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Preface

This documentation describes how to install and use Omni-Gen™ for Customer. It is intended for developers and administrators of Master Data Management (MDM) and Data Quality (DQ) solutions who are using Omni-Gen™.

How This Manual Is Organized

This manual includes the following chapters:

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<th>Contents</th>
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Documentation Conventions

The following table lists and describes the documentation conventions that are used in this manual.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THIS TYPEFACE</strong> or <strong>this typeface</strong></td>
<td>Denotes syntax that you must type exactly as shown.</td>
</tr>
<tr>
<td>Convention</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td><em>this typeface</em></td>
<td>Represents a placeholder (or variable), a cross-reference, or an important term. It may also indicate a button, menu item, or dialog box option that you can click or select.</td>
</tr>
<tr>
<td>underscore</td>
<td>Indicates a default setting.</td>
</tr>
<tr>
<td>Key + Key</td>
<td>Indicates keys that you must press simultaneously.</td>
</tr>
<tr>
<td>{}</td>
<td>Indicates two or three choices. Type one of them, not the braces.</td>
</tr>
<tr>
<td></td>
<td>Separates mutually exclusive choices in syntax. Type one of them, not the symbol.</td>
</tr>
<tr>
<td>...</td>
<td>Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis (...).</td>
</tr>
<tr>
<td>. . . . .</td>
<td>Indicates that there are (or could be) intervening or additional commands.</td>
</tr>
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</table>

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Join the Focal Point community. Focal Point is our online developer center and more than a message board. It is an interactive network of more than 3,000 developers from almost every profession and industry, collaborating on solutions and sharing every tips and techniques. Access Focal Point at [http://forums.informationbuilders.com/eve/forums](http://forums.informationbuilders.com/eve/forums).
You can also access support services electronically, 24 hours a day, with InfoResponse Online. InfoResponse Online is accessible through our website, http://www.informationbuilders.com. It connects you to the tracking system and known-problem database at the Information Builders support center. Registered users can open, update, and view the status of cases in the tracking system and read descriptions of reported software issues. New users can register immediately for this service. The technical support section of www.informationbuilders.com also provides usage techniques, diagnostic tips, and answers to frequently asked questions.

Call Information Builders Customer Support Services (CSS) at (800) 736-6130 or (212) 736-6130. Customer Support Consultants are available Monday through Friday between 8:00 A.M. and 8:00 P.M. EST to address all your questions. Information Builders consultants can also give you general guidance regarding product capabilities. Be prepared to provide your six-digit site code (xxxx.xx) when you call.

To learn about the full range of available support services, ask your Information Builders representative about InfoResponse Online, or call (800) 969-INFO.

**Help Us to Serve You Better**

To help our consultants answer your questions effectively, be prepared to provide specifications and sample files and to answer questions about errors and problems.

The following table lists the environment information that our consultants require.

<table>
<thead>
<tr>
<th>Platform</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Operating System</strong></td>
<td></td>
</tr>
<tr>
<td><strong>OS Version</strong></td>
<td></td>
</tr>
<tr>
<td><strong>JVM Vendor</strong></td>
<td></td>
</tr>
<tr>
<td><strong>JVM Version</strong></td>
<td></td>
</tr>
</tbody>
</table>

The following table lists additional questions to help us serve you better.

<table>
<thead>
<tr>
<th>Request/Question</th>
<th>Error/Problem Details or Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the problem arise through a service or event?</td>
<td></td>
</tr>
<tr>
<td>Request/Question</td>
<td>Error/Problem Details or Information</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Provide usage scenarios or summarize the application that produces the problem.</td>
<td></td>
</tr>
<tr>
<td>When did the problem start?</td>
<td></td>
</tr>
<tr>
<td>Can you reproduce this problem consistently?</td>
<td></td>
</tr>
<tr>
<td>Describe the problem.</td>
<td></td>
</tr>
<tr>
<td>Describe the steps to reproduce the problem.</td>
<td></td>
</tr>
<tr>
<td>Specify the error messages.</td>
<td></td>
</tr>
<tr>
<td>Any change in the application environment: software configuration, EIS/database</td>
<td></td>
</tr>
<tr>
<td>configuration, application, and so forth?</td>
<td></td>
</tr>
<tr>
<td>Under what circumstance does the problem not occur?</td>
<td></td>
</tr>
</tbody>
</table>

The following is a list of error and problem files that might be applicable.

- Input documents (XML instance, XML schema, non-XML documents)
- Transformation files
- Error screen shots
- Error output files
- Trace files
- Custom functions and agents in use
- Diagnostic Zip
- Transaction log
User Feedback

In an effort to produce effective documentation, the Technical Content Management staff welcomes your opinions regarding this document. Please use the Reader Comments form at the end of this document to communicate your feedback to us or to suggest changes that will support improvements to our documentation. You can also contact us through our website, http://documentation-informationbuilders.com/connections.asp.

Thank you, in advance, for your comments.

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Chapter 1

Introducing Omni-Gen™ for Customer

This section provides an overview of Omni-Gen™ and introduces Omni-Gen™ for Customer.

In this chapter:

- What is Omni-Gen™?
- Omni-Gen™ for Customer
- Related Documentation

What is Omni-Gen™?

Omni-Gen is an enterprise solution from Information Builders that accelerates the deployment of complete master data management (MDM), data quality (DQ), and data integration applications. It can be thought of as master data or data quality in a box, and allows for traditional integration and big data integration.

Omni-Gen automates best practices associated with multi-domain MDM implementations. These processes involve data integration, cleansing, and mastering, and are usually implemented manually, with months spent on specification, design, coding, and testing.

Omni-Gen, by contrast, enables organizations to rapidly develop the models and golden records they require for a result, and then automatically generates the processes needed to complete the job. By default, Omni-Gen provides change history and cross-domain references management. This ensures a better and more comprehensive result on the very first cut of a project.

Key features and components that are provided by Omni-Gen include:

- Omni Designer provides a visual (business-centric) model-driven and agile-enabled environment for the definition of multiple interrelated MDM domains (for example, golden records), along with reference data and rules for cleansing, validating, and mastering records.

- Omni Governance Console (OGC) allows business users to view, monitor, compare, and report on mission-critical data; identify and rectify faulty information; and create a complete, historical web-based view of mastered golden records.
Data Quality Workbench allows you to analyze data and create rules for data standardization and enrichment without any previous knowledge of DQ products. You can access Data Quality Workbench through the OGC.

Data Quality Monitor provides information about the data quality of records in your system and its impact on business. This information can be used for further analysis and provides a basis for business decisions. You can access Data Quality Monitor through the OGC.

Omni-Gen Server maintains auditable history, reconciliation of master data references, remediation processing, enhanced application logging, and more.

Omni-Gen is available in three editions:

- Integration Edition, which includes everything you need for data profiling and sophisticated integration projects.
- Master Data Management Edition, which includes everything in the Data Quality Edition and adds technology, such as automated match/merge, for data mastering.

**Omni-Gen™ for Customer**

Omni-Gen™ for Customer is a prepackaged solution for mastering the Customer domain. It provides all of the required components including a predefined model, DQ rules, and OGC perspectives. This all-in-one prepackaged mastering solution can also be extended to meet specific client requirements and demands.

**Related Documentation**

The *Omni-Gen™ for Customer User’s Guide* references several key components that are included with the product. For more information, you can refer to the following documentation set that is provided with Omni-Gen™ Master Data Management (MDM) and Data Quality (DQ) Editions:

- *Omni-Gen™ MDM and DQ Editions Release Notes*
- *Omni-Gen™ Installer User’s Guide*
- *Omni-Gen™ Operation and Management Guide*
- *Omni-Gen™ API Services Reference Guide*
- *Omni Console User’s Guide*
1. Introducing Omni-Gen™ for Customer User’s Guide

- Data Quality Monitor Installation and Configuration Guide
- Data Quality Monitor User's Guide
- Data Quality Workbench User's Guide
- Omni™ Designer User's Guide
- Omni-Gen™ Relational OnRamp User's Guide
- Omni-Gen™ Address Cleansing (Loqate) Installation and Configuration Guide
Installing Omni-Gen™ for Customer

This section describes how to install Omni-Gen™ for Customer.

In this chapter:

- Omni-Gen™ for Customer Components Configuration Overview
- Omni-Gen™ Installation Prerequisites
- Install Omni-Gen Server and Omni Governance Console on Windows

Omni-Gen™ for Customer Components Configuration Overview

Omni-Gen™ for Customer can be installed on Windows (64-bit) platforms.

The Omni-Gen installer is developed using InstallAnywhere and follows common installer models.

First, installation information is collected from the user through a series of prompts. Then, an image is installed to the file system specified by the user, and finally, the contents of the image are configured based on the collected information.

Omni-Gen™ Installation Prerequisites

Before Omni-Gen™ for Customer, which includes Omni-Gen Server (OGS) and the Omni Governance Console (OGC), are installed, ensure that the following prerequisites are configured on your environment:

1. One or two empty database schemas must be built and ready for use.

   **Note:** The creation of the database is generally the responsibility of a database administrator.

   - A database administrator's user name and password for the database(s) must also be available.

OmniGen uses the following logical sets of tables to perform MDM and OGC functions:

- **Mastering (Database) Tables.** This is automatically created in the same database, specified in the prompts for the Remediation Database of the OmniGen Installer.

- **Remediation Tables.** This is automatically created in the same database, specified in the prompts for the Remediation Database of the OmniGen Installer.
Data Quality Repository Tables (commonly referred to as the "repo" database).
This is created in the location specified in the prompts for the Data Quality (DQ) Database of the OmniGen Installer. When configuring the two (Remediation and DQ) database locations, you can configure two separate locations for Remediation and DQ, or you can configure one location for all the tables. The example in this document uses two different database names, one for Remediation tables and the other for DQ tables.

2. Java Development Kit (JDK) Version 1.8.121 or higher.
   
   **Note:** Omni-Gen Server (OGS) and Omni Governance Console (OGC) requires Java Development Kit (JDK) version 8.
   
   a. Verify that the JAVA HOME environment variable is defined properly.
   b. Verify that `%JAVA HOME%in` is the first element in your PATH.

3. Acquire the required DBMS specific JDBC .jar files for use by OGC and ensure these files are available on the machine where OGC will be installed.
   
   - **DB2:** db2jcc4.jar, db2jcc_license_cu.jar
   - **Oracle:** ojdbc7.jar
   - **Postgres:** postgresql-9.3-1102.jdbc4.jar
   - **SQL Server (Microsoft):** sqljdbc42.jar
   - **SQL Server (Open Source):** jtds-1.3.1.jar

4. Ensure that the database server is configured to allow TCP connections and that the TCP ports are active.

5. Ensure that you have the proper administrative rights to modify the Java CA certificate (cacerts) store and add files to the following directory:

   `JAVA_HOME/jre/lib/security`

   Modifying cacerts is required for interacting with the WSO2 Identity Server (WSO2 IS).

6. Source Management (Software Versioning and Revision Control System)
   
   A source management system, such as Apache Subversion (SVN) or Git must be installed on a local or remote system. The iWay Data Quality Server (DQS) design-time environment must be updated with the proper plug-in to source manage the DQS-related components in the configured source management system. You can obtain the required plug-in for the Eclipse-based environment from the source management system provider or a third-party.

7. GBG Loqate Address Verification
Loqate is used to facilitate address cleansing operations and must be installed on the system where Omni-Gen™ for Customer is running.

The recommended installation location (destination folder) is `C:\loqate`, which matches the default location that is specified in the Data Quality (DQ) cleansing plans that are prepackaged with Omni-Gen™ for Customer. If you choose a different installation location, then you will have to manually update the Loqate step in each DQ cleansing plan with your specific path.

For more information on downloading Loqate and obtaining a required license, contact iWay Customer Support. For more information on installing and configuring Loqate, see the *Omni-Gen™ Address Cleansing (Loqate) Installation and Configuration Guide*.

### Install Omni-Gen Server and Omni Governance Console on Windows

This procedure assumes that a database server (for example, an MS SQL Server), a Repository Server (for example, SVN), and iWay Data Quality Suite (DQS), are already installed.

1. Verify that the JAVA HOME environment variable (for Java Development Kit version 8) is defined properly and that `%JAVA HOME%\bin` is the first element in your PATH.
   
   [http://techsupport.informationbuilders.com](http://techsupport.informationbuilders.com)

3. In the File Explorer, right-click the downloaded `omnigen-installer-3.10.1491-Windows-CUSTOMER.exe` file and select *Run as administrator*.

   The InstallAnywhere window appears, as shown in the following image.
When the install is ready to begin, the Install Omni-Gen CUSTOMER Edition window opens, as shown in the following image.

4. Click Next.
The Accept License Agreement dialog box opens, as shown in the following image.

![Accept License Agreement Dialog Box](image)

5. Read the License Agreement, select the *I accept the terms of the License Agreement* check box, and then click *Next*. 
6. In the *Where would you like to install* field, type the location where you wish to install all of the required files for Omni-Gen.

The installer will create a file tree named *OmniGen* in the location you have specified. For example, if you accept the default location as C:\, then the installer will install Omni-Gen to:

`C:\OmniGen`

7. Click *Next*. 
8. Ensure that the Java version located is version 1.8 or higher, and then click Next.
As of Omni-Gen version 3.6.0, the Specify Base Port Number dialog box opens, as shown in the following image.

9. Specifying a base port number automatically assigns a set of port numbers for use by Omni-Gen components, and is used when installing more than one instance of Omni-Gen on a single machine. If you are installing a second instance of Omni-Gen, or need to configure different ports to avoid conflicts with systems already deployed on your Omni-Gen host, then see your system administrator. Otherwise, click Next to continue.
The Specify Hostname and Domain dialog box opens, as shown in the following image.

The default host name is the machine on which you are currently installing.

10. In the Domain field, type the host domain, and then click Next.
11. Verify the ports that are indicated by default and modify accordingly, if required.

12. Click Next.
The Specify Location of OmniGen Designer dialog box opens, which prompts for the parameters that define the location of Omni Designer, as shown in the following image.

13. Accept the default parameters, and then click Next.
14. Change the location of the SCCS .jar files, if necessary, and then click Next.

If you have not created a folder for the SCCS .jar files, then the following message displays:

If you receive this message, click Cancel and then create a new folder. Place the SCCS .jar files in that folder and click Choose in the Specify Location of Source Control .jar Files pane to navigate and select that new folder.
The Select Source Code Control System and Location dialog box that opens, as shown in the following image.

15. Define the location and credentials for your source control repository by selecting either **svn** or **git**.

16. Click **Next**.
The Specify Location of JDBC .jar Files dialog box opens, as shown in the following image.

17. Specify the location of your JDBC .jar files, and then click Next.
The Configure OmniGen Server Databases dialog box opens, which provides an overview regarding Omni-Gen databases and configuration parameters, as shown in the following image.

18. Review this information, and then click Next.
The Select the DBMS type of the Remediation Database dialog box opens, as shown in the following image.

19. Specify the database that you want to use for Omni-Gen Server (OGS) and the Remediation database.

20. Click Next.
The Enter OGS Database Parameters: SQL Server with Microsoft or Open driver dialog box opens, as shown in the following image.

21. Specify the DBMS-specific parameters for the combined OGS and Remediation database, and then click Next.
The Verify the OmniGen Master Database URL dialog box opens, as shown in the following image.

22. Verify the database URL and click Next.

If you receive a message indicating that your connection test failed, verify that your database name exists in SQL (or the DBMS you are using).
When your database exists and the user name, password, and host are correct, the following message appears, indicating that your connection test passed for the specified database.

23. Click Next to continue.
The Select the Data Quality DB’s DBMS type dialog box opens, as shown in the following image.

24. Select the DBMS type used for the Data Quality (DQ) database, and then click Next.
The Enter DQ Database Parameters: SQL Server with Microsoft or Open driver dialog box opens, as shown in the following image.

25. If you are using the same database for OGS, click Next, or type new parameters for the DQ database, and then click Next.
The Verify the Data Quality Database URL dialog box opens, as shown in the following image.

26. Verify the database URL, and then click Next.
If the test is successful, then the Data Quality Database Connection Test Passed dialog box opens, as shown in the following image.

If the test is not successful, click *Previous* twice, correct the connection parameters, and retest the URL.

27. Click *Next*. 
The Select the OmniGen Server Runtime Protocol dialog box opens, as shown in the following image.

28. Select the desired server runtime protocol, and then click Next.
The Verify the OmniGen Server Port Numbers dialog box opens, as shown in the following image.

29. Accept the default values, but change them if the infrastructure manager informs you of a conflict and recommends changes to alternate available ports.

30. Click Next.
The Install the Controller as a Windows Service dialog box opens, as shown in the following image.

31. Accept the default or modify, as required, and then click Next.
The Use Included Elasticsearch or Existing one dialog box opens, as shown in the following image.

32. Accept the default or modify, as required, and then click Next.
The Verify the OmniGen Governance Console's Tomcat Parameters dialog box opens, as shown in the following image.

The Hostname parameter defaults to the machine on which you are currently installing Omni-Gen.

33. Accept the default values, and then click Next.
The Configure OGC Email Server dialog box opens, as shown in the following image.

34. Unless you are adding the email option, leave the parameter values blank, click Next, and proceed to the Preserve or Create New WSO2 Repository pane in the installer (skip to Step 36).

35. To enable the email option, provide values for the following parameters as they apply to your SMTP, email server:

- **SMTP Host.** Host name of your SMTP server (for example, `smtp.ibi.com`).
- **SMTP Port.** SMTP port on that server (usually port 25).
- **Email Notification From.** Email address from which the Assignment emails will originate (for example, `OmniGen_Remediation@ibi.com`).
- **SMTP Username.** User name for accessing the email server.
- **SMTP Password.** Password associated with the user name for accessing the email server.
- **SMTP SSL Enabled (true or false).** Specify true if your email server supports or requires SSL authentication.
In addition, each user who will receive email notifications must have a valid email address in their WSO2 user profile.

- Each LDAP user with the Data Steward or Data Supervisor role, and who will receive Assignment emails, must have a valid email address in their Active Directory profile. When it makes the LDAP connection, WSO2 will bring back those email addresses to its Local User Store profile of the user.

- Each hardcoded user in the WSO2 Primary domain must have an email in their WSO2 user profile.

Following the Configure OGC Email Server dialog box, the Preserve or Create New WSO2 Repository dialog box opens, as shown in the following image.

36. For new Omni-Gen installations, ensure that Yes is selected, and then click Next.
37. Confirm the WSO2 parameters, and then click Next.
The Enter WSO2 Certificate Parameters dialog box opens, as shown in the following image.

38. Collect the parameters to generate the certificate for WSO2.

The parameters are used to build a unique certificate to secure the Omni Governance Console to the WSO2 communication.
39. Ensure that the address of your host is correct (not localhost), and then type values for the other parameters. For example:

40. Click Next.
The Verify or change JVM Memory Settings dialog box opens, as shown in the following image.

41. Change the values only if you are instructed by Information Builders or iWay Support analysts, otherwise, click Next.
The Pre-Installation Summary dialog box opens, as shown in the following image.

42. Review all of the settings in the Pre-Installation Summary pane, and then click Next.
The Ready To Install dialog box opens, indicating that the configuration for installation is complete, as shown in the following image.

43. Click **Install** to proceed with installation.

Progress of the Omni-Gen Customer Edition installation is shown.
The Omni-Gen installation is complete when the Install Complete dialog box displays, as shown in the following image.

44. Press Done to exit the Omni-Gen installer.

You are now ready to configure Omni-Gen™ for Customer. For more information, see Configuring Omni-Gen™ for Customer on page 53.
Chapter 3

Configuring Omni-Gen™ for Customer

This section describes how to configure Omni-Gen™ for Customer.

In this chapter:

- Configuring Omni-Gen™ for Customer

**Configuring Omni-Gen™ for Customer**

This section describes how to configure Omni-Gen™ for Customer to quickly get started with using the product. For more information on detailed use of the related product areas, see the corresponding documentation for Omni-Gen™ Master Data Management (MDM) and Data Quality (DQ) Editions.

**Note:** Omni-Gen services can be managed from a command line prompt that has been launched using the *Run as Administrator* option or from the Omni Console. Using the Omni Console to manage Omni-Gen services is highly recommended. However, during certain points of the configuration process, Omni-Gen services must be managed (for example, started or stopped) from a command line prompt. In addition, during the configuration process, specific Omni-Gen services must be running (started) while other services are stopped. Please follow the management of Omni-Gen services (for example, starting and stopping) as described in this documentation.

1. Open a command line prompt window using the *Run as Administrator* option.

   The `omni start-xx` and `omni stop-xx` commands are accessible from the following folder:

   `<omni_install>\omnigen\OmniServer`

2. Change your current directory to `\OmniServer` as follows:

   `cd <omni_install>\omnigen\OmniServer`

3. Execute the following command:

   `omni start-controller`

   **Note:** The controller will take a minute or two to start as it has to initialize the underlying components. It is recommended to start the controller only for the development environment, instead of all of the services using the `omni start-all` command.
4. Use a browser to login to the Omni Console, which can be accessed using the following default URL:

https://host.domain:9500/

Where the *host* is the host of your machine and the *domain* is the domain for your machine. The default user ID and password is *ibi /ibi*.

5. Start all of the services if they were not started already. You can start each service one at a time to give them time to start.

![Omni Console](image)

**Note:** Since there is no bundle currently deployed, you are not able to start the service for Omni Server (under Data Processing) and the five services listed under Data Quality. These services will be started after a deployed bundle is available.

6. Open Omni Designer by navigating to `C:\omnigen\OmniDesigner` and executing `OmniDesigner.exe`.
7. Create a new repository.

Simply provide a repository name and keep default values for the remaining parameters.

8. Connect to your repository using the credentials *super / super*.

9. Import the project that contains the Customer Model and required artifacts into Omni Designer.
Right-click in the Project Explorer area, select *Import Project*, and then click *from Release Bundle*, as shown in the following image.

10. Select your local repository into which the project will be imported. Browse to the Customer project located in:

    C:\omnigen\OmniGenData\OmniCustomer\OmniGenForCustomer.zip

11. Provide a project name (for example, Customer) and then click *Finish*, as shown in the following image.

Please wait a minute until the system loads all of the artifacts.
After the project is imported, you will see the model load and can review it, as shown in the following image.
If any changes are made to this project, right-click the Customer project and select Commit, as shown in the following image.

**Note:** The Commit option is available only if the project has been updated.

This will commit changes to the source management system.

You can now generate a project bundle for deployment.
12. Right-click the Customer project and select Generate Project Bundle, as shown in the following image.

13. Provide a description (optional) and select the proper bundle versioning. Please wait a minute for the project bundle to generate.

14. Once this process has finished, close Omni Designer and navigate to http://localhost:8090/ to create the deployable project bundle.

This process gathers all of the artifacts for DQ, Remediation, Model, OGC, and others, and packages them for deployment into runtime. A deployable project bundle is written to disk as a .zip file.
15. Click the green run icon to generate a deployment bundle.

16. Return to the Omni Console at https://host.domain:9500/pages/deployment, where you are taken directly to the Deployment page.

17. Click Install Bundle and browse to the project bundle that you recently generated, which is located in the following directory by default:

   C:\omnigen\deploymentbundle

   ![Deployment page](image)

Please wait a minute to install as the system must load all of the artifacts and establish all of the repositories.
You will see the deployment steps as they are being executed, as shown in the following image.

18. Upon completion, the system will be configured for the given domain mastering.
Now it is time to start the services.

19. Navigate to Services and start all of the remaining services for data processing.

After all of the services up and running, the system is ready for data load, processing, and data access.

Loading Metadata (MData) Using the Omni Governance Console

1. Access the Omni Governance Console (OGC) by using the following URL:

   http://localhost:9090/ogc/

   Login with your credentials based on your policy access. The default credentials are:

   - **User name**: super_a
   - **Password**: supe ra123

2. In the Administration tab, click **Upload Meta Data** on the Omni Governance Console Setup screen to load the predefined set of metadata, which defines the layout of the screens in OGC.

   ![Omni Governance Console Setup](image)

   **Note**: You can customize this view and you can also export or import the definition for sharing. The Mdata file is located in the following directory:

   C:\omnigen\OmniGenData\mdata
3. Once the MData is loaded, you can navigate the various console components. If you had loaded sample data, then you would see this data populated throughout the console. Otherwise, you will see only column layouts with no data, as shown in the following image.
Chapter 4

Understanding the Omni-Gen™ for Customer Data Model

This section provides reference information for the Omni-Gen™ for Customer data model.

In this chapter:

- Understanding the Omni-Gen™ Customer Data Model
- Data Quality Rules

Understanding the Omni-Gen™ Customer Data Model

The Omni-Gen™ for Customer data model includes the following subjects:

- Customer
- Address
- SalesOrder
- SalesOrderLine
- Phone
- Email
- Account
- AccountTeam
- Contact
- CustDemographics
- Item
- SalesOrg
Customer

The **Customer** subject identifies basic master data about customers, such as name, date of birth, and tax identification number (TIN) / Social Security Number (SSN).

The data on the **SalesOrder** and **SalesOrderLine** can be used as the basis for calculating metrics for year to date comparisons between perfect order, on-time delivery, and fill rate percentages. Selected demographics from the **CustDemographics** subject can also be used to further enrich the calculation and metrics, such as sales by product group by ethnicity, returns by age generation, or product group upsell by marital status.

**Customer** subject attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>active_status</td>
<td>String</td>
<td></td>
<td>A Y/N indicator identifying whether the customer is active.</td>
</tr>
<tr>
<td>legal_name</td>
<td>String</td>
<td></td>
<td>The legal name used by a customer.</td>
</tr>
<tr>
<td>dba_name</td>
<td>String</td>
<td></td>
<td>The <em>doing business as</em> name used by a customer.</td>
</tr>
<tr>
<td>first_name</td>
<td>String</td>
<td></td>
<td>The first name for a customer.</td>
</tr>
<tr>
<td>Name</td>
<td>Data Type</td>
<td>Reference Table</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------</td>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>middle_name</td>
<td>String</td>
<td></td>
<td>The middle name for a customer.</td>
</tr>
<tr>
<td>last_name</td>
<td>String</td>
<td></td>
<td>The last name for a customer.</td>
</tr>
<tr>
<td>display_name</td>
<td>String</td>
<td></td>
<td>The textual name that appears for a customer.</td>
</tr>
<tr>
<td>company_name</td>
<td>String</td>
<td></td>
<td>The company name used by a customer.</td>
</tr>
<tr>
<td>tax_id</td>
<td>String</td>
<td></td>
<td>The tax identification number for a customer.</td>
</tr>
<tr>
<td>tax_exempt_num</td>
<td>String</td>
<td></td>
<td>The tax exemption number for a customer.</td>
</tr>
<tr>
<td>soc_sec_num</td>
<td>String</td>
<td></td>
<td>The social security number for a customer.</td>
</tr>
<tr>
<td>date_of_birth</td>
<td>Date</td>
<td></td>
<td>The date of birth for a customer.</td>
</tr>
<tr>
<td>prim_sales_org</td>
<td>Identifier</td>
<td>SalesOrg</td>
<td>The primary sales organization assigned to a customer.</td>
</tr>
<tr>
<td>lead_source_txt</td>
<td>String</td>
<td></td>
<td>The original source of information on a customer.</td>
</tr>
<tr>
<td>priority_group</td>
<td>Reference</td>
<td>Customer Priority Types</td>
<td>The priority of a customer. For example, customers in a high priority may have their orders expedited ahead of other lower priority customers.</td>
</tr>
<tr>
<td>Name</td>
<td>Data Type</td>
<td>Reference Table</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>primary_geo_area</td>
<td>Reference</td>
<td>Geographic Area Types</td>
<td>The primary geographic area (for example, region, branch, store, or sales region) assigned to a customer.</td>
</tr>
<tr>
<td>credit_rating</td>
<td>Reference</td>
<td>Credit Rating Types</td>
<td>The overall credit rating assigned to a customer.</td>
</tr>
</tbody>
</table>

**Address**

The **Address** subject identifies address data including address type, time zone and geographic area. The geographic area can represent a company’s division, branch, department, or other geographical grouping used for reporting purposes.

**Address** subject attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>address_type</td>
<td>Reference</td>
<td>Address Type</td>
<td>The primary type of use for an address such as corporate, sold to, ship to, or bill to.</td>
</tr>
<tr>
<td>primary_ind</td>
<td>String</td>
<td></td>
<td>A Y/N indicator identifying the primary address for the customer.</td>
</tr>
<tr>
<td>address_status</td>
<td>Reference</td>
<td>Address Status</td>
<td>The current status for an address.</td>
</tr>
<tr>
<td>attn_to_contact</td>
<td>String</td>
<td></td>
<td>The contact name to include in the Attention To portion of the address.</td>
</tr>
<tr>
<td>street_address1</td>
<td>String</td>
<td></td>
<td>The first line of the street, house, building, or parcel portion of an address.</td>
</tr>
<tr>
<td>street_address2</td>
<td>String</td>
<td></td>
<td>The second line of the street, house, building, or parcel portion of an address.</td>
</tr>
</tbody>
</table>
### Name | Data Type | Reference Table | Description
--- | --- | --- | ---
city | String | | The city portion of an address.
state_territory | String | | The state or territory portion of an address.
county | String | | The county portion of an address.
country | String | | The country portion of the address.
postal_code | String | | The zip or postal code portion of an address.
time_zone | String | | The time zone in which the address is located.
address_geo_area | Reference | Geographic Area Types | The geographic area (for example, branch, store, region, or sales area) associated to an address.
latitude | Float | | The geospatial latitude for an address.
longitude | Float | | The geospatial longitude for an address.

**SalesOrder**

The **SalesOrder** subject identifies general master data about the sales order, such as the ordering customer, sales order date, and order priority. Several attributes are available for comparative reporting such as requested ship to address, ship date, or ordered quantity compared to the actual ship date, ship to address, or shipped quantities. Metrics can be computed with the available data on this subject and the **SalesOrderLine** subject, such as for the order fill or return rates.

**SalesOrder** subject attributes include:
<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ord_cust_id</td>
<td>Identifier</td>
<td>Customer</td>
<td>The unique identifier for the ordering customer on the sales order.</td>
</tr>
<tr>
<td>sales_order_dt</td>
<td>Date</td>
<td>Customer</td>
<td>The date the sales order was placed.</td>
</tr>
<tr>
<td>sales_order_type</td>
<td>Reference</td>
<td>Order Types</td>
<td>The type of sales order, such as blanket, standing, or standard.</td>
</tr>
<tr>
<td>req_st_street</td>
<td>String</td>
<td>Customer</td>
<td>The customer requested ship to street address.</td>
</tr>
<tr>
<td>req_st_city</td>
<td>String</td>
<td>Customer</td>
<td>The customer requested ship to city.</td>
</tr>
<tr>
<td>req_st_state</td>
<td>String</td>
<td>Customer</td>
<td>The customer requested ship to state/territory.</td>
</tr>
<tr>
<td>req_st_zip</td>
<td>String</td>
<td>Customer</td>
<td>The customer requested ship to zip/postal code.</td>
</tr>
<tr>
<td>req_st_country</td>
<td>String</td>
<td>Customer</td>
<td>The customer requested ship to country.</td>
</tr>
<tr>
<td>act_st_street</td>
<td>String</td>
<td>Customer</td>
<td>The actual ship to street address used for shipment of goods from a sales order.</td>
</tr>
<tr>
<td>act_st_city</td>
<td>String</td>
<td>Customer</td>
<td>The actual ship to city used for shipment of goods from a sales order.</td>
</tr>
<tr>
<td>act_st_state</td>
<td>String</td>
<td>Customer</td>
<td>The actual ship to state/territory used for shipment of goods from a sales order.</td>
</tr>
<tr>
<td>act_st_zip</td>
<td>String</td>
<td>Customer</td>
<td>The actual ship to zip/postal code used for shipment of goods from a sales order.</td>
</tr>
<tr>
<td>Name</td>
<td>Data Type</td>
<td>Reference Table</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>-----------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>act_st_country</td>
<td>String</td>
<td></td>
<td>The actual ship to country used for shipment of goods from a sales order.</td>
</tr>
<tr>
<td>req_ship_dt</td>
<td>Date</td>
<td></td>
<td>The requested ship date of a customer.</td>
</tr>
<tr>
<td>cmt_ship_dt</td>
<td>Date</td>
<td></td>
<td>The ship date committed to by the sales order goods provider.</td>
</tr>
<tr>
<td>act_ship_dt</td>
<td>Date</td>
<td></td>
<td>The actual date that goods shipped for the sales order.</td>
</tr>
<tr>
<td>req_delivery_dt</td>
<td>Date</td>
<td></td>
<td>The requested delivery date of the customer.</td>
</tr>
<tr>
<td>cmt_delivery_dt</td>
<td>Date</td>
<td></td>
<td>The committed delivery date for a sales order.</td>
</tr>
<tr>
<td>act_delivery_dt</td>
<td>Date</td>
<td></td>
<td>The actual delivery date for the sales order.</td>
</tr>
<tr>
<td>order_priority</td>
<td>Reference</td>
<td>Order Priority Types</td>
<td>The priority set to an order such as Top 10, Expedite, Normal, or Low.</td>
</tr>
<tr>
<td>order_status</td>
<td>Reference</td>
<td>Order Status</td>
<td>The status of the sales order. For example, it may be partially shipped and still have a few line items in backorder.</td>
</tr>
<tr>
<td>sold_sales_org</td>
<td>Identifier</td>
<td>SalesOrg</td>
<td>The sales organization that will receive credit for the sales order.</td>
</tr>
</tbody>
</table>

**SalesOrderLine**

The **SalesOrderLine** subject identifies general data about the lines on a sales order, such as item quantity. Several attributes are available for comparative reporting, such as requested item, quantities, or delivery dates compared to the actual delivered item, quantities, or delivery date. Metrics can be computed with the available data on this subject and the **SalesOrderLine** subject, such as for the sales order line fill or return rates.
SalesOrderLine subject attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>requested_item_id</td>
<td>Identifier</td>
<td>Item</td>
<td>The product requested on a sales order line.</td>
</tr>
<tr>
<td>requested_item_qty</td>
<td>Integer</td>
<td></td>
<td>The requested quantity of a product.</td>
</tr>
<tr>
<td>committed_item_id</td>
<td>Identifier</td>
<td>Item</td>
<td>The product committed to be provided for a sales order line. This can differ from the requested product.</td>
</tr>
<tr>
<td>committed_item_qty</td>
<td>Integer</td>
<td></td>
<td>The committed quantity of a product.</td>
</tr>
<tr>
<td>requested_delivery_dt</td>
<td>Date</td>
<td></td>
<td>The date requested for delivery.</td>
</tr>
<tr>
<td>committed_delivery_dt</td>
<td>Date</td>
<td></td>
<td>The committed date for delivery.</td>
</tr>
<tr>
<td>actual_delivery_dt</td>
<td>Date</td>
<td></td>
<td>The actual date of the delivery.</td>
</tr>
<tr>
<td>delivered_item_id</td>
<td>Identifier</td>
<td>Item</td>
<td>The product actually delivered on a sales order line. This can differ from the committed product.</td>
</tr>
<tr>
<td>delivered_item_qty</td>
<td>Integer</td>
<td></td>
<td>The delivered quantity of a product.</td>
</tr>
<tr>
<td>returned_item_id</td>
<td>Identifier</td>
<td>Item</td>
<td>Any returned product applied against this line item. Dependent on the return process, this product may differ from the delivered product.</td>
</tr>
<tr>
<td>returned_item_qty</td>
<td>Integer</td>
<td></td>
<td>The returned quantity of a product.</td>
</tr>
</tbody>
</table>
4. Understanding the Omni-Gen™ for Customer Data Model

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sales_order_ln_uom</td>
<td>Reference</td>
<td>Unit of Measure</td>
<td>The unit of measure for quantities on the sales order line.</td>
</tr>
<tr>
<td>unit_pri_amt</td>
<td>Float</td>
<td></td>
<td>The unit price expected for the requested product.</td>
</tr>
<tr>
<td>invoiced_unit_pri_amt</td>
<td>Float</td>
<td></td>
<td>The invoiced unit price amount.</td>
</tr>
<tr>
<td>paid_unit_amt</td>
<td>Float</td>
<td></td>
<td>The amount actually paid per unit for an item.</td>
</tr>
<tr>
<td>r_sales_org_id</td>
<td>Identifier</td>
<td>SalesOrg</td>
<td>The sales organization responsible for the sales order line.</td>
</tr>
<tr>
<td>sales_order_ln_dt</td>
<td>Date</td>
<td></td>
<td>The creation date for a sales order line.</td>
</tr>
<tr>
<td>order_ln_status</td>
<td>Reference</td>
<td>Order Line Status</td>
<td>The status of the sales order line such as pending, partially shipped, backorder or closed.</td>
</tr>
</tbody>
</table>

Phone

The **Phone** subject identifies the phone numbers for the customer such as home, office, FAX or mobile.

**Phone** attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>primary_ind</td>
<td>Boolean</td>
<td></td>
<td>A Y/N flag indicating if this is the primary phone number for a customer.</td>
</tr>
<tr>
<td>active_ind</td>
<td>Boolean</td>
<td></td>
<td>A Y/N flag identifying whether a phone number is active.</td>
</tr>
</tbody>
</table>
### Email

The **Email** subject identifies the email address for a customer, such as personal or business. **Email** attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>primary_ind</td>
<td>Boolean</td>
<td></td>
<td>A Y/N indicator used for identifying the primary email for a customer.</td>
</tr>
<tr>
<td>email_type</td>
<td>Reference</td>
<td>Email Types</td>
<td>The email address type for the email of a party, such as home, office, or personal.</td>
</tr>
<tr>
<td>email_address</td>
<td>String</td>
<td></td>
<td>The value for the email address of a party.</td>
</tr>
<tr>
<td>comm_status</td>
<td>Reference</td>
<td>Communication Status</td>
<td>A Y/N flag indicating is this is the primary email address for a customer.</td>
</tr>
</tbody>
</table>

### Phone Type

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>phoneType</td>
<td>Reference</td>
<td>Phone Types</td>
<td>The phone type code for a phone such as home, office, or FAX.</td>
</tr>
<tr>
<td>phone_number</td>
<td>String</td>
<td></td>
<td>The set of digits that represents the phone number of the customer.</td>
</tr>
<tr>
<td>extension</td>
<td>String</td>
<td></td>
<td>Any appropriate extension for a phone number.</td>
</tr>
<tr>
<td>comm_status</td>
<td>Reference</td>
<td>Communication Status</td>
<td>This is the status of the phone number such as unconfirmed, invalid, opt-in, opt-out or unsubscribe.</td>
</tr>
</tbody>
</table>
Account

The **Account** subject identifies the accounts related to a customer.

**Account** attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>account_type</td>
<td>Reference</td>
<td>Account Type</td>
<td>The type of account such as customer or vendor.</td>
</tr>
<tr>
<td>account_name</td>
<td>String</td>
<td></td>
<td>The name of an account.</td>
</tr>
<tr>
<td>account_open_dt</td>
<td>Date</td>
<td></td>
<td>The date on which the account was opened.</td>
</tr>
<tr>
<td>account_close_dt</td>
<td>Date</td>
<td></td>
<td>The date on which the account was closed.</td>
</tr>
<tr>
<td>credit_limit</td>
<td>Float</td>
<td></td>
<td>The monetary credit limit for a given account.</td>
</tr>
<tr>
<td>credit_rating</td>
<td>Reference</td>
<td>Credit Rating Types</td>
<td>The credit rating assigned to a given account.</td>
</tr>
<tr>
<td>credit_terms</td>
<td>String</td>
<td></td>
<td>The credit terms assigned to a given account such as Net 60, COD, Prepaid, or 2/10 Net 30.</td>
</tr>
<tr>
<td>account_renew_dt</td>
<td>Date</td>
<td></td>
<td>The next renewal date for an account.</td>
</tr>
</tbody>
</table>

AccountTeam

The **AccountTeam** subject identifies the names of the team assigned to a customer.

**AccountTeam** subject attributes include:
<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>current_ind</td>
<td>String</td>
<td></td>
<td>A Y/N indicator identifying whether the account team is the most current.</td>
</tr>
<tr>
<td>credit_rep</td>
<td>String</td>
<td></td>
<td>The name of the assigned credit manager.</td>
</tr>
<tr>
<td>direct_sales_rep</td>
<td>String</td>
<td></td>
<td>The name of the assigned direct sales representative.</td>
</tr>
<tr>
<td>acct_executive</td>
<td>String</td>
<td></td>
<td>The name of the assigned account executive or manager.</td>
</tr>
<tr>
<td>acct_team_start_dt</td>
<td>Date</td>
<td></td>
<td>The start date for the account team assignment.</td>
</tr>
<tr>
<td>acct_team_end_dt</td>
<td>Date</td>
<td></td>
<td>The end date for the account team assignment.</td>
</tr>
</tbody>
</table>

**Contact**

The **Contact** subject identifies the contacts related to a customer.

**Contact** subject attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>primary_ind</td>
<td>String</td>
<td></td>
<td>A Y/N indicator identifying whether this is the primary contact for a customer.</td>
</tr>
<tr>
<td>contact_type</td>
<td>Reference</td>
<td>Contact Types</td>
<td>The primary type assigned to the contact such as buyer, accounts receivable, or delivery receipt.</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td></td>
<td>The title for the contact such as Dr., Mr., or Mrs.</td>
</tr>
<tr>
<td>first_name</td>
<td>String</td>
<td></td>
<td>The first name of the contact.</td>
</tr>
</tbody>
</table>
### middle_name
- **Data Type**: String
- **Description**: The middle name of the contact.

### last_name
- **Data Type**: String
- **Description**: The last name of the contact.

### full_name
- **Data Type**: String
- **Description**: The full name of the contact. Usually including the first, middle, and last names.

### CustDemographics

The **CustDemographics** subject identifies demographics assigned to a customer.

**CustDemographics** subject attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>current_ind</td>
<td>Boolean</td>
<td></td>
<td>A Y/N indicator identifying whether the customer demographics are currently in effect.</td>
</tr>
<tr>
<td>gender</td>
<td>Reference</td>
<td>Gender Types</td>
<td>The gender for a customer.</td>
</tr>
<tr>
<td>ethnicity</td>
<td>Reference</td>
<td>Ethnicity Types</td>
<td>The ethnicity for a customer.</td>
</tr>
<tr>
<td>age_generation</td>
<td>Reference</td>
<td>Age Generation</td>
<td>The age generation for a customer such as Greatest Generation or Baby Boomer.</td>
</tr>
<tr>
<td>marital_status</td>
<td>Reference</td>
<td>Marital Status Types</td>
<td>The marital status for a customer.</td>
</tr>
<tr>
<td>employment_status</td>
<td>Reference</td>
<td>Employment Status Types</td>
<td>The employment status for a customer.</td>
</tr>
<tr>
<td>cust_demo_eff_dt</td>
<td>Date</td>
<td></td>
<td>The effective date for a set of customer demographics.</td>
</tr>
</tbody>
</table>

### Item

The **Item** subject identifies information pertaining to product, services, or equipment.
**Item** subject attributes include:

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>item_name</td>
<td>Boolean</td>
<td></td>
<td>The commonly used name for an item.</td>
</tr>
<tr>
<td>item_short_desc</td>
<td>String</td>
<td></td>
<td>The short textual description for an item.</td>
</tr>
<tr>
<td>item_long_desc</td>
<td>String</td>
<td></td>
<td>The long textual description for an item.</td>
</tr>
<tr>
<td>key_item_ind</td>
<td>String</td>
<td></td>
<td>A Y/N flag identifying whether a product is included in the major products tracked by the company.</td>
</tr>
<tr>
<td>item_base_uom</td>
<td>Reference</td>
<td>Unit of Measure</td>
<td>The standard/base unit of measure for an item.</td>
</tr>
<tr>
<td>item_base_price</td>
<td>Float</td>
<td></td>
<td>The base price for a base unit of measure for an item.</td>
</tr>
<tr>
<td>item_sku</td>
<td>String</td>
<td></td>
<td>The stock keeping unit for an item.</td>
</tr>
<tr>
<td>item_barcode</td>
<td>String</td>
<td></td>
<td>The bar code for an item.</td>
</tr>
<tr>
<td>item_gtin</td>
<td>String</td>
<td></td>
<td>The global trade item number for an item.</td>
</tr>
<tr>
<td>item_eff_dt</td>
<td>Date</td>
<td></td>
<td>The effective date for an item.</td>
</tr>
<tr>
<td>item_eol_dt</td>
<td>Date</td>
<td></td>
<td>The end of life date for an item.</td>
</tr>
<tr>
<td>item_base_cost</td>
<td>Float</td>
<td></td>
<td>The base cost amount for an item.</td>
</tr>
</tbody>
</table>

**SalesOrg**

The **SalesOrg** subject identifies the sales organization of the enterprise.

**SalesOrg** subject attributes include:
### Reference Tables

Omni-Gen™ for Customer also includes the following reference tables. These reference tables contain the acceptable list of values for the codes that appear on the Customer and SalesOrder tables.

- **Account Type.** Identifies the possible types of accounts, such as customer or vendor.
- **Address Status.** Identifies the possible status for an address, such as pending, active, or expired.
- **Address Types.** Identifies the acceptable values for the customer’s address type, such as sold to, ship to, bill to, and corporate.
- **Age Generation.** Identifies the acceptable values for the customer’s generation as derived from their data of birth, such as Greatest, Silent, Baby Boomer, Gen X, Gen Y, or Gen Z generations.
- **Communication Status.** Identifies the status for a given email or phone number, such as unconfirmed, opt-in, opt-out, or unsubscribed.
- **Contact Types.** Identifies the primary type for a contact, such as buyer, planner, account payable, or delivery receipt.
- **Credit Rating Types.** Identifies the acceptable values for the customer’s credit rating, such as Prime, High, Speculative, Default Imminent, or In Default.

---

<table>
<thead>
<tr>
<th>Name</th>
<th>Data Type</th>
<th>Reference Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sales_org_name</td>
<td>String</td>
<td></td>
<td>The textual name for a sales organization.</td>
</tr>
<tr>
<td>sales_org_desc</td>
<td>String</td>
<td></td>
<td>The textual description for a sales organization.</td>
</tr>
<tr>
<td>sales_org_start_dt</td>
<td>Date</td>
<td></td>
<td>The start date for a sales organization.</td>
</tr>
<tr>
<td>sales_org_end_dt</td>
<td>String</td>
<td></td>
<td>The end date for a sales organization.</td>
</tr>
<tr>
<td>primary_geo_area</td>
<td>Reference</td>
<td>Geographic Area Types</td>
<td>The primary geographic area assigned to a sales organization.</td>
</tr>
</tbody>
</table>
Customer Priority Types. Identifies the acceptable values for the customer's assigned priority, such as Top 10, High, Medium, Normal, or Low.

Email Types. Identifies the acceptable values for the customer’s email address, such as home, office, or personal.

Employment Status Types. Identifies the acceptable values for the customer’s employment status, such as Full time, Part time, Unemployed, or Retired.

Ethnicity Types. Identifies the acceptable values for the customer’s ethnicity, such as Asian, Black/African American, Caucasian, Hispanic, or American Indian.

Geographic Area Types. Identifies the acceptable values for the customer’s geographic area or region as derived from their address, such as the Southern, Western, Eastern, or Northern.

Gender Types. Identifies the acceptable values for the customer’s gender, such as Male, Female, Non-binary, or Other.

Marital Status Types. Identifies the acceptable values for the customer’s marital status, such as Never married, Married, Divorced, Separated, Domestic Partner, or Widowed.

Order Priority Types. Identifies the acceptable values for the customer’s order priority, such as Top 10, Customer Expedited, High, Standard, or Low.

Order Line Status. Identifies the possible status for a line item on a sales or vendor purchase order.

Order Status. Identifies the possible status for a sales or vendor purchase order.

Order Types. Identifies the possible types of sales orders, such as blanket or standing.

Phone Types. Identifies the acceptable values for the customer’s phone number, such as home, office, FAX, or mobile.

Unit of Measure. Identifies the available units of measure for quantities of an item.

Data Quality Rules

This section provides a reference for the applicable Data Quality (DQ) rules (Cleansing, Matching, Merging, and Remediation).

Cleansing

Names
If name parts are populated, then you can populate full name. If full name is populated, then parse full name to populate name parts.

Requirements

- None

Tags

- ERR_NAME_BLANK
- ERR_LAST_NAME_BLANK

Social Security Number

Standardize SSNs to xxx-xx-xxxx. You can tag invalid or questionable values.

Requirements

- None

Tags

- ERR_SSN_NO_9_DIGIT
- ERR_SSN_ZEROS_IN_GROUP
- ERR_SSN_UNACCEPTED_NUMBER
- ERR_SSN_USED_FOR_ADVERT
- ERR_SSN_BLACKLISTED
- ERR_SSN_ZEROS_ADDED
- ERR_SSN_NOT_A_SSN

Email

Validate email addresses.

Requirements

- None

Tags

- ERR_EMAIL_INVALID
- ERR_EMAIL_TLD_MISSING
Data Quality Rules

- ERR_EMAIL_DOMAIN_ONLY
- ERR_EMAIL_AT_SIGN_MISSING
- INF_EMAIL_SUSPICIOUS
- INF_EMAIL_CLEANSED
- ERR_EMAIL_WEB_ADDRESS

Phone

Validate phone numbers and standardize to (xxx) xxx-xxxx format.

Requirements

- None

Tags

- ERR_PHONE_NOT_A_NUMBER
- ERR_PHONE_TOO_SHORT
- ERR_PHONE_BLACKLISTED
- ERR_PHONE_AREACODEINVALID
- ERR_PHONE_CO_CODE_INVALID

Date of Birth

Requirements

- None

Tags

- ERR_DOB_BLACKLISTED
- ERR_DOB_IN_FUTURE

Country

Standardize to the ISO3 country code.

Requirements

- None
Tags

- ERR_UNRECOGNIZED
- ERR_AMBIGUOUS

Address
Cleanse, enhance, standardize, and geocode addresses.

Requirements

- Loqate for address cleansing and verification

Tags

- ERR_ADDRESS_INVALID

Matching

Matching is performed based on the following attributes:

- SSN
- DOB
- Full Name and Name Parts
- eMail
- Phone Number
- Address

Each attribute has a weight assigned, based on the uniqueness of the attribute. Attributes may have reduced weighting where values do not have exact matches or contain transpositions. Attributes unique to the subject may have negative weighting when the values are completely or somewhat different.

It is considered a **Strong** match when the total combined score of the match is greater to or equal 200 and a **Potential** match when greater to or equal to 130 but less than 200.

Records considered as a **Potential** match have a matching ticket created so as to have an individual manually review the low-quality match for accuracy.
Merging

Merging is performed differently based on the subject. The mastered subjects are merged to create a representative view of the entity. The child subjects are sometimes merging the instances to create a representative view of the entity, while other times preserving all records in the subject.

- **Customer.** Instance records are merged to form a single, representative view of the Customer. The most recent, non-blank values are selected.

- **Email.** For each email type, select the non-blank value with the least ERR_, WRN_, or INF_ tags associated.

- **Phone.** For each phone type, select the non-blank value with the least ERR_, WRN_, or INF_ tags associated.

- **Account.** All unique account records create golden accounts.

- **Account Team.** All unique account team records create golden account teams.

- **Contact.** All unique contacts create golden contacts.

- **Address.** All unique addresses create golden addresses.

- **CustDemographics.** The customer demographics record with the most complete data create the golden customer demographics.

Remediation

Remediation creates the following two types of tickets:

- **Cleansing.** Cleansing tickets are created whenever the tag begins with ERR_. For a complete list of potential tags generated, see Cleansing on page 80.

- **Matching.** Matching tickets are created when the match quality is only considered to be a Potential match. For more information on match quality, see Matching on page 83.
Chapter 5

Loading Sample Data

This section describes how to load sample data for Omni-Gen™ for Customer.

In this chapter:

- Accessing the Sample Data
- Create the Database Connection
- Load the Omni-Gen Relational OnRamp Tables

Accessing the Sample Data

After Omni-Gen™ for Customer is installed, sample data, including Data Quality (DQ) plans that you can edit and run, is available in the following location:

C:\omnigen\OmniGenData\OmniCustomer\OmniGen

The following image shows the contents of this folder.
Open iWay Data Quality Server (DQS) and verify or change the perspective in the upper-right corner to iWay DQS, as shown in the following image.

There are two ways you can access the sample data for Omni-Gen™ for Customer:

1. Using the File Explorer tab.
   - Simply browse to the following folder in the File Explorer tab:
     
     C:\omnigen\OmniGenData\OmniCustomer\OmniGen

   Double-click 01_LoadRamp.plan, which opens the selected plan as a tab in your workspace area, as shown in the following image.

   You can modify, save, and run the sample DQ plans as required.

2. Importing the \OmniGen folder into your workspace.
   a. Right-click DQ Projects in the File Explorer tab and select Import from the context menu.
      
      The Import dialog opens.
   b. Expand General, select Existing Projects into Workspace, and then click Next.
      
      The Import Projects pane opens.
c. Ensure *Select root directory* is selected and click *Browse* to the right of this field.

d. Browse to the following folder:

   C:\omnigen\OmniGenData\OmniCustomer\OmniGen

e. Ensure the *OmniGen* folder is selected and then click *Finish*.

   The project is loaded as *OmniGenForCustomer-loadRamp*, which contains a subfolder called *data*, and five DQ plans:

   - 01_LoadRamp.plan
   - 02.1_LoadRampControl-SalesOrg.plan
   - 02.2_LoadRampControl-Item.plan
   - 02.3_LoadRampControl-Customer.plan
   - 02.4_LoadRampControl-SalesOrder.plan

f. Double-click *01_LoadRamp.plan*, which opens the selected plan as a tab in your workspace area, as shown in the following image.

![Image of file explorer showing project structure]

You can modify, save, and run the sample DQ plans as required.

**Create the Database Connection**

You must now create a database connection, which is used by the Data Quality (DQ) plans.
Note: The database connection you create in iWay DQS must match the database properties that you defined for the combined Omni-Gen Server (OGS) and Remediation database during the Omni-Gen™ for Customer installation. For example, the database name must match in both areas. To review the installation, see Step 20 in How to Install Omni-Gen Server and Omni Governance Console on Windows on page 17.

To create a database connection:

1. Right-click Databases and select New Database Connection from the context menu, as shown in the following image.

The Edit Database Connection dialog opens, as shown in the following image.
2. From the Database type drop-down list, select the same database you specified to use for the combined Omni-Gen Server (OGS) and Remediation database during the Omni-Gen™ for Customer installation.

3. Enter OmniGenDatabase as the connection name followed by the connection parameters (including your user name and password).

   All of the connection parameters (including the database name) must match the database properties you defined for the combined Omni-Gen Server (OGS) and Remediation database during the Omni-Gen™ for Customer installation.

   If your database type is not available in the drop-down list, create it by:

   a. Clicking Manage.

   b. Selecting your database type (for example, MS SQL).

   c. Clicking Add.

4. Click Test Connection to verify your connection parameters.

   A success message is displayed if your database is accessible and all of your connection parameters are valid, as shown in the following image.
5. Click OK and then Finish to complete the process of adding a database connection.

Load the Omni-Gen Relational OnRamp Tables

You must now load the sample data to the Omni-Gen Relational OnRamp tables and execute the job to process the data using Omni-Gen.

To load the Omni-Gen Relational OnRamp:

1. In the File Explorer tab, double-click 01_LoadRamp.plan, as shown in the following image.
The 01_LoadRamp.plan opens as a tab in your workspace area, as shown in the following image.
2. Right-click anywhere in the white space area of the opened plan and select Run from the context menu, as shown in the following image.
Once the process is complete, a success message is displayed, as shown in the following image.

If you encounter any errors, then you must verify if you require a schema in your SQL statement by double-clicking on each of the JDBC Writer steps and changing the Table Name as required.

To process the data, continue in iWay DQS to load the sample data from the ramp into Omni-Gen.
3. Double-click 02.1_LoadRampControl-SalesOrg.plan, as shown in the following image.

4. Right-click anywhere in the white space area of the opened plan and select Run from the context menu, as shown in the following image.

Once the process is complete, a success message is displayed.
During the process, you can switch to the Omni Console (Processing --> Work Orders) to verify that the work order is set to ACTIVE.

5. Repeat steps 3 and 4 for the following remaining DQ plans:
   - 02.2_LoadRampControl-Item.plan
   - 02.3_LoadRampControl-Customer.plan
   - 02.4_LoadRampControl-SalesOrder.plan
Load the Omni-Gen Relational OnRamp Tables
This section describes how to synchronize internal data structures using Omni Governance Console (OGC) when adding a new subject.

In this chapter:

- Functional Overview
- Using WSO2 Identity Server and MData Synchronization
- Configuring the Environment

Functional Overview

WSO2 Identity Server and MData synchronization consists of two parts:

- **Interaction with OmniDomain.** To synchronize the internal data structure (referred to as MData) of OGC.

- **Interaction with WSO2.** To synchronize permissive mechanisms of the OGC application.

Using WSO2 Identity Server and MData Synchronization

This section describes the prerequisites and steps performed when using the WSO2 Identity Server and MData Synchronization projects.

Prerequisites

The synchronization functionality is intended for use only in OGS Development mode.
To set this mode, click the Configuration drop-down list, then click the Runtime option in the left pane. In the Runtime section that appears, select the Omni Server Mode setting and set the Value to DEVELOPMENT to enable the functionality, as shown in the following image.

![Configuration: Runtime](image)

**Note:** If OGS is unresponsive (because it is not started or in error), the sync function will be disabled.

**Using Synchronization**

When a new subject(s) is imported into the system, or when the structure of the current one is being altered, you will need to synchronize the updated data structure and the previously existing structure in OGC.

Initialization of the synchronization process can be performed by OGC and consist of the following parts:

- Analysis for the sync (and optional customization)
- Actual synchronization by the results of the previous action

The following is a sample synchronization process workflow of actions.
**Step 1: Initialization of the Analysis for the Sync**

From the OGC Application, click *Login*, select *Administration*, click the Sources tab, and then click *Sync*, as shown in the following image.

![Login screen](image)

**Step 2: Progressing the Analysis**

The analysis for the synchronization process begins, and the status bar displays the dynamic progression status, as shown in the following image.

![Progression status](image)
Step 3: Summarizing the Analysis

After the analysis is complete, a summary of the proposed synchronization appears, as shown in the following image.

Step 4: Viewing Analysis Details

Expand View Details to see the details of the potential update. View Details refers only to the actions modifying the OGC MData structure. To see the details for the WSO2 modifications, click the Details link by the respective summary items, as shown in the following image.
The following image shows the Details link for the Role(s) to be assigned to users found entry.

Step 5: Customizing Roles/Users to be Synchronized (Optional)

By default, four users (ds_a, ds_b, super_a, and super_b) are granted all the new domain roles (for example, permission to access the new Domains or Subjects). If you need to customize those defaults, click Edit.

A dialog appears, allowing you to refine the assigned domain roles. You can add/remove new domain roles and users, and the relations between them, as shown in the following image.
Step 6: Customizing Updated Policies

By default, new domain roles are added to all role sections in policies. If you need to change the default, click *Edit*. A dialog defining which domain roles refer to what role sections in all policies appears. You can match new domain roles to regular roles, as shown in the following image.

![Customizing Updated Policies](image)

Step 7: Executing the Actual Synchronization

Click *Apply Changes* to start the actual synchronization process.
The Loading message appears, as shown in the following image.

Step 8: Summarizing the Synchronization

When the synchronization is complete, a summary appears displaying the synchronization details, as shown in the following image.

After all steps have been completed, the OGC application is completely in sync with the new OGS data structure, and fully functional in using the new data.

Configuring the Environment

The following SSL certificates setup occurs when using the synchronization functionality of your environment (for example, IntellijIdea, Eclipse, and so on) with the OGS deployed on a secured gateway (HTTPS).
Note: Perform the following steps only if you are running it in your IDE.

1. Add the new VM argument to your running configuration:

   ```
   -Djavax.net.ssl.trustStore=[path_to_certificates]\ibi-certs
   -Djavax.net.ssl.trustStorePassword=changeit
   -Dhttps.protocols=TLSv1.1,TLSv1.2
   ```

   where:

   ```
   ibi-certs
   ```

   Is the name of the key storage.

2. Open Run\Debug Configurations and append the new arguments to the Command line field, as shown in the following image.

![Run Debug Configurations](image)

3. Copy the required certificate from the OGS location to your computer. For example:

   ```
   ..\[OGS_HOME_DIR]\omnigen\OmniGenData
   ```

4. Copy the following files:

   - ibi-certs
   - omnigenstore
   - omnigenstore.pem

   Note: The certificate can change from time to time. If this happens, you will have to update them.

5. Install JDK 1.7 with an update numbered 99 or higher, otherwise requests will fail even with the correct certificates.
6. After installation is complete, click *File*, select *Project Structure*, and then link Project SDK to the proper location, as shown in the following image.
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