Manager Administration page.
- 2 In the Administration list, click *Import Configuration* to launch the Import Configuration Wizard.
- 3 Follow the wizard prompts, filling in the requested information (described below) until you reach the Summary page.

| Prompt                                      | Description  |
|---|--|
| Where do you want to place the new driver?  | You can add the driver to an existing driver set, or you can create a new driver set and add the driver to the new driver set. If you choose to create a new driver set, you are prompted to specify the name, context, and server for the driver set. |
| Import a configuration into this driver set | Use the default option, <i>Import a configuration from the server (.XML file)</i> .<br><br>In the <i>Show</i> field, select <i>Identity Manager 3.6 configurations</i> .<br><br>In the <i>Configurations</i> field, select the GenericNull file.       |

| Prompt                       | Description  |
|------------------------------|--|
| Driver name                  | Type a name for the driver. The name must be unique within the driver set.   |
| Define Security Equivalences | The driver requires rights to User objects within the Identity Vault. The Admin user object is most often used to supply these rights. However, you might want to create a DriversUser (for example) and assign security equivalence to that user. Whatever rights that the driver needs to have on the server, the DriversUser object must have the same security rights. |
| Exclude Administrative Roles | You should exclude any administrative User objects (for example, Admin and DriversUser) from synchronization.  |

When you finish providing the information required by the wizard, a Summary page similar to the following is displayed.

**Import Configuration**

Summary - Current Configuration

**Warning: Drivers May Require Configuration**

Drivers imported from a configuration file may require additional configuration settings to be fully functional. Select the driver's link to edit its configuration settings.

The following summarizes the state of the driver as it currently exists.

- [Arrow](#) (NCP Server)
- [DS](#) (Driver Set)
- [Generic Null](#) (Drivers May Require Configuration) (Driver)
  - [none](#) (Schema Mapping Policy)
  - [none](#) (Input Transformation Policy)
  - [none](#) (Output Transformation Policy)
- [Publisher](#) (Publisher)
  - [none](#) (Command Transformation Policy)
  - [none](#) (Event Transformation Policy)
  - [none](#) (Matching Policy)
  - [none](#) (Creation Policy)
  - [none](#) (Placement Policy)

<< Back   Next >>   Cancel   Finish

At this point, the driver is created from the basic configuration file and will run. As with all Identity Manager drivers, the Null Service driver includes configuration settings you can use to customize and optimize the driver for you environment.

- To modify the default configuration settings, click the linked driver name, then continue with the next section, [Configuring the Driver Settings](#).


or

To skip the configuration settings at this time, click *Finish*. When you are ready to configure the settings, continue with the next section, [Configuring the Driver Settings](#).

## 2.2.2 Configuring the Driver Settings

After you import the driver configuration file, the Null Service driver will run. However, there are many configuration settings that you can use to customize and optimize the driver. The settings are divided into categories such as Driver Configuration, Engine Control Values, and Global Configuration Values (GCVs).

To configure the settings:

- 1 Make sure the Modify Object page for the Null Service driver is displayed in iManager. If it is not:
  - 1a In iManager, click  to display the Identity Manager Administration page.
  - 1b Click *Identity Manager Overview*.
  - 1c Browse to and select the driver set object that contains the new driver.
  - 1d Click the driver set name to access the Driver Set Overview page.
  - 1e Click the upper right corner of the driver, then click *Edit properties*.
- 2 Review the settings on the various pages and modify them as needed for your environment. The configuration settings are explained in [Appendix A, “Driver Properties,” on page 27](#).
- 3 After modifying the settings, click *OK* to save the settings and close the Modify Object page.
- 4 (Conditional) If the Null Service driver’s Summary page for the Import Configuration wizard is still displayed, click *Finish*.

---

**WARNING:** Do not click *Cancel* on the Summary page. This removes the driver from the Identity Vault and results in the loss of your work.

---


## 2.2.3 Configuring the Driver Policies

The basic driver configuration does not include any policies. To have the driver perform any work, you need to create the appropriate policies. For information about creating policies, see the [Policies in iManager for Identity Manager 3.6.1](#) guide.

## 2.2.4 Starting the Driver

When a driver is created, it is stopped by default. To make the driver work, you must start the driver and cause events to occur. Identity Manager is an event-driven system, so after the driver is started, it won’t do anything until an event occurs.

To start the driver:

- 1 In iManager, click  to display the Identity Manager Administration page.
- 2 Click *Identity Manager Overview*.
- 3 Browse to and select the driver set object that contains the driver you want to start.
- 4 Click the driver set name to access the Driver Set Overview page.
- 5 Click the upper right corner of the driver to display the *Actions* menu, then click *Start driver*.

For information about management tasks with the driver, see [Chapter 5, “Managing the Driver,” on page 25](#).

## 2.3 Activating the Driver

If you created the driver in a driver set where you've already activated the Metadirectory engine and service drivers, the driver inherits the activation. If you created the driver in a driver set that has not been activated, you must activate the driver within 90 days. Otherwise, the driver stops working.

For information on activation, refer to “[Activating Novell Identity Manager Products](#)” in the *Identity Manager 3.6.1 Installation Guide*.



# Creating a New Loopback Service Driver

# 3

The Loopback Service driver files are installed on the Metadirectory server at the same time as the Metadirectory engine. No other installation configurations are supported; you cannot use the Remote Loader to run the Loopback Service driver.

The installation program extends the Identity Vault's schema and installs both the driver shim and the driver configuration file. It does not create the driver in the Identity Vault. You create the driver by importing the driver configuration file and then modifying the driver configuration to suit your environment. The following sections provide instructions:

- ♦ [Section 3.1, “Creating the Driver in Designer,” on page 17](#)
- ♦ [Section 3.2, “Creating the Driver in iManager,” on page 19](#)
- ♦ [Section 3.3, “Activating the Driver,” on page 22](#)

## 3.1 Creating the Driver in Designer

You create the Loopback Service driver by importing the driver's basic configuration file and then modifying the configuration to suit your environment. After you've created and configured the driver, you need to deploy it to the Identity Vault and start it.

- ♦ [Section 3.1.1, “Importing the Driver Configuration File,” on page 17](#)
- ♦ [Section 3.1.2, “Configuring the Driver Settings,” on page 18](#)
- ♦ [Section 3.1.3, “Configuring the Driver Policies,” on page 18](#)
- ♦ [Section 3.1.4, “Deploying the Driver,” on page 18](#)
- ♦ [Section 3.1.5, “Starting the Driver,” on page 19](#)

### 3.1.1 Importing the Driver Configuration File

- 1 In Designer, open your project.
- 2 In the Modeler, right-click the driver set where you want to create the driver, then select *New > Driver* to display the Driver Configuration Wizard.
- 3 In the Driver Configuration list, select *GenericLoopback*, then click *Run*.

At this point, the driver is created from the basic configuration file and will run. As with all Identity Manager drivers, the Loopback Service driver includes configuration settings you can use to customize and optimize the driver for you environment.

- 4 To review or modify the default configuration settings, click *Configure*, then continue with the next section, [Configuring the Driver Settings](#).

or

To skip the configuration settings at this time, click *Close*. When you are ready to configure the settings, continue with the next section, [Configuring the Driver Settings](#).

## 3.1.2 Configuring the Driver Settings

After you import the driver configuration file, the Loopback Service driver will run. However, there are many configuration settings that you can use to customize and optimize the driver. The settings are divided into categories such as Driver Configuration, Engine Control Values, and Global Configuration Values (GCVs). The settings are described in [Appendix A, “Driver Properties,” on page 27](#).

If you do not have the Driver Properties page displayed in Designer:


- 1 Open your project.
- 2 In the Modeler, right-click the driver icon  or the driver line, then select *Properties*.

## 3.1.3 Configuring the Driver Policies

The basic driver configuration does not include any policies. To have the driver perform any work, you need to create the appropriate policies. For information about creating policies, see the [Policies in Designer 3.5](#) guide.

## 3.1.4 Deploying the Driver

After a driver is created in Designer, it must be deployed into the Identity Vault.

- 1 In Designer, open your project.
- 2 In the Modeler, right-click the driver icon  or the driver line, then select *Live > Deploy*.
- 3 If you are authenticated to the Identity Vault, skip to [Step 5](#); otherwise, specify the follow information:
  - ♦ **Host:** Specify the IP address or DNS name of the server hosting the Identity Vault.
  - ♦ **Username:** Specify the DN of the user object used to authenticate to the Identity Vault.
  - ♦ **Password:** Specify the user’s password.
- 4 Click *OK*.
- 5 Read the deployment summary, then click *Deploy*.
- 6 Read the successful message, then click *OK*.
- 7 Click *Define Security Equivalence* to assign rights to the driver.

The driver requires rights to objects within the Identity Vault. The Admin user object is most often used to supply these rights. However, you might want to create a DriversUser (for example) and assign security equivalence to that user. Whatever rights that the driver needs to have on the server, the DriversUser object must have the same security rights.

- 7a Click *Add*, then browse to and select the object with the correct rights.
- 7b Click *OK* twice.
- 8 Click *Exclude Administrative Roles* to exclude users that should not be synchronized.

You should exclude any administrative User objects (for example, Admin and DriversUser) from synchronization.


  - 8a Click *Add*, then browse to and select the user object you want to exclude.
  - 8b Click *OK*.

- 8c Repeat [Step 8a](#) and [Step 8b](#) for each object you want to exclude.
- 8d Click *OK*.
- 9 Click *OK*.

### 3.1.5 Starting the Driver

When a driver is created, it is stopped by default. To make the driver work, you must start the driver and cause events to occur. Identity Manager is an event-driven system, so after the driver is started, it won't do anything until an event occurs.

To start the driver:

- 1 In Designer, open your project.
- 2 In the Modeler, right-click the driver icon  or the driver line, then select *Live > Start Driver*.


For information about management tasks for the driver, see [Chapter 5, “Managing the Driver,”](#) on [page 25](#).

## 3.2 Creating the Driver in iManager

You create the Loopback Service driver by importing the driver's basic configuration file and then modifying the configuration to suit your environment. After you've created and configured the driver, you need to start it.

- ♦ [Section 3.2.1, “Importing the Driver Configuration File,”](#) on [page 19](#)
- ♦ [Section 3.2.2, “Configuring the Driver Settings,”](#) on [page 21](#)
- ♦ [Section 3.2.3, “Configuring the Driver Policies,”](#) on [page 21](#)
- ♦ [Section 3.2.4, “Starting the Driver,”](#) on [page 21](#)

### 3.2.1 Importing the Driver Configuration File

- 1 In iManager, click  to display the Identity Manager Administration page.
- 2 In the Administration list, click *Import Configuration* to launch the Import Configuration Wizard.
- 3 Follow the wizard prompts, filling in the requested information (described below) until you reach the Summary page.

| Prompt                                      | Description   |
|---|---|
| Where do you want to place the new driver?  | You can add the driver to an existing driver set, or you can create a new driver set and add the driver to the new set. If you choose to create a new driver set, you are prompted to specify the name, context, and server for the driver set.               |
| Import a configuration into this driver set | Use the default option, <i>Import a configuration from the server (.XML file)</i> .<br><br>In the <i>Show</i> field, select <i>Identity Manager 3.6.1 configurations</i> .<br><br>In the <i>Configurations</i> field, select the <i>GenericLoopback</i> file. |

| Prompt                       | Description  |
|------------------------------|--|
| Driver name                  | Type a name for the driver. The name must be unique within the driver set.   |
| Define Security Equivalences | The driver requires rights to User objects within the Identity Vault. The Admin user object is most often used to supply these rights. However, you might want to create a DriversUser (for example) and assign security equivalence to that user. Whatever rights that the driver needs to have on the server, the DriversUser object must have the same security rights. |
| Exclude Administrative Roles | You should exclude any administrative User objects (for example, Admin and DriversUser) from synchronization.  |

When you finish providing the information required by the wizard, a Summary page similar to the following is displayed.

**Import Configuration**

Summary - Current Configuration

**Warning: Drivers May Require Configuration**

Drivers imported from a configuration file may require additional configuration settings to be fully functional. Select the driver's link to edit its configuration settings.

The following summarizes the state of the driver as it currently exists.

- [Arrow](#) (NCP Server)
- [DS](#) (Driver Set)
- [Generic Null](#) (Drivers May Require Configuration) (Driver)
  - [none](#) (Schema Mapping Policy)
  - [none](#) (Input Transformation Policy)
  - [none](#) (Output Transformation Policy)
- [Publisher](#) (Publisher)
  - [none](#) (Command Transformation Policy)
  - [none](#) (Event Transformation Policy)
  - [none](#) (Matching Policy)
  - [none](#) (Creation Policy)
  - [none](#) (Placement Policy)

<< Back   Next >>   Cancel   Finish

At this point, the driver is created from the basic configuration file and will run. As with all Identity Manager drivers, the Loopback Service driver includes configuration settings you can use to customize and optimize the driver for you environment.

- To modify the default configuration settings, click the linked driver name, then continue with the next section, [Configuring the Driver Settings](#).


or

To skip the configuration settings at this time, click *Finish*. When you are ready to configure the settings, continue with the next section, [Configuring the Driver Settings](#).

## 3.2.2 Configuring the Driver Settings

After you import the driver configuration file, the Loopback Service driver will run. However, there are many configuration settings that you can use to customize and optimize the driver. The settings are divided into categories such as Driver Configuration, Engine Control Values, and Global Configuration Values (GCVs).

To configure the settings:

- 1** Make sure the Modify Object page for the Loopback Service driver is displayed in iManager. If it is not:
  - 1a** In iManager, click  to display the Identity Manager Administration page.
  - 1b** Click *Identity Manager Overview*.
  - 1c** Browse to and select the driver set object that contains the new driver.
  - 1d** Click the driver set name to access the Driver Set Overview page.
  - 1e** Click the upper right corner of the driver, then click *Edit properties*.
- 2** Review the settings on the various pages and modify them as needed for your environment. The configuration settings are explained in [Appendix A, “Driver Properties,” on page 27](#).
- 3** After modifying the settings, click *OK* to save the settings and close the Modify Object page.
- 4** (Conditional) If the Loopback Service driver’s Summary page for the Import Configuration wizard is still displayed, click *Finish*.

---

**WARNING:** Do not click *Cancel* on the Summary page. This removes the driver from the Identity Vault and results in the loss of your work.

---


## 3.2.3 Configuring the Driver Policies

The basic driver configuration does not include any policies. To have the driver perform any work, you need to create the appropriate policies. For information about creating policies, see the [Policies in iManager for Identity Manager 3.6.1](#) guide.

## 3.2.4 Starting the Driver

When a driver is created, it is stopped by default. To make the driver work, you must start the driver and cause events to occur. Identity Manager is an event-driven system, so after the driver is started, it won’t do anything until an event occurs.

To start the driver:

- 1** In iManager, click  to display the Identity Manager Administration page.
- 2** Click *Identity Manager Overview*.
- 3** Browse to and select the driver set object that contains the driver you want to start.
- 4** Click the driver set name to access the Driver Set Overview page.
- 5** Click the upper right corner of the driver to display the *Actions* menu, then click *Start driver*.

For information about management tasks with the driver, see [Chapter 5, “Managing the Driver,” on page 25](#).

## 3.3 Activating the Driver

If you created the driver in a driver set where you've already activated the Metadirectory engine and service drivers, the driver inherits the activation. If you created the driver in a driver set that has not been activated, you must activate the driver within 90 days. Otherwise, the driver stops working.

For information on activation, refer to “[Activating Novell Identity Manager Products](#)” in the *Identity Manager 3.6.1 Installation Guide*.

# Upgrading an Existing Driver

# 4

The driver shim files are installed when you update the Metadirectory server. The 3.6.1 version of the driver shim supports drivers created by using any 3.x version of the driver configuration file. You can continue to use these driver configurations until you want to upgrade them.

The following sections provide information to help you upgrade an existing driver's configuration to version 3.6.1:

- ♦ [Section 4.1, “Supported Upgrade Paths,” on page 23](#)
- ♦ [Section 4.2, “What’s New in Version 3.6.1,” on page 23](#)
- ♦ [Section 4.3, “Upgrade Procedure,” on page 23](#)

## 4.1 Supported Upgrade Paths

You can upgrade from any 3.x version of the Null Service driver or Loopback Service driver. Upgrading a pre-3.x version of the driver directly to version 3.6.1 is not supported.

## 4.2 What’s New in Version 3.6.1

Version 3.6.1 of the driver does not include any new features.

## 4.3 Upgrade Procedure

The process for upgrading the Null or Loopback driver is the same as for other Identity Manager drivers. For detailed instructions, see [“Upgrading”](#) in the *Identity Manager 3.6.1 Installation Guide*.





# Managing the Driver

# 5

As you work with the Null Service driver and the Loopback Service driver, there are a variety of management tasks you might need to perform, including the following:

- ◆ Starting and stopping the driver
- ◆ Viewing driver version information
- ◆ Using Named Passwords to securely store passwords associated with the driver
- ◆ Monitoring the driver's health status
- ◆ Backing up the driver
- ◆ Inspecting the driver's cache files
- ◆ Viewing the driver's statistics
- ◆ Using the DirXML<sup>®</sup> Command Line utility to perform management tasks through scripts
- ◆ Securing the driver and its information


Because these tasks, as well as several others, are common to all Identity Manager drivers, they are included in one reference, the *Identity Manager 3.6.1 Common Driver Administration Guide*.



# Driver Properties

# A


This section provides information about the Driver Configuration and Global Configuration Values properties for the Null Service driver and the Loopback Service driver. These are the only unique properties for drivers. All other driver properties (Named Password, Engine Control Values, Log Level, and so forth) are common to all drivers. Refer to “[Driver Properties](#)” in the *Identity Manager 3.6.1 Common Driver Administration Guide* for information about the common properties.

The properties information is presented from the viewpoint of iManager. If a field is different in Designer, it is marked with a  icon.


- ♦ [Section A.1, “Driver Configuration,” on page 27](#)
- ♦ [Section A.2, “Global Configuration Values,” on page 29](#)

## A.1 Driver Configuration

In iManager:

- 1 In iManager, click  to display the Identity Manager Administration page.
- 2 Open the driver set that contains the driver whose properties you want to edit. To do so:
  - 2a In the *Administration* list, click *Identity Manager Overview*.
  - 2b If the driver set is not listed on the *Driver Sets* tab, use the *Search In* field to search for and display the driver set.
  - 2c Click the driver set to open the Driver Set Overview page.
- 3 Locate the driver icon, then click the upper right corner of the driver icon to display the *Actions* menu.
- 4 Click *Edit Properties* to display the driver’s properties page.
- 5 Click *Driver Configuration*.

In Designer:

- 1 Open a project in the Modeler.
- 2 Right-click the driver icon  or line, then select click *Properties > Driver Configuration*.

The Driver Configuration options are divided into the following sections:

- ♦ [Section A.1.1, “Driver Module,” on page 28](#)
- ♦ [Section A.1.2, “Driver Object Password \(iManager Only\),” on page 28](#)
- ♦ [Section A.1.3, “Authentication,” on page 28](#)
- ♦ [Section A.1.4, “Startup Option,” on page 29](#)
- ♦ [Section A.1.5, “Driver Parameters,” on page 29](#)
- ♦ [Section A.1.6, “ECMAScript \(Designer Only\),” on page 29](#)

## A.1.1 Driver Module

The Driver Module section lets you change the driver from running locally to running remotely or the reverse.

| Option                          | Description   |
|---------------------------------|---|
| <i>Java</i>                     | <p>Used to specify the name of the Java* class that is instantiated for the shim component of the driver. This class can be located in the <code>classes</code> directory as a class file, or in the <code>lib</code> directory as a <code>.jar</code> file. If this option is selected, the driver is running locally.</p> <p>The name of the Java class for the Null Service driver is:</p> <pre>com.novell.nds.dirxml.driver.nulldriver.NullDriverShim</pre> <p>The name of the Java class for the Loopback Service driver is:</p> <pre>com.novell.nds.dirxml.driver.loopback.LoopbackDriverShim</pre> |
| <i>Native</i>                   | <p>Used to specify the name of the <code>.dll</code> file that is instantiated for the application shim component of the driver. If this option is selected, the driver is running locally.</p>   |
| <i>Connect to Remote Loader</i> | <p>This setting does not apply to the Null Service driver or the Loopback Service driver. You cannot use these drivers with the Remote Loader.</p>  |



## A.1.2 Driver Object Password (iManager Only)

| Option                        | Description   |
|-------------------------------|---|
| <i>Driver Object Password</i> | <p>This setting does not apply to the Null Service driver or the Loopback Service driver.</p> |

## A.1.3 Authentication


The Authentication section stores the information required to authenticate to the connected system and to the Remote Loader. The Null Service driver and Loopback Service driver function only against the Identity Vault and cannot use the Remote Loader. Therefore, the authentication settings do not apply.

The only setting that applies to the drivers is the cache setting.

| Option  | Description  |
|---|--|
| <i>Driver Cache Limit (kilobytes)</i>   | <p>Specify the maximum event cache file size (in KB). If it is set to zero, the file size is unlimited.</p>  |
| or  | <p> Click <i>Unlimited</i> to set the file size to unlimited in Designer.</p> |
|  <i>Cache limit (KB)</i> |  |

## A.1.4 Startup Option

The Startup Option section enables you to set the driver state when the Identity Manager server is started.

| Option   | Description  |
|--|--|
| <i>Auto start</i>  | The driver starts every time the Identity Manager server is started.   |
| <i>Manual</i>  | The driver does not start when the Identity Manager server is started. The driver must be started through Designer or iManager.  |
| <i>Disabled</i>  | The driver has a cache file that stores all of the events. When the driver is set to <i>Disabled</i> , this file is deleted and no new events are stored in the file until the driver state is changed to <i>Manual</i> or <i>Auto Start</i> . |
|  <i>Do not automatically synchronize the driver</i> | This option applies only if the driver is deployed and was previously disabled. If this is not selected, the driver re-synchronizes the next time it is started.   |

## A.1.5 Driver Parameters

The Driver Parameters section lets you configure the driver-specific parameters.

| Parameter                           | Description   |
|-------------------------------------|---|
| <i>Driver parameters for server</i> | Displays or specifies the server name or IP address of the server whose driver parameters you want to modify.   |
| <i>Edit XML</i>                     | Opens an editor so that you can edit the driver's configuration file.   |
| <b>Driver Options</b>               | There are no general driver options.  |
| <b>Subscriber Options</b>           | There are no general Subscriber channel options.  |
| <b>Publisher Options</b>            | There are no Publisher channel options.   |
| <i>Publisher Heartbeat Interval</i> | Configures the driver to send a periodic status message on the Publisher channel when there has been no Publisher traffic for the given number of minutes. The default is every minute. |

## A.1.6 ECMAScript (Designer Only)

Enables you to add ECMAScript resource files. The resources extend the driver's functionality when Identity Manager starts the driver.

## A.2 Global Configuration Values


There are no predefined global configuration values (GCVs) specific to the Loopback Service driver and Null Service driver. As with all drivers, you can add GCVs that you need.

In iManager:

- 1 In iManager, click  to display the Identity Manager Administration page.

- 2** Open the driver set that contains the driver whose properties you want to edit. To do so:
  - 2a** In the *Administration* list, click *Identity Manager Overview*.
  - 2b** If the driver set is not listed on the *Driver Sets* tab, use the *Search In* field to search for and display the driver set.
  - 2c** Click the driver set to open the Driver Set Overview page.
- 3** Locate the driver icon, then click the upper right corner of the driver icon to display the *Actions* menu.
- 4** Click *Edit Properties* to display the driver's properties page.
- 5** Click *Global Config Values*.

In Designer:

- 1** Open a project in the Modeler.
- 2** Right-click the driver icon  or line, then select *Properties > Global Configuration Values*.