Getting Started

/ ForgeRock Identity Management 7.1

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Abstract

Guide to installing and evaluating ForgeRock® Identity Management software. This software offers flexible services for automating management of the identity life cycle.

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Overview

This guide shows you how to install and get started with ForgeRock Identity Management software. As you read this guide, you will see how ForgeRock Identity Management software reconciles customer identity data to ensure accurate information across disparate resources within an organization.

Quick Start

Start Here	Demo	Where Next?
Learn about the core functionality of IDM and get the server set up.	See how IDM reconciles identity data.	Find pointers to the IDM product documentation to learn more about IDM.

ForgeRock Identity Platform™ serves as the basis for our simple and comprehensive Identity and Access Management solution. We help our customers deepen their relationships with their customers, and improve the productivity and connectivity of their employees and partners. For more information about ForgeRock and about the platform, see https://www.forgerock.com.

The ForgeRock Common REST API works across the platform to provide common ways to access web resources and collections of resources.

Chapter 1

Get Started With IDM

Whenever you need access to important information, administrators need to know who you are. They need to know your identity, which may be distributed in multiple accounts.

As a user, you might have several accounts even within your own company, for functions such as:

- Email
- Human Resources
- Payroll
- Engineering, Support, Accounting, and other functions

Each of these accounts may be stored in different resources, such as DS, Active Directory, OpenLDAP, and more. Keeping track of user identities in each of these resources (also known as data stores) can get complex. IDM simplifies the process, as it reconciles differences between resources.

With situational policies, IDM can handle discrepancies such as a missing or updated address for a specific user. The server includes default but configurable policies to handle such conditions. In this way, consistency and predictability is ensured, in an otherwise chaotic resource environment.

IDM can make it easier to track user identities across these resources. IDM has a highly scalable, modular, readily deployable architecture that can help you manage workflows and user information.

What Can You Do With IDM?

This software allows you to simplify the management of identity, as it can help you synchronize data across multiple resources. Each organization can maintain control of accounts within their respective domains.

IDM works equally well with user, group, and device identities.

You can also configure workflows to help users manage how they sign up for accounts, as part of how IDM manages the life cycle of users and their accounts.

You can manage employee identities as they move from job to job. You will make their lives easier as their user accounts can be registered on different systems automatically. Later, IDM can increase productivity when it reconciles information from different accounts, saving users the hassle of entering the same information on different systems.

In this guide, you will see how IDM reconciles user data between two data stores. We will look at a department that is adding a third engineer, Jane Sanchez.

Your Human Resources department has updated their data store with Jane Sanchez's information. You want to use IDM to update the internal Engineering data store. But first, you have to start IDM.

What You Need Before Starting

1. For an up-to-date list of requirements, see "*Before You Install*" in the *Release Notes*.
2. Check Your Java Installation in the *Installation Guide*.

Download and Start the Server

This procedure assumes that you are starting IDM as a regular (not administrative) user named `user`.

1. Download IDM from the ForgeRock BackStage download site. Releases on the ForgeRock BackStage download site are thoroughly validated for ForgeRock customers who run the software in production deployments, and for those who want to try or test a given release.
2. Extract the contents of the IDM binary file to your user's `Downloads` directory. The process should unpack the contents to the `Downloads/openidm` subdirectory.
3. Navigate to the `Downloads/openidm` subdirectory:
   - In Microsoft Windows, use Windows Explorer to navigate to the `C:\Users\user\Downloads\openidm` directory.

     Double-click the `getting-started(.bat)` file. Do not select the `getting-started.sh` file, as that is intended for use on UNIX/Linux systems.
   - In Linux/UNIX, open a command-line interface and run the following command:

     ```
     /home/user/Downloads/openidm/getting-started.sh
     ```
4. You should see the following message:

   ```
   -> OpenIDM ready
   ```

When the server is ready, you can administer it from a web browser. To do so, navigate to `http://localhost:8080/admin` or `https://localhost:8443/admin`. If you have installed the server on a remote system, substitute that hostname or IP address for `localhost`.

Note

In production, you should connect to IDM via a secure port and import a CA-signed certificate into the truststore, as discussed in the Security Guide.

Until you install that certificate, you will see a warning in your browser at least the first time you access IDM over a secure port.

The default username and password for the IDM Administrator is `openidm-admin` and `openidm-admin`.

When you log in to IDM at a URL with the `/admin` endpoint, you are logging into the Administrative User Interface, also known as the Admin UI.

Warning

The default password for the administrative user, `openidm-admin`, is `openidm-admin`. To protect your deployment in production, change this password.

End users can change their password through the End User UI, at `http://localhost:8080/` or `https://localhost:8443/`.

The Getting Started Data Files

In a production deployment, you can have any number of external data stores, such as Active Directory and ForgeRock Directory Services (DS). For illustration purposes, this guide uses two simple static files as external data stores:

- `hr.csv` represents the Human Resources data store. It is in CSV format, commonly used to share data between spreadsheet applications.
- `engineering.csv` represents the Engineering data store. It is also in CSV format.

You can find these files in the binary package that you downloaded earlier, in the following subdirectory: `openidm/samples/getting-started/data`.

Chapter 2

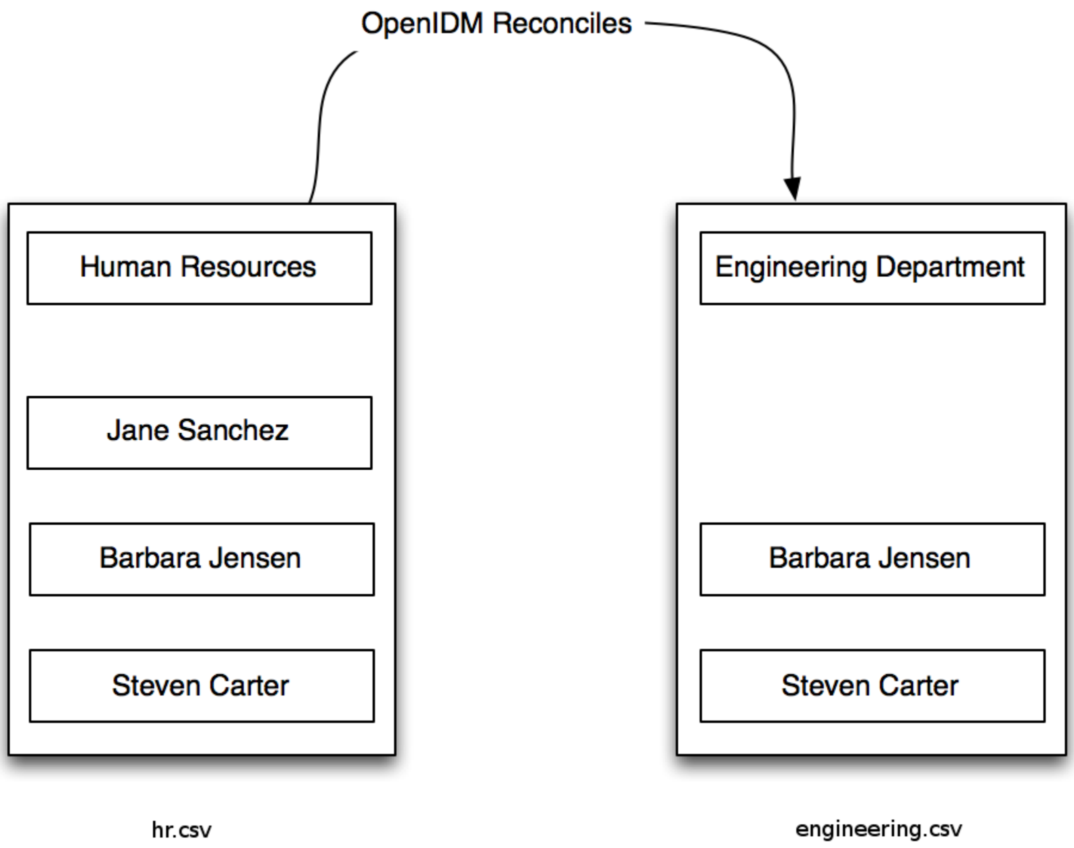
Demo : Reconcile Identity Data

Now that you have installed IDM with a "Getting Started" configuration, you will learn how information is reconciled between two data stores.

While the reconciliation demonstrated in this guide uses two simplified data files, you can set up the same operations at an enterprise level on a variety of resources.

Return to the situation described earlier, where you have Jane Sanchez joining the engineering department. The following illustration depicts what must be done to reconcile the differences.

Reconcile Data Stores



Reconcile Data Stores

A central feature of IDM is reconciliation - comparing the contents of two data stores and deciding what to do, depending on the differences.

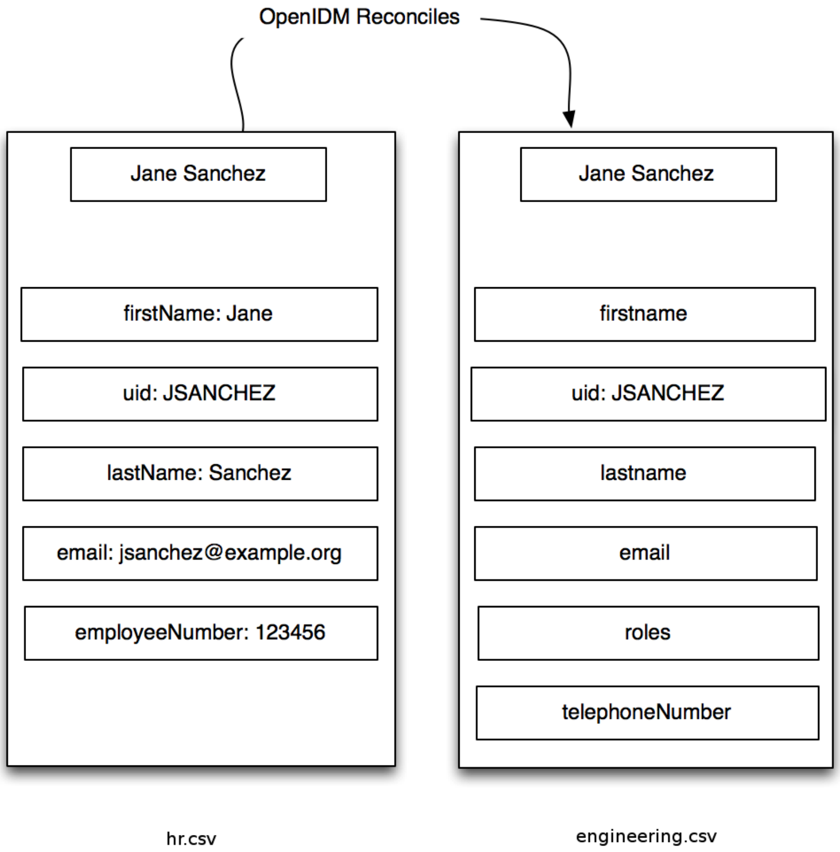
This scenario is based on two data files:

- `hr.csv`, which represents the Human Resources data store

- `engineering.csv`, which represents the Engineering data store

Reconciliation modifies the Engineering data store by adding the newly hired Jane Sanchez. As suggested by the following illustration, it will also address detailed differences between Jane's Human Resources account and the Engineering data store.

Data Stores Can Have Different Categories of Data



This sample includes configuration files that map detailed information from the Human Resources data store to the Engineering data store. For example, the configuration maps the `firstName` entry in Human Resources to the `firstname` entry in Engineering.

Note

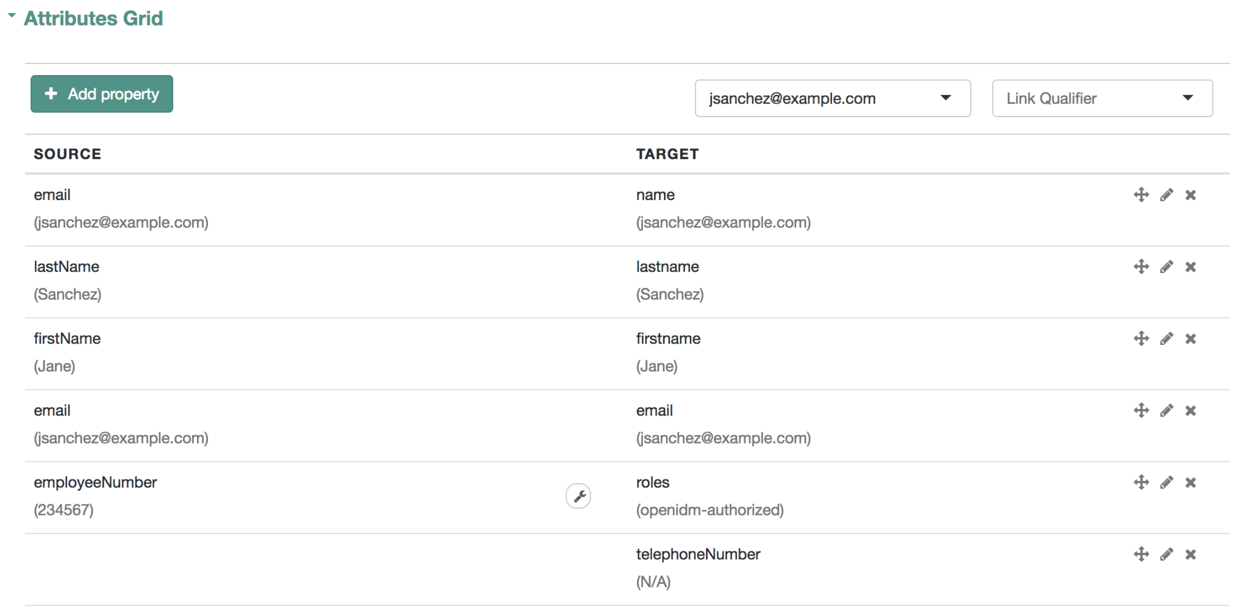
Mapping between data stores may require additional configuration. You should find two `provisioner.openicf-*.json` files in the `/path/to/openidm/samples/getting-started/conf` subdirectory. The provisioner files configure connections to external resources, such as Active Directory, ForgeRock Directory Services (DS) or even the `engineering.csv` and `hr.csv` files used in this guide. For more information, see Overview in the *Connectors Guide*.

In the Admin UI, you can see how the different categories are reconciled for user Jane Sanchez. Log in to the Admin UI at `https://localhost:8443/admin`. The default username is `openidm-admin` and default password is `openidm-admin`.

Select Configure > Mappings > `HumanResources_Engineering` > Edit.

In the *Sample source preview* text box, enter `Sanchez`. You should see a drop-down entry for Jane Sanchez that you can select. You should now see how IDM would reconcile Jane Sanchez's entry from the (source) Human Resources data store into the (target) Engineering data store.

Reconciling Differences for an Account



Attributes Grid

+ Add property | jsanchez@example.com | Link Qualifier

SOURCE	TARGET
email (jsanchez@example.com)	name (jsanchez@example.com)
lastName (Sanchez)	lastname (Sanchez)
firstName (Jane)	firstname (Jane)
email (jsanchez@example.com)	email (jsanchez@example.com)
employeeNumber (234567)	roles (openidm-authorized)
	telephoneNumber (N/A)

Scroll back up the same page. Select Reconcile.

When you reconcile the two data stores, IDM makes the change to the Engineering data store.

The mapping for this example is configured in the `sync.json` file, in the `/path/to/openidm/samples/getting-started/conf` directory.

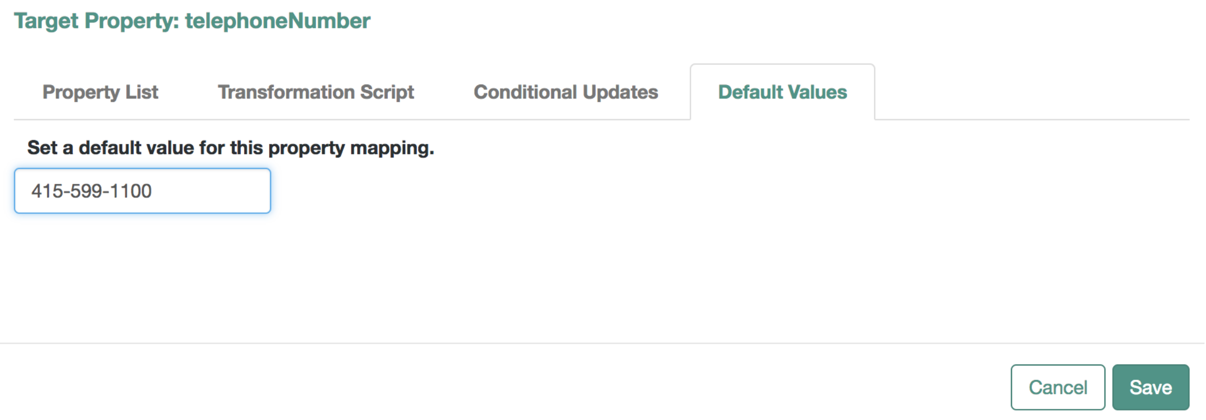
Reconcile After an Update

Now that you have used IDM to reconcile two data stores, try something else. Assume the Engineering organization wants to overwrite all user telephone numbers in its employee data store with one central telephone number.

For this purpose, you can set up a default telephone number for the next reconciliation:

1. On the HumanResources_Engineering mapping page, select the Properties tab and expand the Attributes Grid.
2. In the TARGET column, select the row that contains the `telephoneNumber` attribute.
3. Select the Default Values tab and enter a default number:

Set A New Default Telephone Number



Target Property: telephoneNumber

Set a default value for this property mapping.

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When you select Update, and Save, IDM changes the mapping in the `sync.json` file. The next time you run a reconciliation from Human Resources to Engineering, the default telephone number will be included for all employees in the Engineering group.

Chapter 3
Where To Go From Here

IDM can do much more than reconcile data between two different sources. Read about the key product features in these sections:

- "Integrating Business Processes and Workflows"
- "Managing Passwords"
- "Managing User Roles"
- "Connecting to Remote Data Stores"
- "Reconciliation"
- "Available Authentication Modules"
- "Finding Additional Use Cases"
- "How ForgeRock Identity Management Can Help Your Organization"
- "Stopping and Removing the Software"

Integrating Business Processes and Workflows

A business process begins with an objective and includes a well-defined sequence of tasks to meet that objective. IDM allows you to configure many of these tasks as self-service workflows, such as self-registration, new user onboarding, and account certification.

You can also automate many of these tasks as a workflow.

Once you configure the right workflows, a newly hired engineer can log into IDM and request access to manufacturing information.

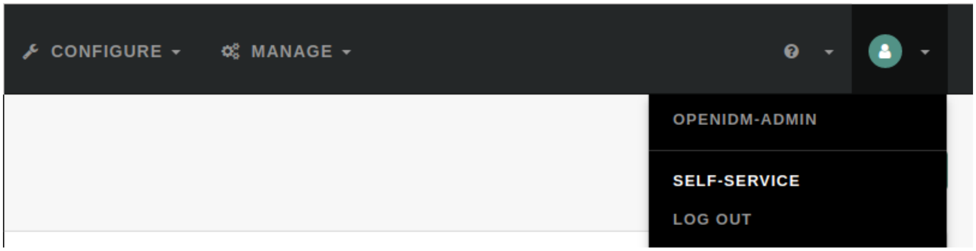
That request is sent to the appropriate manager for approval. Once approved, IDM provisions the new engineer with access to manufacturing.

IDM supports workflow-driven provisioning activities, based on the embedded Flowable Process Engine, which complies with the *Business Process Model and Notation 2.0* (BPMN 2.0) standard.

Managing Passwords

Administrative users can manage user passwords from the Admin UI and users can reset their own passwords in the End User UI. To access the End User UI as an administrative user, log in to the Admin UI, then select Self-Service from the drop-down menu on the top right corner:

Access the Self-Service User Interface



In the End User UI, click Edit Your Profile, then click Reset next to the Password field. You can change your password, subject to the following minimum number of characters:

- Length ≥ 8
- Capital letters ≥ 1
- Numbers ≥ 1

IDM supports robust password policies. You can modify policies such as the following:

- Elements that should not be a part of a password, such as a family name
- Password expiration dates
- Password histories, to prevent password reuse

For more information, including details on how you can configure these policies, see "*Secure Passwords*" in the *Security Guide*.

Managing User Roles

Some users need accounts on multiple systems. For example, insurance agents may also have insurance policies with the company that they work for. In that situation, the insurance agent is also a customer of the company.

Alternatively, a salesperson may also test customer engineering scenarios. That salesperson may also need access to engineering systems.

Each of these user scenarios is known as a *role*. You can set up a consolidated set of attributes associated with each role. To do so, you would configure custom roles to assign to selected users. For example, you may assign both *insured* and *agent* roles to an agent, while assigning the *insured* role to all customers.

In a similar fashion, you can assign both *sales* and *engineering* roles to the sales engineer.

You can then synchronize users with those roles into appropriate data stores.

For more information, see "Managed Roles" in the *Object Modeling Guide*. For a sample of how you can configure external roles, see "*Provision Users With Roles*" in the *Samples Guide*.

Connecting to Remote Data Stores

IDM can connect to a substantial variety of user and device data stores, on premise and in the cloud. A number of specific connectors are provided, allowing you to connect to those dedicated data stores. In addition, you can connect to many more data stores using a scripted connector framework.

Connectors are provided for a number of external resources, including:

- Google Web Applications (see "Google Apps Connector" in the *Connectors Guide*).
- Salesforce (see "Salesforce Connector" in the *Connectors Guide*).
- Any LDAPv3-compliant directory, including DS and Active Directory (see "LDAP Connector" in the *Connectors Guide*).
- CSV Files (see "CSV File Connector" in the *Connectors Guide*).
- Database Tables (see "Database Table Connector" in the *Connectors Guide*).

For a full list, see "*Supported Connectors*" in the *Connectors Guide*.

If the resource that you need is not on the list, you should be able to use one of the scripted connector frameworks to connect to that resource:

- For connectors associated with Microsoft Windows, IDM includes a PowerShell Connector Toolkit that you can use to provision a variety of Microsoft services, including but not limited to Active Directory, SQL Server, Microsoft Exchange, SharePoint, Azure Active Directory, and Office 365. For more information, see "PowerShell Connector Toolkit" in the *Connectors Guide*. IDM includes a sample PowerShell Connector configuration, described in "*Connect to Active Directory With the PowerShell Connector*" in the *Samples Guide*.
- For other external resources, IDM includes a Groovy Connector Toolkit that allows you to run Groovy scripts to interact with any external resource. For more information, see "Groovy Connector Toolkit" in the *Connectors Guide*.

  For sample implementations of the scripted Groovy connector, see "*Connect to DS With ScriptedREST*" in the *Samples Guide*.

Reconciliation

IDM supports reconciliation between two data stores, as a source and a target.

In identity management, reconciliation compares the contents of objects in different data stores, and makes decisions based on configurable policies.

For example, if you have an application that maintains its own user store, IDM can ensure your canonical directory attributes are kept up to date by reconciling their values as they are changed.

For more information, see "*Synchronization Overview*" in the *Synchronization Guide*.

Available Authentication Modules

IDM provides several authentication modules to help you protect your systems. For more information, see "Authentication and Session Modules" in the *Authentication and Authorization Guide*.

Finding Additional Use Cases

IDM is a lightweight and highly customizable identity management product.

The documentation includes a number of additional use cases. Most of these are known as *Samples*, and are described in "*Samples Provided With IDM*" in the *Samples Guide*.

These samples include step-by-step instructions on how you can connect to different data stores, customize product behavior using JavaScript and Groovy, and administer IDM with ForgeRock's common REST API commands.

How ForgeRock Identity Management Can Help Your Organization

Now that you have seen how IDM can help you manage users, review the features that IDM can bring to your organization:

- *Web-Based Administrative User Interface*

  Configure IDM with the Web-Based Administrative User Interface. You can configure many major server components without ever touching a text configuration file.

- *Self-Service Functionality*

  User self-service features can streamline onboarding, account certification, new user registration, username recovery, and password reset. The self-service features are built upon a *BPMN 2.0-compliant workflow engine.*

- *Registration With Social Identities*

  Users can now register new accounts using information from social identity providers, including Google, Facebook, and LinkedIn. If you configure access through more than one social identity provider, users can select and manage the providers they use. You can also synchronize user information with marketing databases.

  For more information, see "*Social Registration*" in the *Self-Service Reference*.

- *Role-Based Provisioning*

  Create and manage users based on attributes such as organizational need, job function, and geographic location.

- *Backend Flexibility*

  Choose the desired backend database for your deployment. IDM supports MySQL, Microsoft SQL Server, Oracle Database, IBM DB2, and PostgreSQL. For the supported versions of each database, see "*Before You Install*" in the *Release Notes*.

- *Password Management*

  Set up fine-grained control of passwords to ensure consistent password policies across all applications and data stores. Supports separate passwords per external resource.

- *Logging, Auditing, and Reporting*

  IDM logs all activity, internally and within connected systems. With such logs, you can track information for access, activity, authentication, configuration, reconciliation, and synchronization.

- *Access to External Resources*

  IDM can access a generic scripted connector that allows you to set up communications with many external data stores.

Stopping and Removing the Software

Follow these steps to stop and remove IDM.

1. To stop IDM, return to the console window where you saw the following message:

   ```
   -> OpenIDM ready
   ```

   Press Return, and enter the following command:

   ```
   -> shutdown
   ```

2. IDM is self-contained. After you shut down the server, you can choose to delete the files in the `/path/to/openidm` directory. There are no artifacts in system registries or elsewhere.

We hope that you want to continue exploring IDM.

To do so, review the rest of the IDM documentation.