TIBCO Omni-Gen®

Address Cleansing (Loqate) Installation and Configuration Guide

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Chapter 1

TIBCO Omni-Gen® DQ Workbench Extended Support for Address Cleansing

TIBCO Omni-Gen® MDM edition and Omni-Gen® DQ edition version 3.2 provide support for address cleansing operations in the Omni-Gen DQ Workbench, which is accessible through the Omni-Gen Governance Console. These address cleansing operations require the installation of the Loqate component. The files required to install Loqate are provided in a separate installer and will be prepackaged into the standard Omni-Gen installer distribution in a future release of the Omni-Gen® MDM edition and the Omni-Gen DQ edition. To obtain the Loqate installer and the required license key, contact iWay Customer Support.

In this chapter:

- Installing Loqate on Windows
- Installing Loqate on Linux
- Testing Address Cleansing Operations

Installing Loqate on Windows

Loqate is used to enable address cleansing operations in the Omni-Gen DQ Workbench. Loqate must be installed on the system where Omni-Gen is currently running. Loqate must be installed with an associated license key based on your purchase of Omni-Gen MDM edition or Omni-Gen DQ edition. If you do not have a license key for Loqate, then contact iWay Customer Support.

Procedure: How to Install Loqate on Windows

You must stop Omni-Gen Server and all Omni-Gen services before installing Loqate. To install Loqate on Windows platforms:

1. Create the following folder on your file system:

   ```
   C:\loqate
   ```

2. Open a Windows command prompt, and make sure to run it as administrator.
3. Type the following to change directories and press *Enter*.

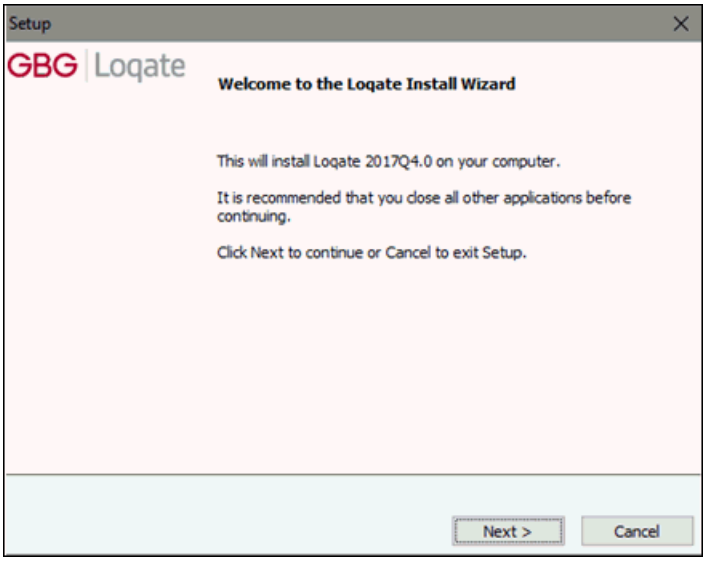
   ```
   cd \omnigen\omniserver
   ```

4. Type the following command and press *Enter*.

   ```
   omni stop-all
   ```

5. Right-click the provided *setup_64.exe* installation file for Loqate, and select *Run as Administrator* from the context menu.

   The GBG Loqate Setup installation wizard opens and initially displays a Welcome screen, as shown in the following image.

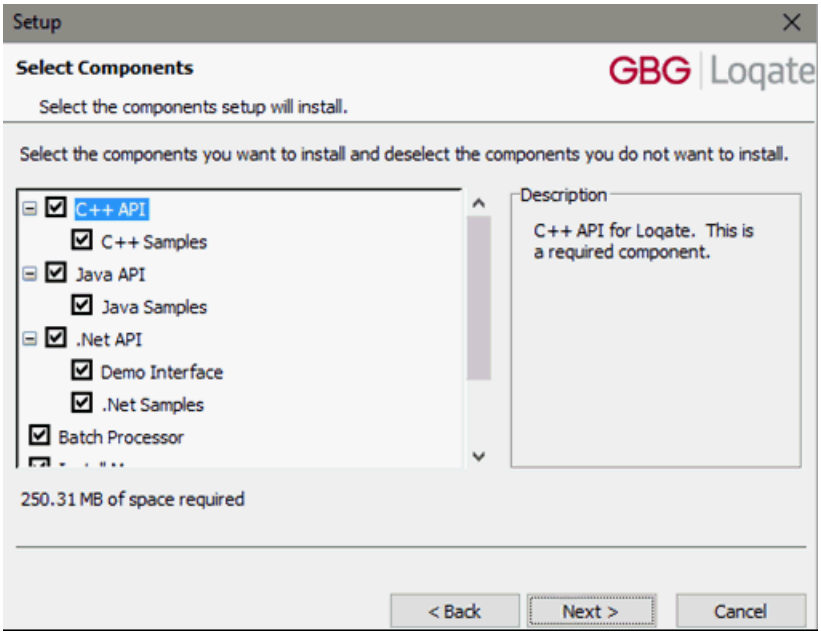


6. Click *Next*.

The License Agreement screen opens, as shown in the following image.

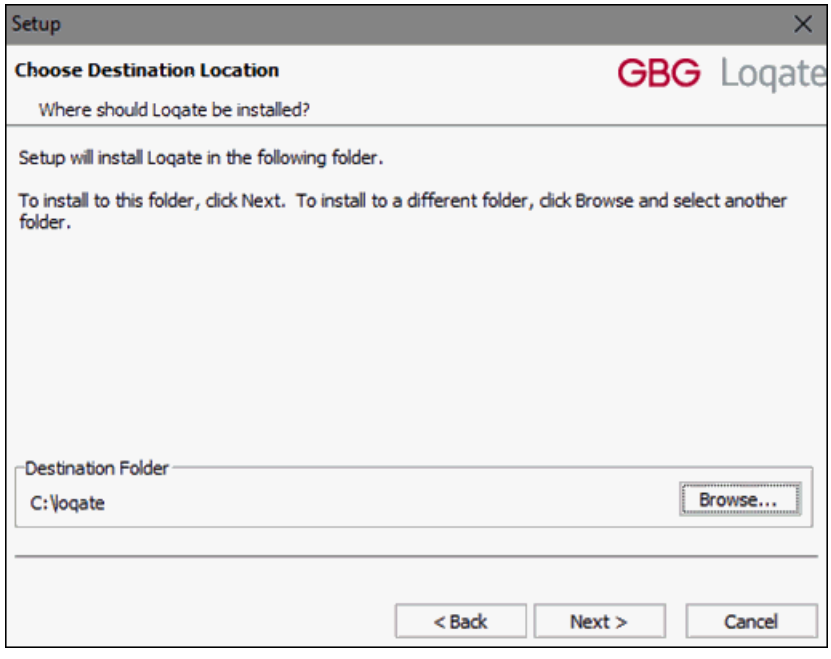
7. Select *I accept the terms of the license agreement* and then click *Next*.

The Select Components screen opens, as shown in the following image.



8. Accept all of the components that are selected by default for installation and then click *Next*.

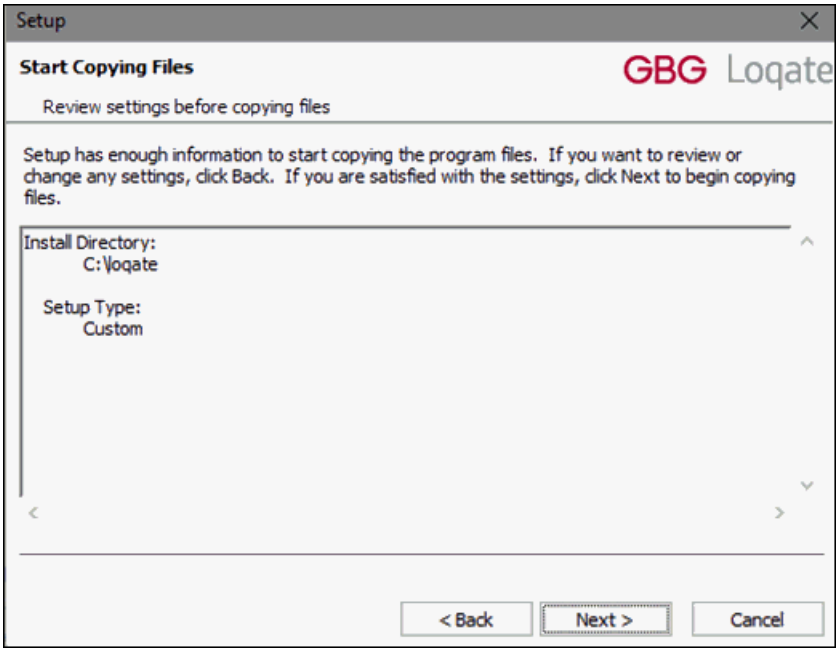
The Choose Destination Location screen opens, as shown in the following image.



Note: The recommended installation location (destination folder) is *C:\loqate*, which matches the default location that is specified in the Omni-Gen 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 Omni-Gen DQ cleansing plan with your specific path.

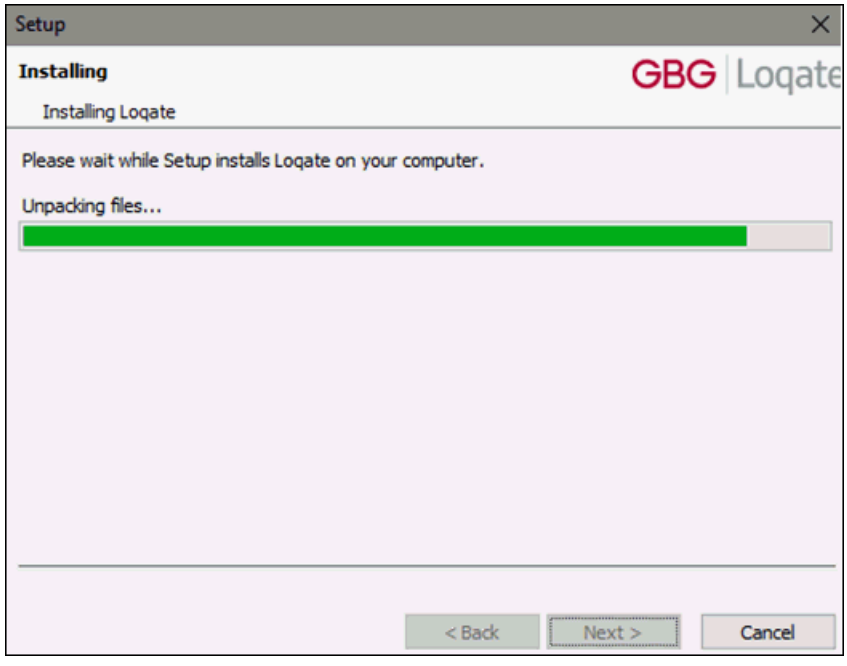
9. Ensure that *C:\loqate* is specified as the destination folder and then click *Next*.

The Start Copying Files screen opens, as shown in the following image.

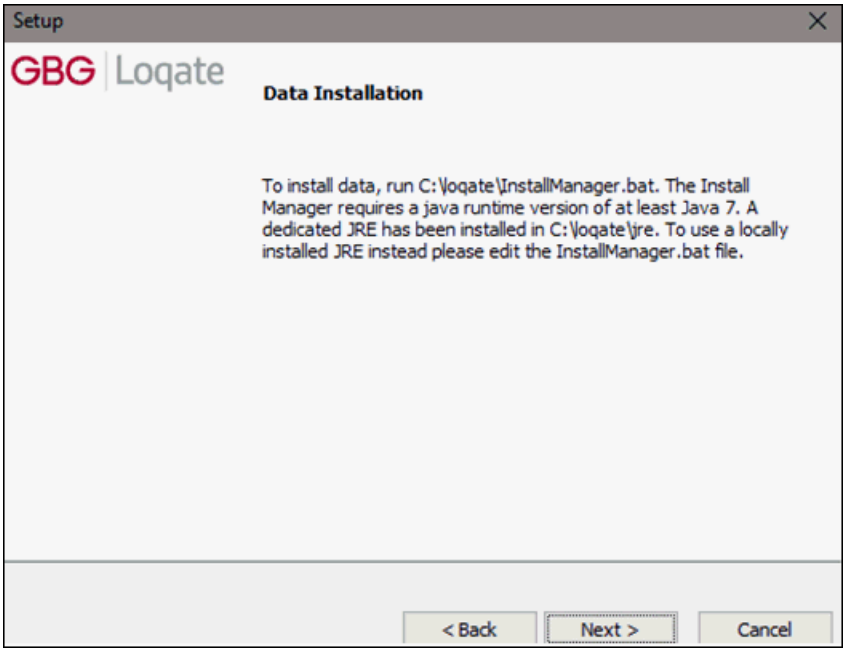


10. Click *Next*.

The Installing screen opens and displays a progress bar for the Loqate installation, as shown in the following image.

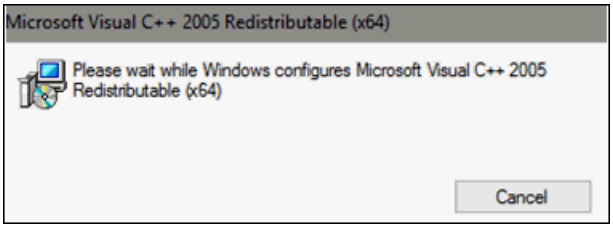


During the installation, the Data Installation screen opens, as shown in the following image.

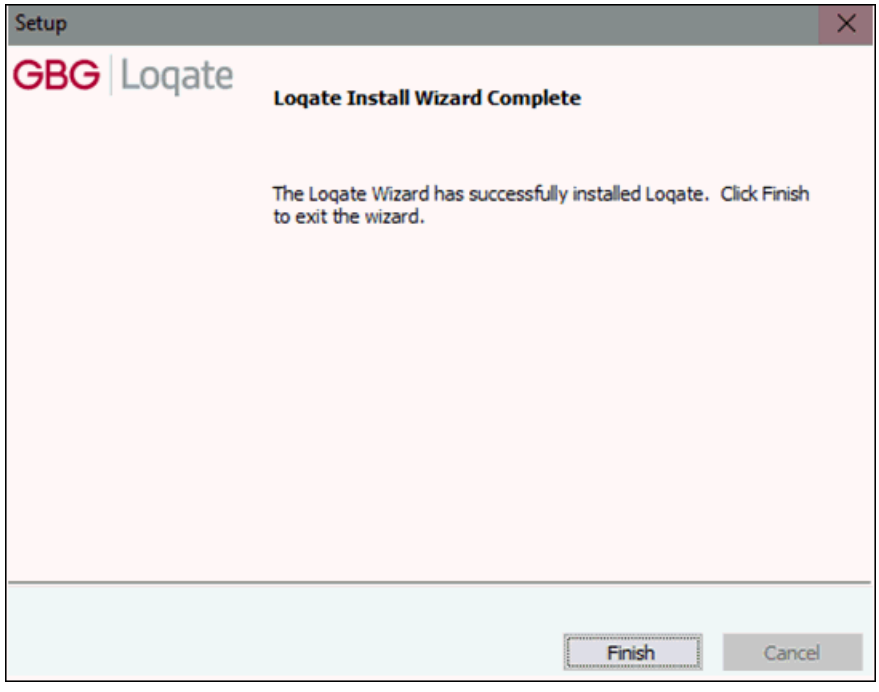


11. Click *Next* to continue.

    A Microsoft Visual C++ 2005 Redistributable (x64) pop-up dialog may open, which you can ignore, as shown in the following image.



When the installation is complete the Loqate Install Wizard Complete screen opens, as shown in the following image.



12. Click *Finish*.

    Verify that your system PATH environment variable has been updated to include the Loqate installation location (for example, *`C:\loqate`*).

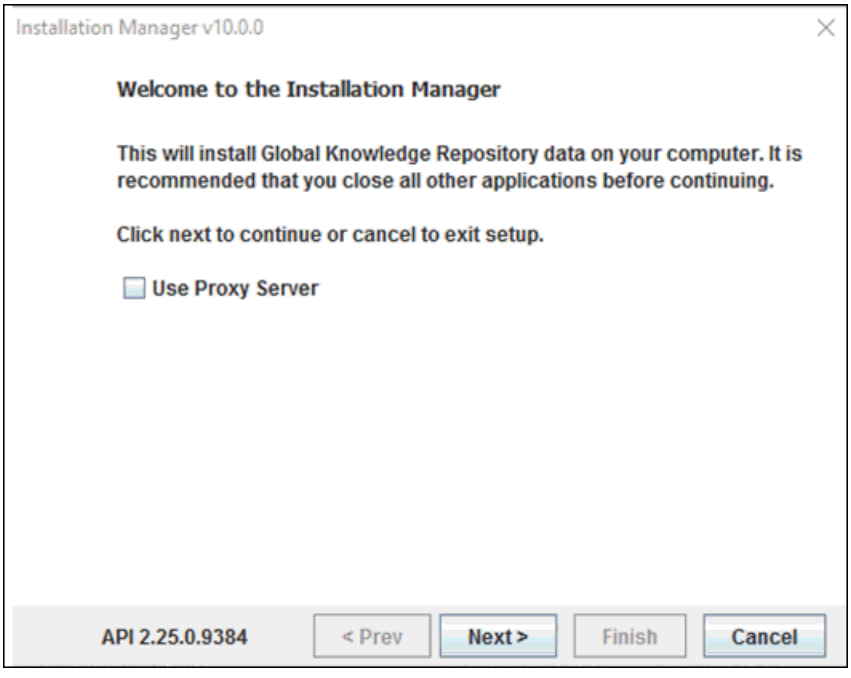
    You are now ready to install Global Knowledge Repository data on your system.

13. On your file system, navigate to the Loqate installation directory. For example:

    ```
    C:\loqate
    ```

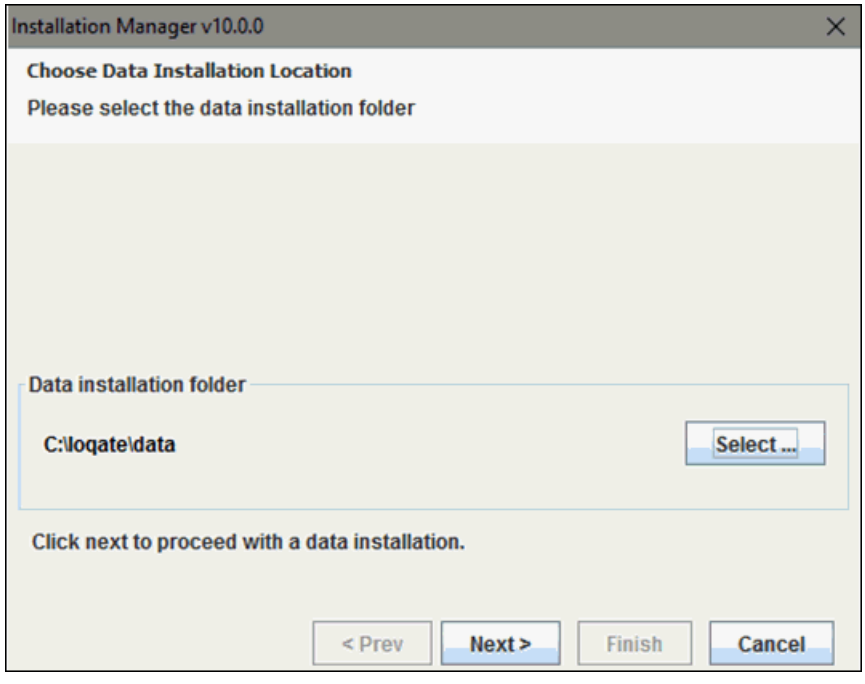
14. Right-click the *InstallManager.bat* file, and select *Run as Administrator* from the context menu.

The Installation Manager v10.0.0 wizard opens and initially displays a Welcome screen, as shown in the following image.



15. Click *Next*.

The Choose Data Installation Location screen opens, as shown in the following image.



16. Click *Select*.

    The Select Data Install Folder screen opens.

17. Navigate to (and select) the following directory:

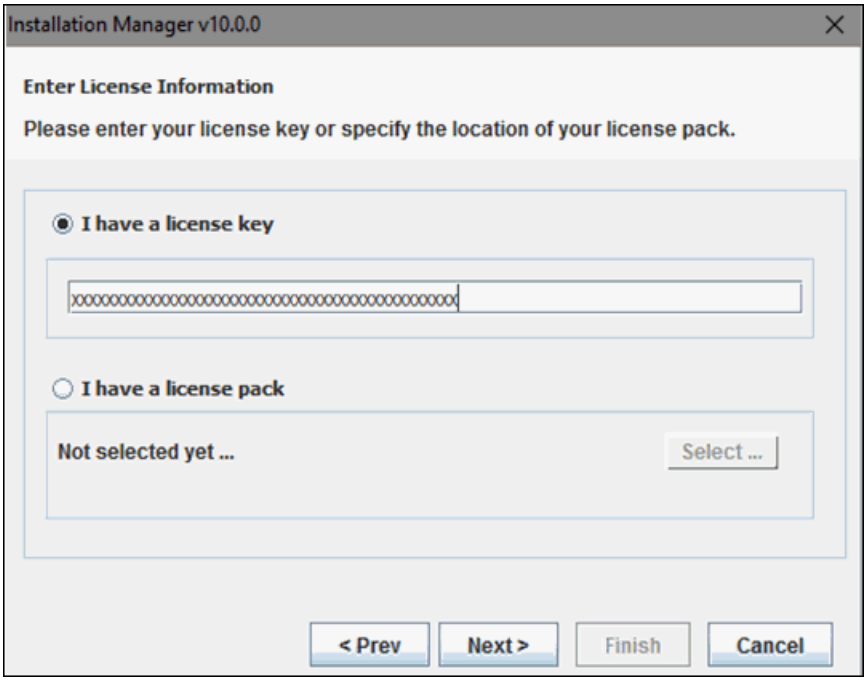
    `C:\loqate\data`

18. Click *OK*.

    You are returned to the Choose Data Installation Location screen.

19. Click *Next* to continue with the installation.

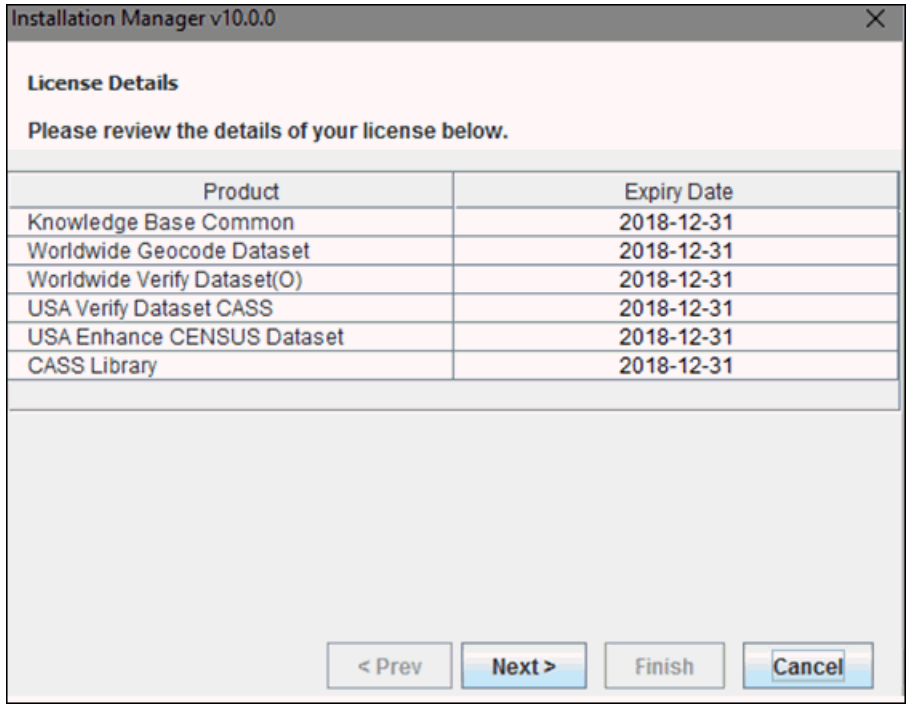
The Enter License Information screen opens, as shown in the following image.



20. Enter the license key that is included with your purchase of Loqate, and then click *Next*.

    For more information about obtaining a license key, contact iWay Customer Support.

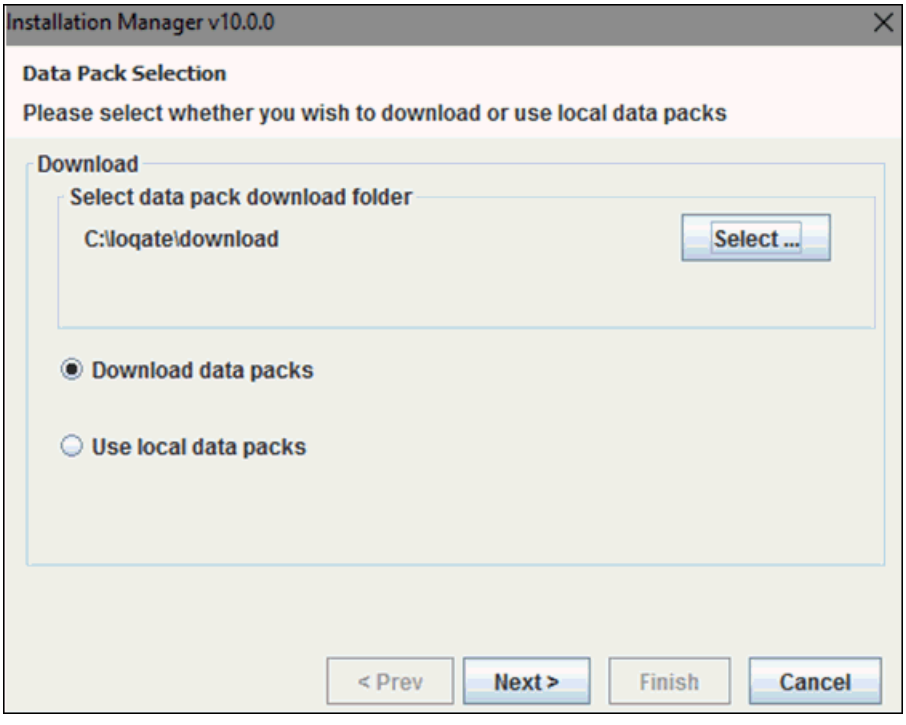
The License Details screen opens, as shown in the following image.



Note: The list of products that is displayed will vary depending on your license.

21. Confirm the license details and then click *Next*.

The Data Pack Selection screen opens, as shown in the following image.



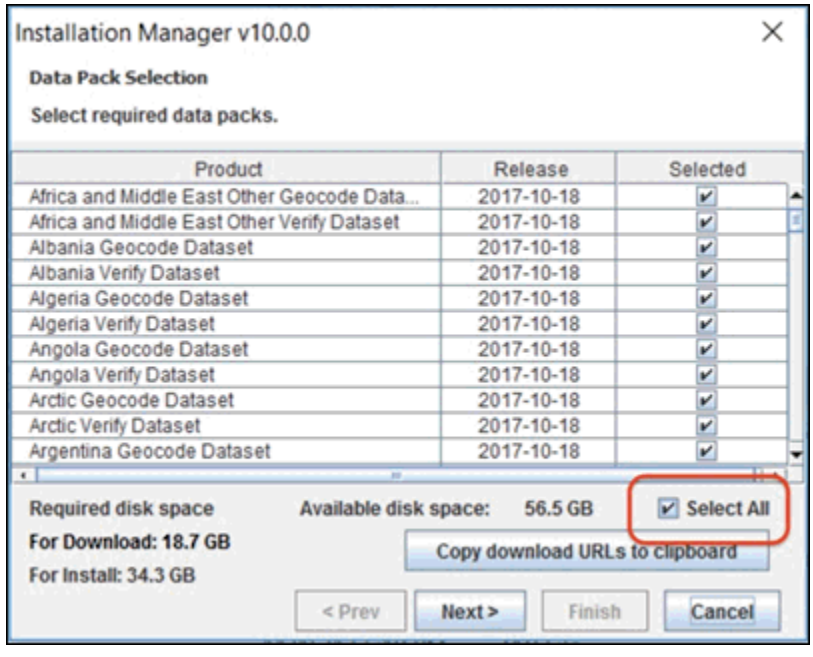
22. Click *Select*.

    In the dialog that opens navigate to (and select) the location of the data pack download folder. For example:

    ```
    C:\loqate\download
    ```

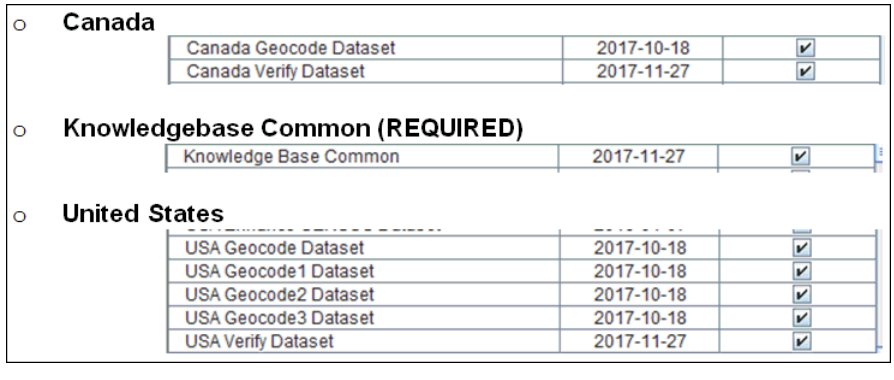
23. Click *OK* to close the dialog and then click *Next* on the Data Pack Selection screen to continue.

24. Deselect the *Select All* check box, as shown in the following image.



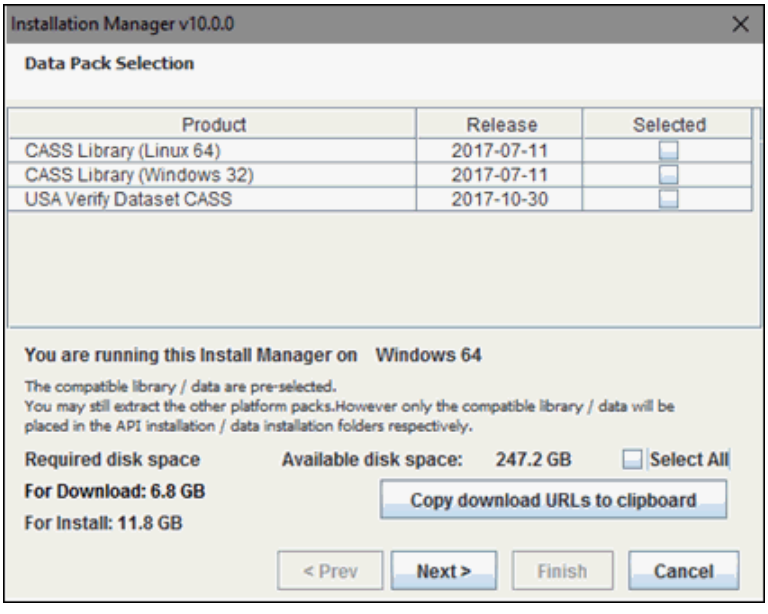
Note: The list of products that is displayed will vary depending on your license.

25. In the list of data packs, select only the data packs that are shown in the following image.

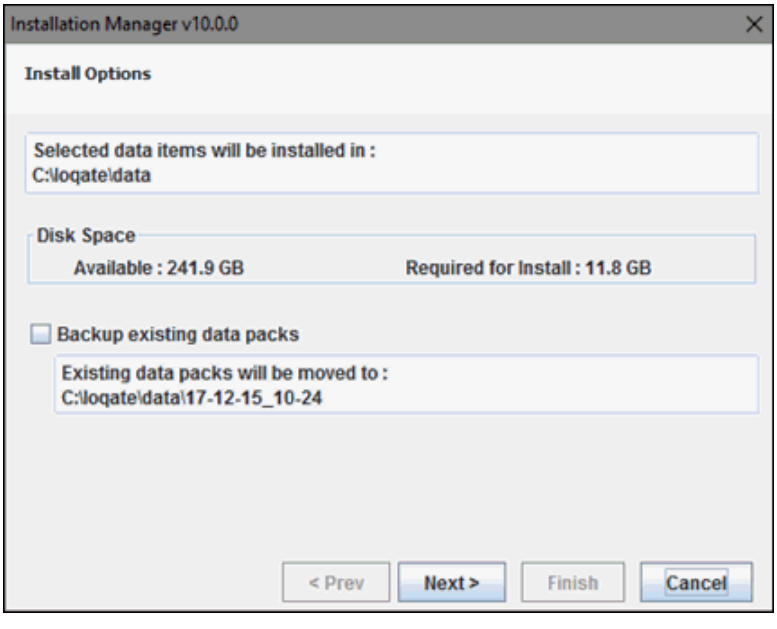


26. Click *Next* to continue.

27. Deselect all CASS library data packs, and then click *Next*, as shown in the following image.



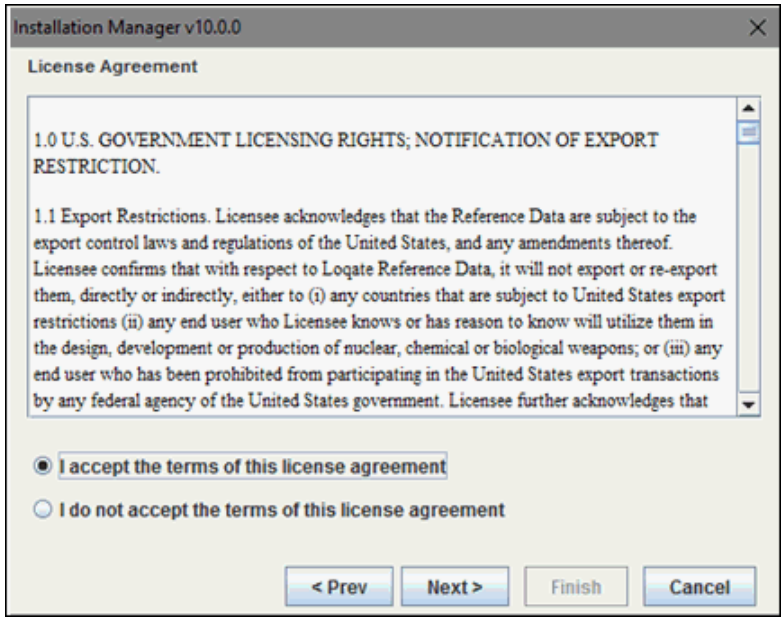
The Install Options screen opens, as shown in the following image.



The download proceeds and displays its progress.

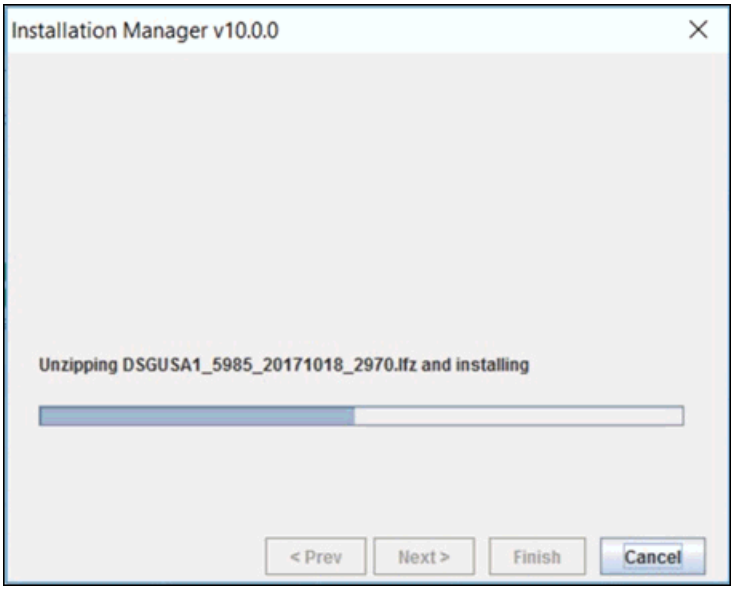
28. Wait for the download to complete, which can take a few minutes, and then click *Next* to continue.

    The License Agreement screen opens, as shown in the following image.



29. Select *I accept the terms of the license agreement* and then click *Next*.

The installation of the selected country data packs begins, which is indicated by a progress bar, as shown in the following image.



30. When the installation is complete, click *Finish*.

    After you have finished downloading and installing the country data packs for Loqate, you must install the address cleansing metadata for Omni-Gen to enable address cleansing operations within Omni-Gen DQ Workbench.

    Note: If Omni-Gen Server was running during the Loqate installation, then Omni-Gen Server must be restarted and you must restart all Omni-Gen services.

    The address cleansing metadata consists of the following two files:

    - complex_address_cleanse_STRING.comp
    - complex_address_cleanse_STRING.xml

31. Download these files from the TIBCO Support Portal (*https://support.tibco.com/*) along with the appropriate Omni-Gen installer.
32. Copy these two files from the download location to the following folder:

    ```
    <OmniHome>\OmniGenData\OmniDesigner\.repositoryservice\Operations
    \cleanse\complex
    ```

33. Start Omni-Gen Server.

Installing Loqate on Linux

Loqate is used to enable address cleansing operations in Omni-Gen DQ Workbench, which is accessible through Omni-Gen Governance Console. Loqate must be installed on the system where Omni-Gen is currently running. Loqate must be installed with an associated license key based on your purchase of Omni-Gen MDM edition or Omni-Gen DQ edition. If you do not have a license key for Loqate, then contact iWay Customer Support.

Procedure: How to Install Loqate on Linux

To install Loqate on Linux platforms:

1. Navigate to the directory containing the installation file (*loqate_installer_x86_64*), and execute the Loqate installer. For example:

```
# ./loqate_installer_x86_64

This will install Loqate on your computer.  Continue? [n/Y] y

1.0    U.S. GOVERNMENT LICENSING RIGHTS; NOTIFICATION OF EXPORT
RESTRICTION.

........
........
........

Spain    "Información geográfica propiedad del CNIG"

Sweden    "Based upon electronic data    National Land Survey Sweden."

Switzerland    "Topografische Grundlage:    Bundesamt für
Landestopographie."
```

2. Accept the license agreement by typing *y* and pressing *Enter*, as shown below.

```
Do you agree to the license? [y/n] y
```

3. Enter the location on your system where you want to install Loqate (for example, */software/loqate*), as shown below.

```
Where do you want to install Loqate? [/opt/loqate] /software/loqate
```

   A prompt appears, asking you to select the components to install, as shown below.

```
Please select the components to install. Items to install marked with
asterisk

* 1. Install Manager
* 2. Sample US Data
* 3. Java API
* 4. Node Collector
* 5. C++ API (required)
* 6. Batch Processor
* 7. Java Samples
* 8. Central Collector
* 9. C++ Samples
  10. Done

Select a component: 10
```

4. Type *10* to select all of the components and press *Enter*.

   The Loqate installation is started and a notification appears when the installation is complete, as shown below.

```
Installing Loqate...
Installing C+
+...

Installing C++
Samples...

Installing
Java...

Installing Java
Samples...

Installing
Batch...

Installing Batch
Samples...

Installing
SAMPLEDATA_LIN...

Installing
IM_LINUX64...

Installing
NC_LINUX64...

Installing
CC_LINUX64...

To install data, cd /software/loqate then run ./InstallManager.sh. The
Install Manager requires a java runtime version of at least Java 7. A
dedicated JRE has been installed in /software/loqate/jre. To use a
locally installed JRE instead please edit the InstallManager.sh file.
Please note that you may need to change the permissions of both the
InstallManager.sh file and jre directories to allow your user to run
these
applications.
Installation complete.
```

Procedure: How to Download and Install the Loqate Data Packs

To download and install the country data packs for Loqate:

1. Change your directory to */software/loqate*, as shown below.

   ```
   # cd /software/loqate/
   ```

2. Execute the *InstallManager.sh* executable file, as shown below.

```
# ./InstallManager.sh
Native library STLPort failed to load, ignore this if not using solaris
OS.
java.lang.UnsatisfiedLinkError: no stlport in java.library.path
Welcome to the Installation Manager - version 10.0.0
Running using local API version 2.25.1.9411
```

A prompt appears, asking if your network communication passes through a proxy server, as shown below.

```
Does your network communication pass through a proxy server (y/n)?
```

3. Type *n* and press *Enter*.
4. Enter the location on your system where you want to install the data packs (for example, */software/loqate/data*), as shown below.

```
Please enter the path to the data installation folder
/software/loqate/data
Valid folder found. Proceeding with a data installation.
```

A prompt appears, asking you for a license key, as shown below.

```
Please select from below:
Enter 1 if you have a license key
Enter 2 if you have a license pack
Enter 3 to exit
1
```

5. Type *1* and press *Enter*.
6. Type the supplied license key and press *Enter*, as shown below.

```
Please enter the license key: <enter_your_license_key_here>

Contacting license server to validate the license key.
++++
Details of your current license
-------------------------------------------

-----------------------------------------------------
Product                         Expiry Date
-----------------------------------------------------
Knowledge Base Common           2018-12-31
Worldwide Geocode Dataset       2018-12-31
Worldwide Verify Dataset(O)     2018-12-31
USA Verify Dataset CASS         2018-12-31
USA Enhance CENSUS Dataset      2018-12-31
CASS Library                    2018-12-31
-----------------------------------------------------
```

A prompt appears, asking you to select how you want to download and install the data packs, as shown below.

```
Please select from below:
Enter 1 if you want to download the data packs but not install
Enter 2 if you want to download and install the data packs
Enter 3 if you want to install using your locally available data packs
Enter 4 to exit
2
```

7. Type *2* and press *Enter* to download and install the data packs.
8. Enter the location where you want to store the downloaded data packs (for example, */software/loqate/download/*), as shown below.

```
Please enter a valid download folder path
/software/loqate/download
Processing.
Fetching information from server about the available data packs.

Contacting license server for information on available updates.
+++
Done fetching information from server regarding available data packs.
-----------------------------------------------------
S.No  Product                        Date of Release
-----------------------------------------------------
1     Africa and Middle East Other Geocode Dataset 2017-10-18
2     Africa and Middle East Other Verify Dataset 2017-10-18
.....
.....
.....
139   Kenya Geocode Dataset          2017-10-18
140   Kenya Verify Dataset           2017-10-18
141   Knowledge Base Common          2017-11-27
142   Kuwait Geocode Dataset         2017-10-18
143   Kuwait Verify Dataset          2017-10-18
.....
.....
.....
270   Turkey Geocode Dataset         2017-10-18
271   Turkey Verify Dataset          2017-10-18
272   USA Enhance CENSUS Dataset     2016-01-07
273   USA Geocode Dataset            2017-10-18
274   USA Geocode1 Dataset           2017-10-18
275   USA Geocode2 Dataset           2017-10-18
276   USA Geocode3 Dataset           2017-10-18
277   USA Verify Dataset             2017-11-27
278   Uganda Geocode Dataset         2017-10-18
279   Uganda Verify Dataset          2017-10-18
.....
.....
.....
```

Note: The available data packs may vary based on your licensing.

9. Enter the corresponding number for each of the following data packs, and press *Enter* after each.

   - ❑ Knowledge Base Common
   - ❑ USA Geocode Dataset
   - ❑ USA Geocode1 Dataset
   - ❑ USA Geocode2 Dataset
   - ❑ USA Geocode3 Dataset
   - ❑ USA Verify Dataset

10. When complete, type *Done* and press *Enter*, as shown below.

```
-----------------------------------------------------
Enter : 1 to install the first Product, 2 to install the second Product
and so on
Enter : all if all products are to be installed
Enter : done to complete the selection of products
Enter your selection:
141
Enter your selection:
273
Enter your selection:
274
Enter your selection:
275
Enter your selection:
276
Enter your selection:
277
Enter your selection:
Done
```

11. If you are prompted for the CASS data packs, type *none* and press *Enter*. Then type *done* and press *Enter*. Otherwise, you can skip this step and proceed directly to step 12.

```
-----------------------------------------------------
S.No  Certification Product          Date of Release
-----------------------------------------------------
1     CASS Library (Linux 64)        2017-07-11
2     CASS Library (Windows 32)      2017-07-11
3     USA Verify Dataset CASS        2017-10-30
-----------------------------------------------------
Enter : 1 to install the first Product, 2 to install the second Product
and so on
Enter : none to skip certification products
Enter : all if all products are to be installed
Enter : done to complete the selection of products

*** Note : You are running Install Manager on Linux 64
You may extract the other platform packs as well.However only the
compatible library / data will be placed in the API installation / data
installation folders respectively
Enter your selection:
none
Skipping Certification products
Enter your selection:
done

LICENSE AGREEMENT
-----------------------------------------
1.0    U.S. GOVERNMENT LICENSING RIGHTS; NOTIFICATION OF EXPORT
RESTRICTION.

......
......
......


Switzerland    "Topografische Grundlage:    Bundesamt für
Landestopographie."
```

12. Accept the license agreement by typing *y* and pressing *Enter*, as shown below.

```
Have you read the license agreement and agree to its contents (y/n)?
y
----------------------------------------
Space available : 53.4 GB
Space required for download : 6.0 GB
----------------------------------------
Downloading data packs.
++++++++++
Completed downloading KBCOMMON_9100_20171127_115.lfz
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++
++++++++++++++++++++
Completed downloading DSGUSA2_5985_20171018_901.lfz
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++
++++++++
Completed downloading DSGUSA_5985_20171018_2642.lfz
++++++++++++++++++++++++++++++++++++++++
Completed downloading DSGUSA1_5985_20171018_2970.lfz
+++++
Completed downloading DSVUSA_5985_20171127_3953.lfz
++
Completed downloading data packs.
----------------------------------------
Space available : 47.3 GB
Space required for install : 10.3 GB
----------------------------------------
Beginning installing of data packs.

Unzipping DSGUSA_5985_20171018_2642.lfz and installing
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Unzipping DSGUSA3_5985_20171018_1.lfz and installing
+
Unzipping DSGUSA1_5985_20171018_2970.lfz and installing
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Unzipping DSGUSA2_5985_20171018_901.lfz and installing
++++++++++++++++++++
Unzipping KBCOMMON_9100_20171127_115.lfz and installing
+++
Unzipping DSVUSA_5985_20171127_3953.lfz and installing
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++
++++++++++
Completed installing the data packs.

Successfully installed the data packs.
```

When you receive a message indicating *Successfully installed the data packs*, then the download and installation process for the Loqate data packs is complete.

Procedure: How to Install Address Cleansing Metadata

After you have finished downloading and installing the country data packs for Loqate, you must install the address cleansing metadata for Omni-Gen to enable address cleansing operations within Omni-Gen DQ Workbench.

1. Start Omni-Gen Server.

   Note: If Omni-Gen Server was running during the Loqate installation, then Omni-Gen Server must be restarted and you must restart all Omni-Gen services.

   The address cleansing metadata consists of the following two files:

   - ❏ complex_address_cleanse_STRING.comp
   - ❏ complex_address_cleanse_STRING.xml

2. Download these files from the TIBCO Support Portal (*https://support.tibco.com/*) along with the appropriate Omni-Gen installer.
3. Copy these two files from the download location to the following folder:

   ```
   <OmniHome>/OmniGenData/OmniDesigner/.repositoryservice/Operations/
   cleansecomplex
   ```

Procedure: How to Set Loqate Environment Variables

Depending on your operating system, you must first modify the *.profile* and *bash_profile* files that are called when opening a shell.

1. Add the following lines at the end of these files:

   ```
   export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/software/loqate
   export LIBPATH=$LIBPATH:/software/loqate
   ```

2. Save and then close these files.
3. Open a new shell to implement any changes that were made to your environment variables.

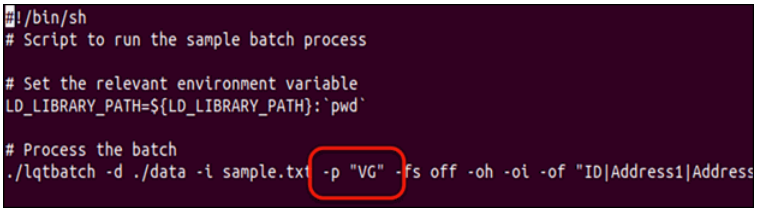
Procedure: How to Verify Loqate Functionality

To verify Loqate functionality:

1. Edit the *runbatch.sh* file, as shown below.

   ```
   # vi runbatch.sh
   ```

2. Modify line 8 by changing *-p "V"* to *-p "VG"*, as shown in the following image.



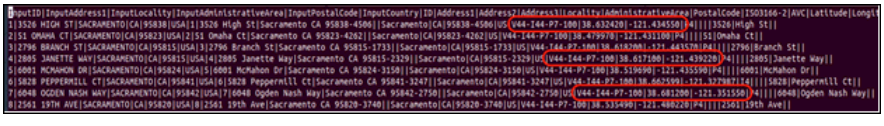
3. Save and then close the *runbatch.sh* file.
4. Execute the *runbatch.sh* file, as shown below.

```
# ./runbatch.sh
```

5. Edit the result file, which is named *sample.txt*Output.txt*, as shown below.

```
# vi sample.txt*Output.txt
```

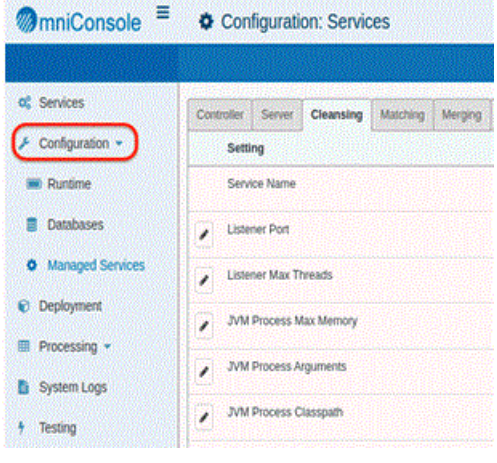
6. Verify that the address verification codes (in the format of V44-I44-P7-100) and geolocation columns are populated, as shown in the following image.



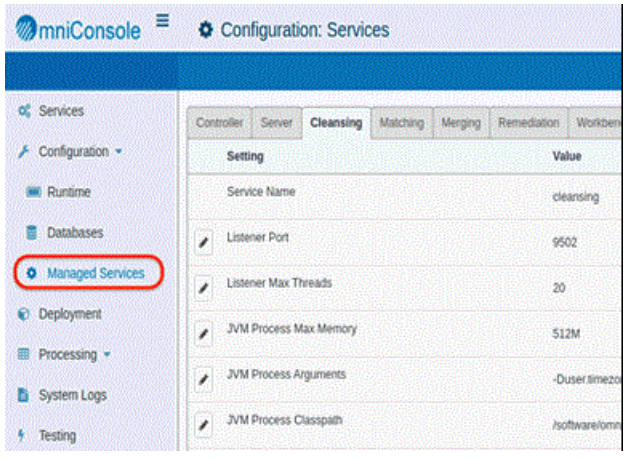
Procedure: How to Set the Omni-Gen DQ Cleanse JVM Arguments

To set the Omni-Gen DQ cleanse JVM arguments:

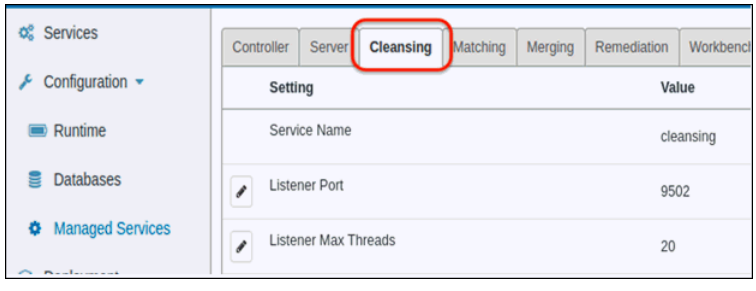
1. Log in to the Omni-Gen Console.
2. Expand *Configuration* in the left pane, as shown in the following image.



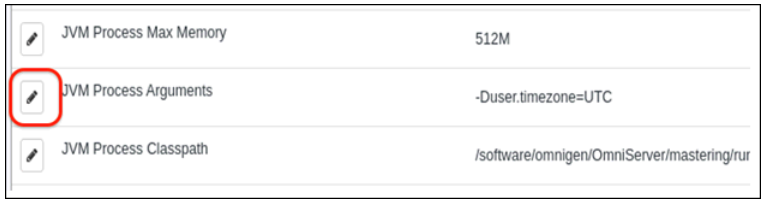
3. Click *Managed Services*, as shown in the following image.



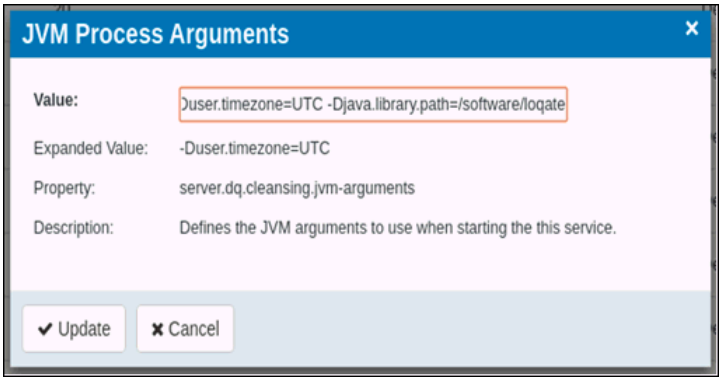
4. Click the *Cleansing* tab.



5. Click the edit icon to the left of the *JVM Process Arguments* parameter, as shown in the following image.



The JVM Process Arguments dialog opens, as shown in the following image.

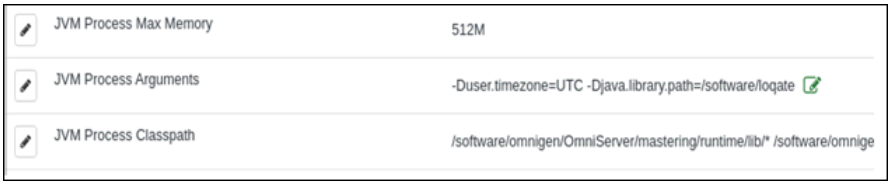


6. In the Value field, enter the following syntax and ensure there is a space between `UTC` and the new value.

   ```
   -Djava.library.path=/software/loqate
   ```

7. Click *Update*.

   The new value is now displayed for the *JVM Process Arguments* parameter, as shown in the following image.



Procedure: How to Modify TIBCO Omni-Gen® DQ Server Components for the Correct Loqate Installation Location

To modify the Omni-Gen® DQ Server components for the correct Loqate installation location:

1. Change your directory to the location of the Omni-Gen DQ Server address cleansing component. For example:

   ```
   # cd /software/omnigen/OmniServer/mastering/services/cleansing/
   components/sub
   ```

2. Edit the *generic_address_cleanse.comp* file, as shown below.

   ```
   # vi generic_address_cleanse.comp
   ```

3. Modify the path on line 171 from *C:\loqate\data* to */software/loqate/data*, as shown in the following image.

```
<!-- (Loqate) --><step id="Loqate" className="com.ataccama.dqc.loqate.LoqateAlgorithm" disabled="false" mode="NORMAL">
                <properties geocoding="true" dataFolder="/software/loqate/data">
                        <inputElements>
```

4. Save the *generic_address_cleanse.comp* file and then exit.

Procedure: How to Restart Omni-Gen

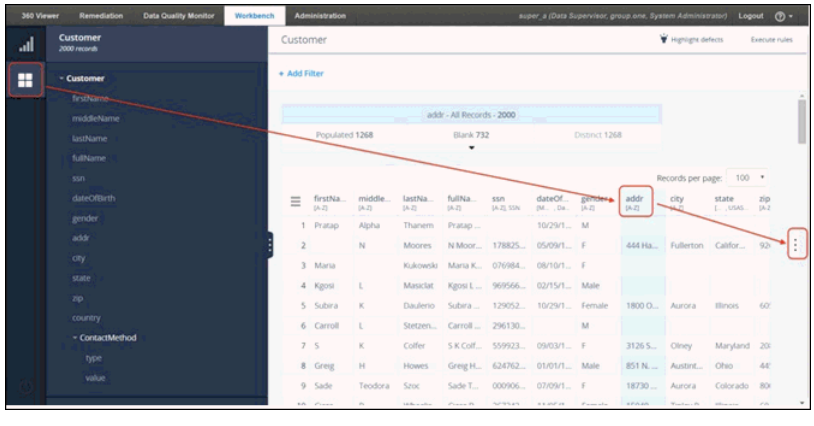
To restart Omni-Gen:

1. Open a new shell (terminal window) to ensure that the new environment variables are set.
2. Completely stop, then start all of Omni-Gen.

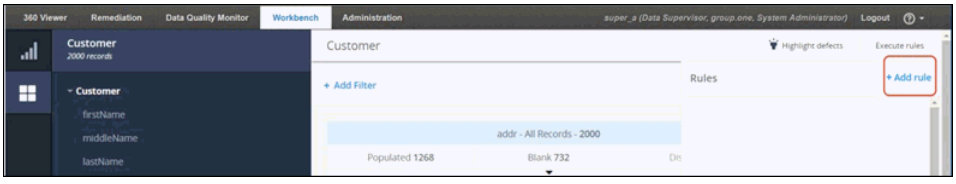
Testing Address Cleansing Operations

To load the proper paths to the Loqate components, ensure to restart the Omni-Gen Controller and all Omni-Gen services after Loqate is installed. This section uses sample data for demonstration purposes only.

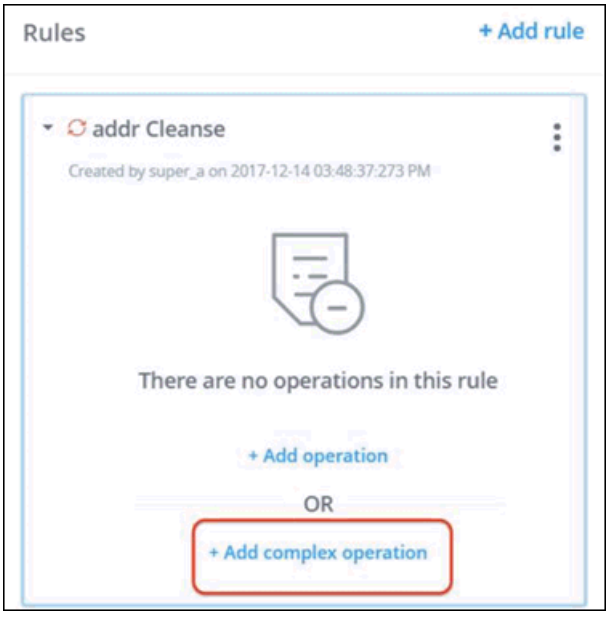
1. Log on to Omni-Gen Governance Console.
2. Click the *Workbench* tab.
3. From the table, select the address (*addr*) attribute column, and then expand the rules panel, as shown in the following image.



4. Click *Add Rule*, as shown in the following image.

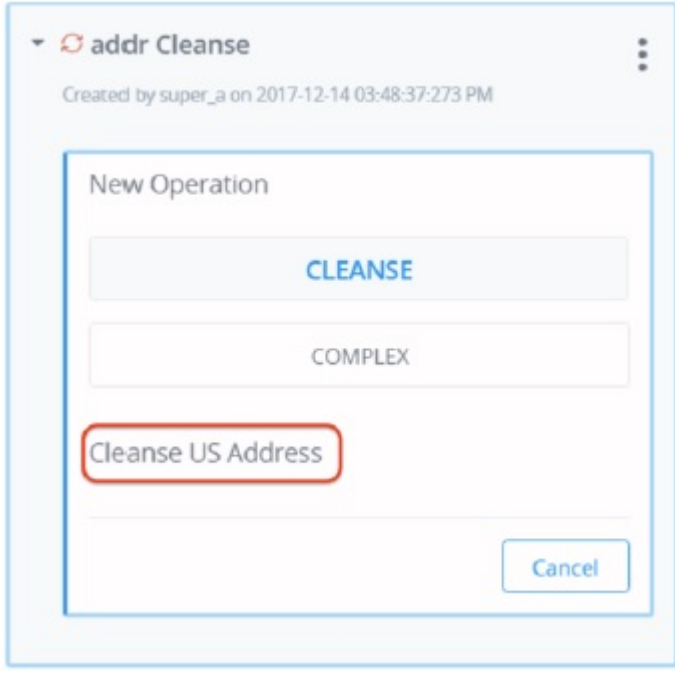


The Rules dialog opens, as shown in the following image.

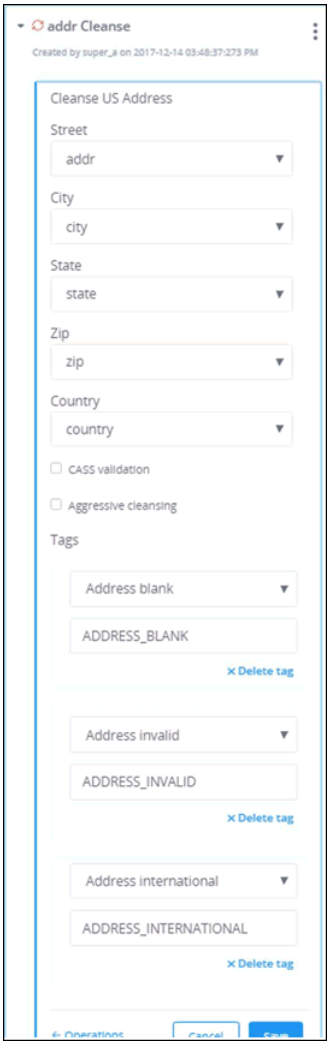


5. Click *Add complex operation*.

6. Click *Cleanse US Address*, as shown in the following image.

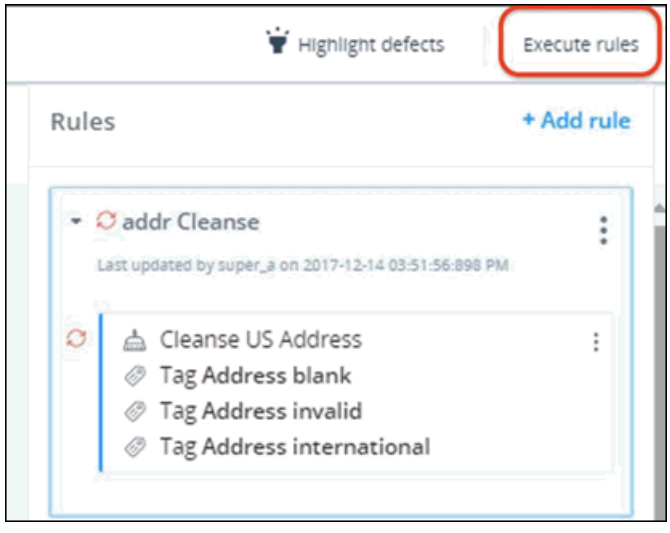


7. Map the parameters and add all tags for testing purposes, as shown in the following image.

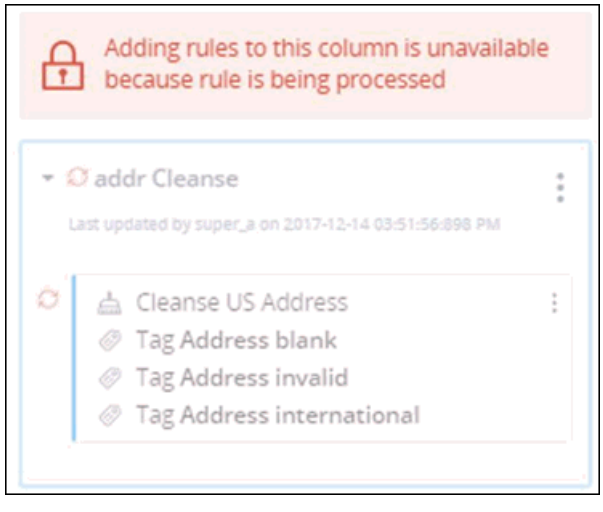


8. Click *Save* to save the operation.

9. Click *Execute rules*, as shown in the following image.



While the process is running, a message displays indicating that the rules are locked, as shown in the following image.

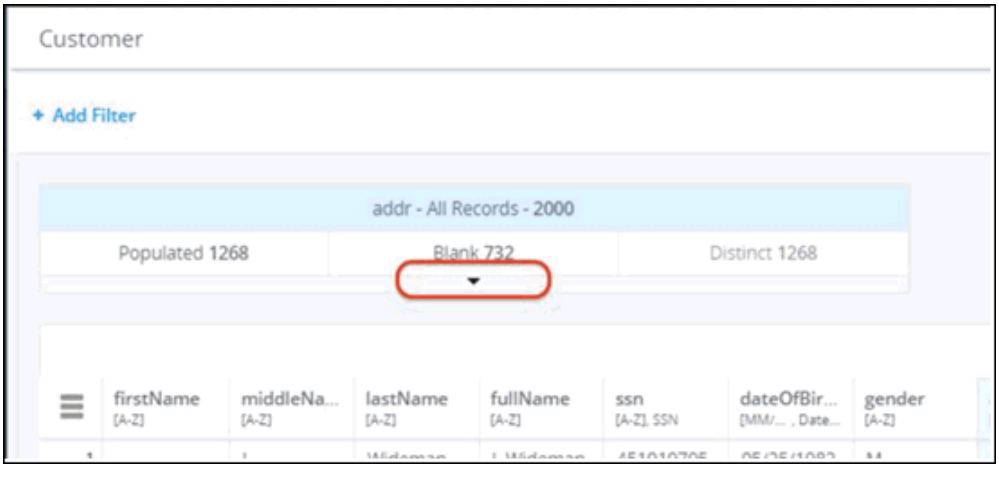


When a rule has completed execution, a corresponding success message is displayed, as shown in the following image.

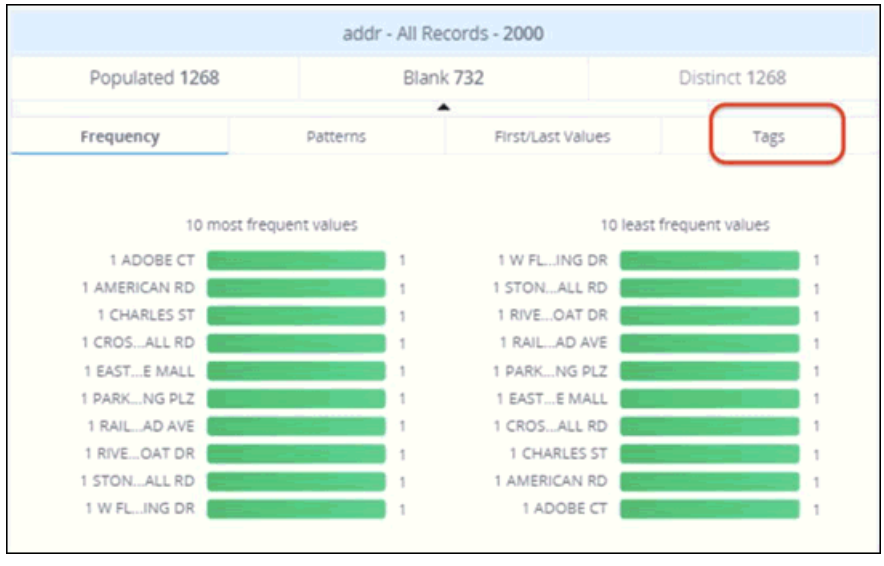
10. Close the dialog or wait for the dialog to automatically close.

    The data in the table is refreshed.

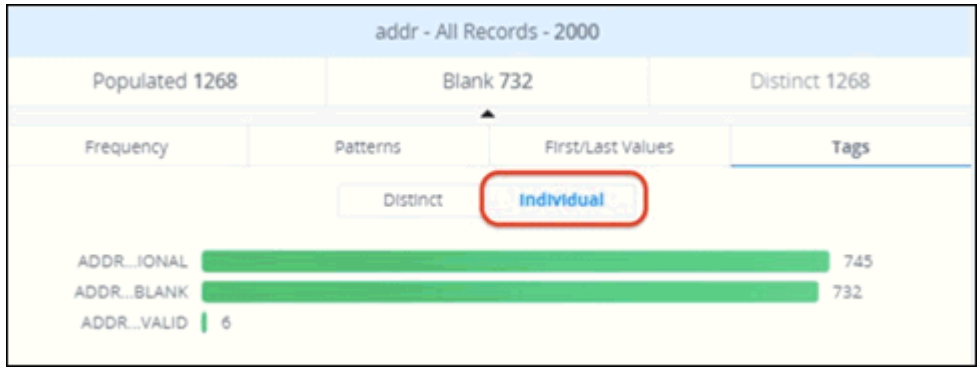
11. Expand the chart located at the top using the drop-down arrow, as shown in the following image.



12.Click *Tags*, as shown in the following image.



13.Click *Individual*, as shown in the following image.



From here you can confirm that the address cleansing operation ran successfully, since tags are being created.

14.Click *Tags* to filter the results.

Note: The initial results are going to be poor due to the country not being part of the 3-digit ISO standard. Adding country cleansing to ISO3 would greatly improve the results.

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