

Install the DataSync Agent

You can install the DataSync Agent on supported Windows and Linux devices. You can obtain the Perspectium DataSync Agent install files by [contacting Perspectium Support](#).

Before getting started with the DataSync Agent, check to make sure your environment meets the base [agent requirements](#).

What's on this page?

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- [Install the DataSync Agent with a custom Java Runtime Environment](#)
 - [Linux Environment](#)
 - [Windows Environment](#)
- [Install the DataSync Agent through Command Line](#)

Install the DataSync Agent through Agent Installer

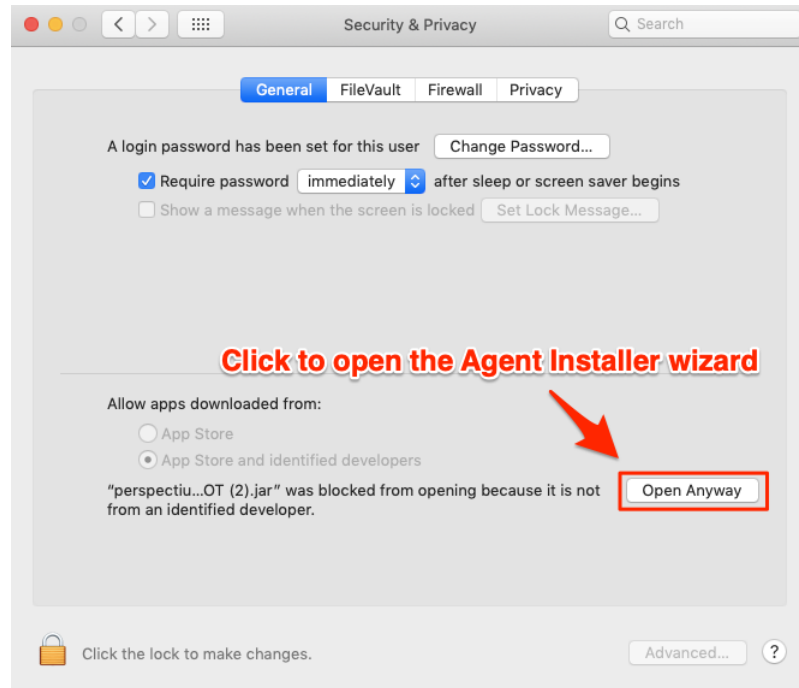
Prerequisites

⚠ Make sure that the device you are installing the DataSync Agent on meets [these basic requirements](#).

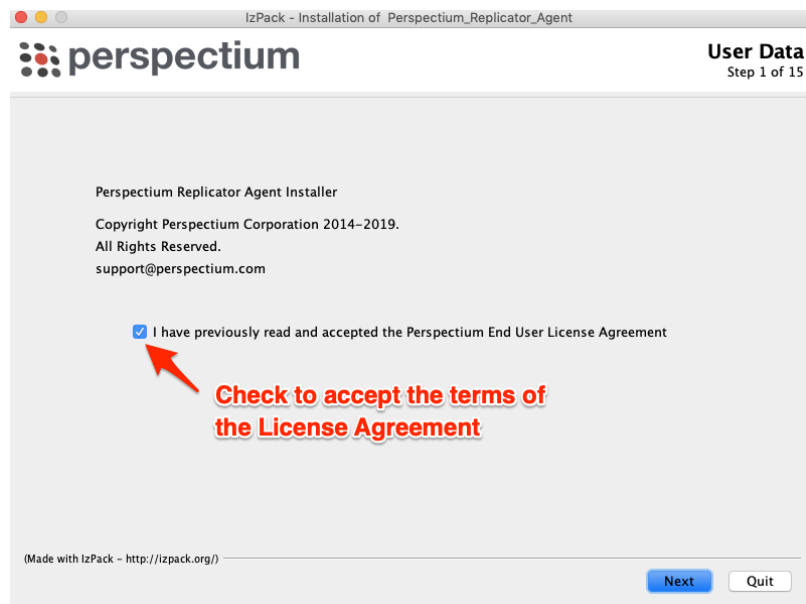
⚠ You will also need to request the **Agent Installer** from [Perspectium Support](#).

To install the agent through the agent installer, follow these steps:

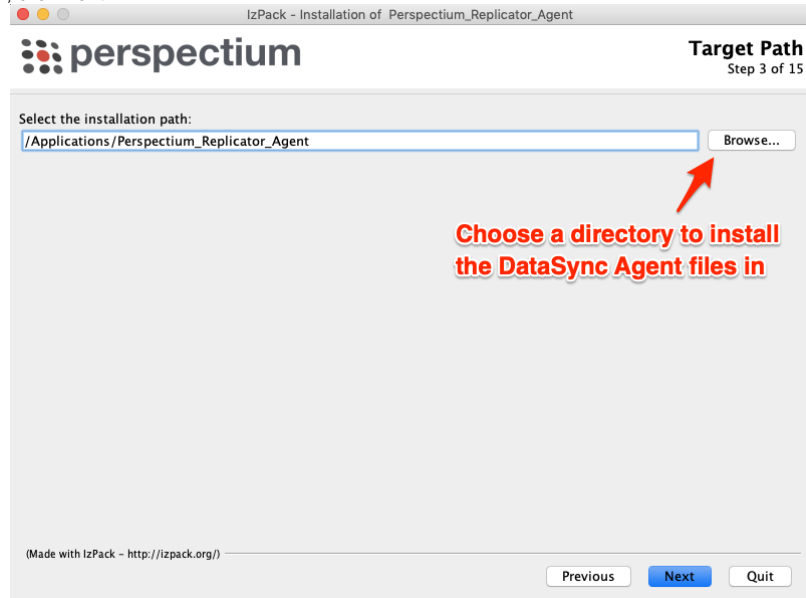
1. Open the **Agent Installer** .jar file. If you didn't receive this file, you can request one from [Perspectium Support](#). A pop-up may appear indicating that the Agent Installer file can't be opened because it is from an unidentified developer. If this happens, click **OK** to close the pop-up and then navigate to **System Preferences > Security & Privacy**. Under the **General** tab, locate the section beginning with **Allow apps downloaded from:** and click **Open Anyway**. Then, click **Open** in the resulting pop-up to open the Agent Installer wizard.



2. Check the box to accept the terms of the [Perspectium End User License Agreement](#). Then, click **Next**.

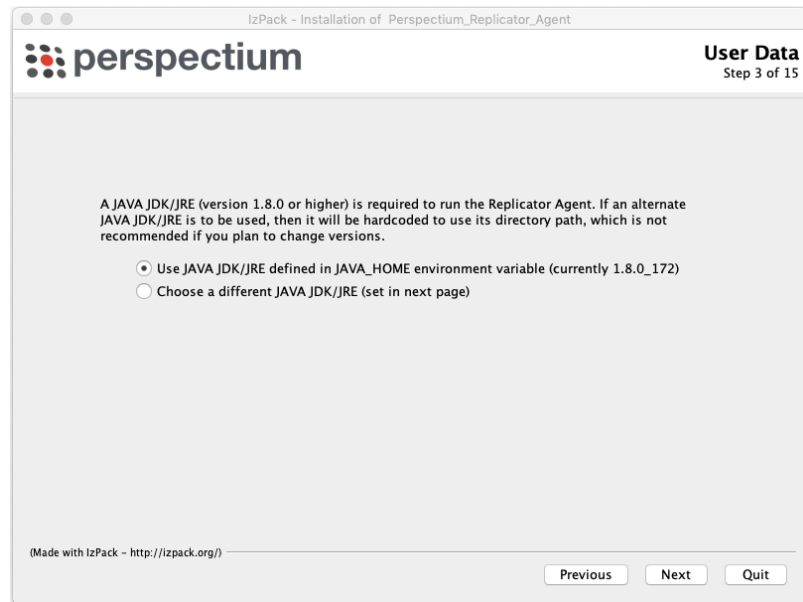


3. Choose a directory to install the DataSync Agent files in. If you specify a new directory, that directory will first be created and then populated with the Agent files. Then, click **Next**.



4. Choose the directory where your Java JDK/JRE is installed. In most cases, you can use the directory defined in JAVA_HOME. Otherwise, choose the other option and then click **Next** to specify the JDK/JRE directory you want to use. After you finish choosing the JDK/JRE, click **Next**.

NOTE: Your JDK/JRE must be version 1.8.0 or higher.



5. Type a name for your DataSync Agent; e.g., datasyncforservicenow_to_mysql. Then, choose an option from the **DataSync Type** dropdown:

Type	Description
MySQL	Shares data to a MySQL database.
MSSQL	Shares data to a Microsoft SQL database.
Oracle	Shares data to an Oracle database.
PostgresSQL	Shares data to a PostgreSQL database.
File DataSync (advanced)	<p>Manually set all the necessary configuration for file subscribing for the Agent in the agent.xml.</p> <p>⚠ Contact Perspectium Support for more information.</p> <pre><?xml version="1.0" encoding="ISO-8859-1" standalone="no"?> <config> <agent> <share/> <subscribe> <task instances="1"> <task_name>file_subscribe</task_name> <message_connection password="encrypt: perspectium_password" queue="psp.out.replicator.yourqueue" use_basic_consume="false" user="perspectium_user">https://perspectium_server< /message_connection> <instance_connection password="encrypt: perspectium_password" user="perspectium_user">https://yourinstance.service-now.com< /instance_connection> <decryption_key>decryption_key</decryption_key> <handler>com.perspectium.replicator.file.(your_dataformat) Subscriber</handler> </task> </subscribe> </agent> </config></pre>

Manual Configuration (advanced)	<p>Manually set all the necessary and advance configurations for sharing and subscribing data with the Agent in the agent.xml. See DataSync Agent configuration.</p> <p>⚠ Contact Perspectium Support for more information.</p> <pre> <?xml version="1.0" encoding="ISO-8859-1" standalone="no"?> <config> <agent> <share> <task> <task_name>yourinstance_share</task_name> <message_connection password="encrypt: perspectium_password" queue="psp.out.servicenow.yourinstance" user="perspectium_user" >https://perspectium_server</message_connection> <encryption_key>decryption_key</encryption_key> </task> </share> <subscribe> <task instances="1"> <task_name>yourinstance_subscribe</task_name> <message_connection password="encrypt: perspectium_password" queue="psp.out.replicator.yourqueue" use_basic_consume="false" user="perspectium_user">https://perspectium_server</message_connection> <encryption_key>decryption_key</encryption_key> </task> </subscribe> </agent> </config> </pre>
---------------------------------	--

- Finally, click **Next** to proceed to the next step.
- On the resulting page, enter the following to allow your DataSync Agent to authenticate when connecting to the Perspectium Integration Mesh:

Field	Information to enter
Server	Your Perspectium Integration Mesh URL (excluding "http://", "https://", "amqp://", or "amqps://") e.g., <server>.perspectium.net
User	Username used to connect to the Perspectium Integration Mesh
Enter Password	Password used to connect to the Perspectium Integration Mesh NOTE: If you don't know or you forgot your Perspectium Integration Mesh server URL, username, and/or password, contact Perspectium Support .
Retype Password	Password used to connect to the Perspectium Integration Mesh
Queue Name	Name of the queue that will store data being shared from your ServiceNow instance to your database. Simply replace the yourqueue text here with the name of your ServiceNow instance ; e.g., dev12345
Encryption /Decryption Key	A key of 24+ characters (for base64, TripleDES, and AES-128 encryption) or 32+ characters (for AES-256 encryption), including spaces, which will be used to encrypt data being shared from your ServiceNow instance to your database.
Max Reads	A maximum number of data messages that your DataSync Agent will read from the queue each time messages are processed
Polling Interval (sec)	Time period (in seconds) for which your DataSync Agent will process messages from your shared queue

- Then, click **Next** to continue to the next step.
- On the resulting page, enter the following information to allow your DataSync Agent to connect to and authenticate with your ServiceNow instance and database server:

Field	Information to enter
Instance	Your ServiceNow instance URL or ServiceNow FedRAMP URL (excluding "http://" or "https://")
User	Username used to log into your ServiceNow instance (in firstname.lastname format)

Enter Password	Password used to log into your ServiceNow instance
Retype Password	Password used to log into your ServiceNow instance
Server	Server URL for the database you will be sharing your ServiceNow instance data to (excluding "http://" or "https://")
Port	Port number for your database
User	Username used to log into your database
Enter Password	Password used to log into your database
Retype Password	Password used to log into your database
Database	Name of your database schema

10. Then, click **Next** to continue to the next step.

11. On the **Summary and Review** screen, wait for the processes to finish running and then click **Next**. Then, on the **Perform External Processes** screen, wait for the processes to complete and then click **Next**.

Finally, on the **Installation Finished** screen, click **Done** to finish installation of your DataSync Agent.

NOTE: Optionally, you can **Generate an automatic installation script** on this screen and then choose a directory to save your install script in. This script can then be run on another device to install a DataSync Agent with the same settings you've specified here.

The following system files will be installed within the **bin/perspectium_data** directory and used for temporary storage/caching when your DataSync for ServiceNow Agent is running:

- **psp.in.agent.errors**
- **psp.in.messageset**
- **psp.out.servicenow.INSTANCE_NAME** (where **INSTANCE_NAME** is from your https://INSTANCE_NAME.service-now.com URL)
- **psp.in.servicenow**
- **TableStatsPublisher**

A **perspectium.log** file will also be installed that contains important log messages for your DataSync for ServiceNow Agent. For more information, see [monitoring DataSync Agent logs](#).

NOTE: If the files listed above exceed 1 GB in size, you may delete these files to improve your DataSync Agent performance.

12. (Optional) After installing your DataSync for ServiceNow Agent, it is highly recommend to confirm that you Agent is configured correctly by running the Agent validateConfiguration tool.

To run the validateConfiguration tool on a Linux device, open a terminal window and change your current directory to the directory where you installed your Agent in **Step #3**. Then, execute the following command:

```
bin/validateConfiguration start
```

To run the validateConfiguration tool on a Windows device, navigate to the **bin** directory that was installed within the main Agent directory that was specified in **Step #3**. Then, double-click to run the **validateConfiguration.bat** file.

The tool will attempt to connect to the Perspectium Integration Mesh, your ServiceNow instance (if configured, to test fetching a schema) and to your database, logging if it was successful making these connections or any failures that may occur. Contact support@perspectium.com if you have questions on the connection failures.

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Install the DataSync Agent with a custom Java Runtime Environment



To ensure you have the latest version of Java, instead of using a custom JRE provided by Perspectium, it is recommend you install a JRE. See [Adoptium](#) for JREs based on OpenJDK.

This is best for instances where you do not want to install the full Oracle JDK to run the DataSync Agent. With Perspectium's optimized JRE, it will include only the necessary java packages for installing and running the Agent.

Prerequisites

- ⚠ Make sure that the device you are installing the DataSync Agent on meets [these basic requirements](#).
- ⚠ You will also need to request the **Agent Installer** and the **custom JRE** from [Perspectium Support](#).

To install the agent with a custom JRE, follow these steps:

Linux Environment

1. In your terminal, enter the following:

```
gedit ~/.bashrc
```

Then, add the following (this is the path of the custom JRE acquired from [Perspectium Support](#)):

```
JAVA_HOME=/YourPath/customJreLinux
```

For example:

```
...  
#Export  
JAVA_HOME=/home/PSP/customJreLinux  
export PATH=$PATH:$JAVA_HOME/bin
```

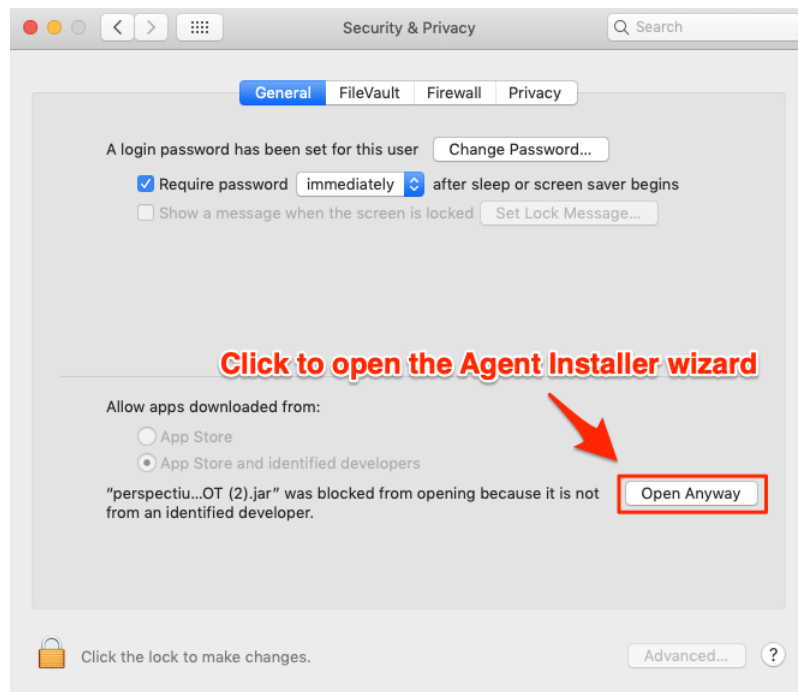
2. Save changes.
3. In your terminal, enter the following to refresh the environment variables:

```
source ~/.bashrc
```

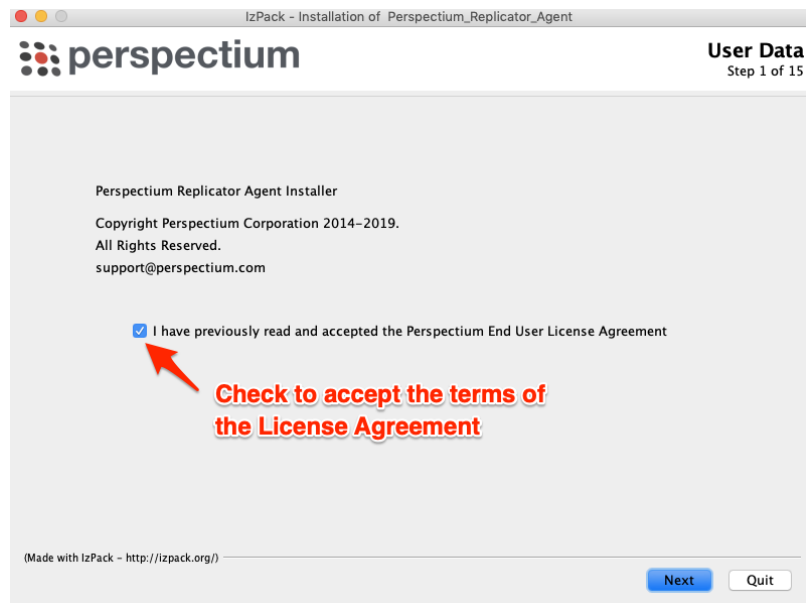
4. Then, run the agent installer by entering the following:

```
YourPath/customJreLinux/bin/java -jar YourPath/perspectium-datasync-installer-6.0.0.jar
```

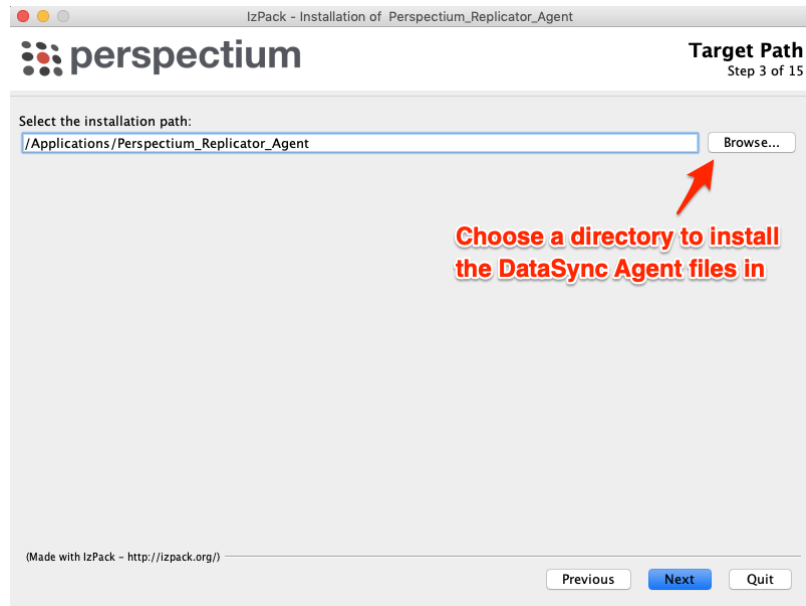
5. A pop-up may appear indicating that the Agent Installer file can't be opened because it is from an unidentified developer. If this happens, click **OK** to close the pop-up and then navigate to **System Preferences > Security & Privacy**. Under the **General** tab, locate the section beginning with **Allow apps downloaded from:** and click **Open Anyway**. Then, click **Open** in the resulting pop-up to open the Agent Installer wizard.



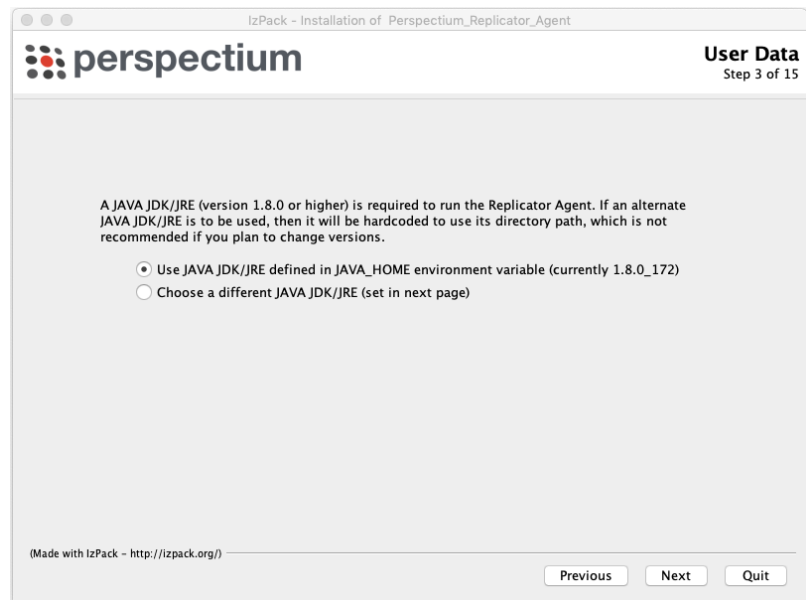
6. Check the box to accept the terms of the [Perspectium End User License Agreement](#). Then, click **Next**.



7. Choose a directory to install the DataSync Agent files in. If you specify a new directory, that directory will first be created and then populated with the Agent files. Then, click **Next**.



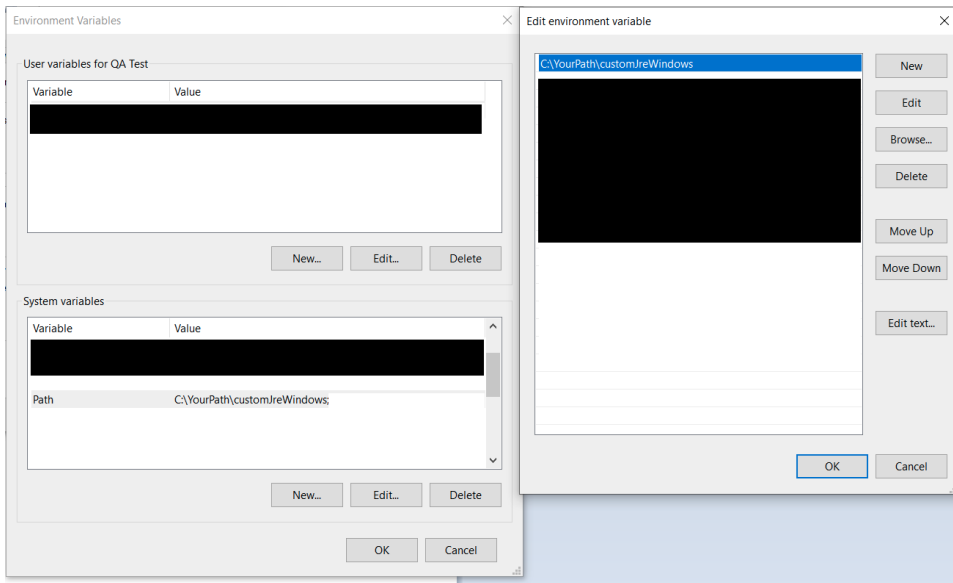
8. Choose the option **Use the directory defined in JAVA_HOME...**, then click **Next**.



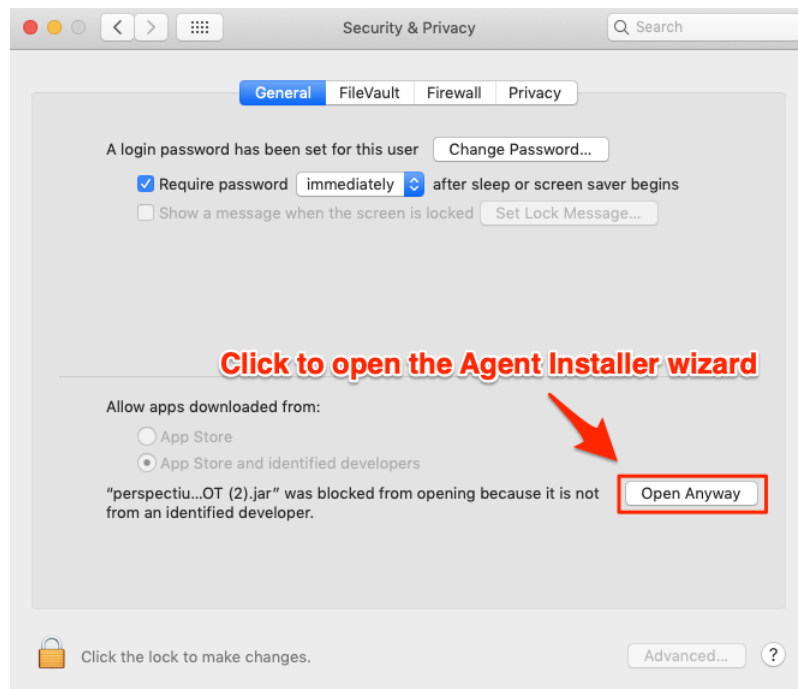
9. Follow the rest of **Steps 5-12** from the **Install the DataSync Agent through Agent Installer**.

Windows Environment

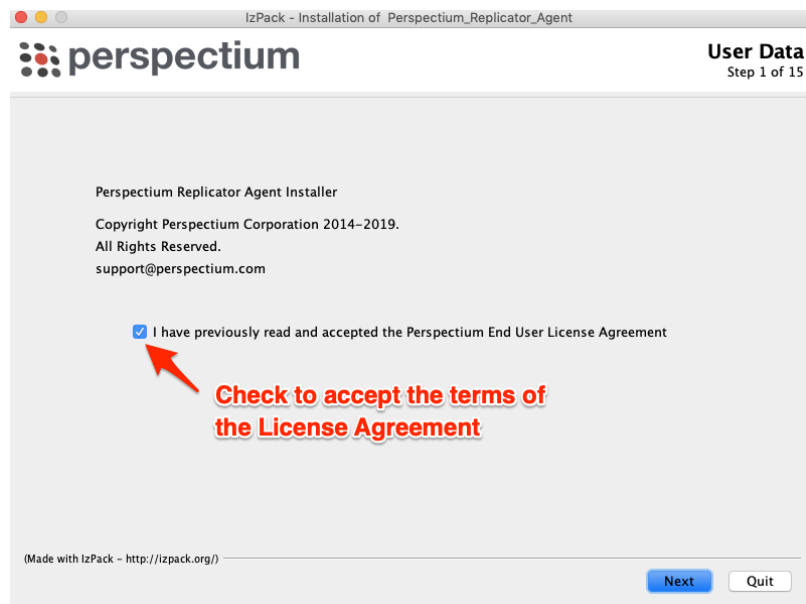
1. On the Windows taskbar, right-click the **Windows** icon and select **System**.
2. Under **Related Settings**, click **Advanced**.
3. Click **Environment Variables**.
4. Edit variable **JAVA_HOME** to be the path of **JRE: C:\YourPath\customJreWindows**. If variable **PATH** has an entry for the java directory, edit **PATH** to also be path of JRE (if there is no java entry in **PATH**, skip this step).



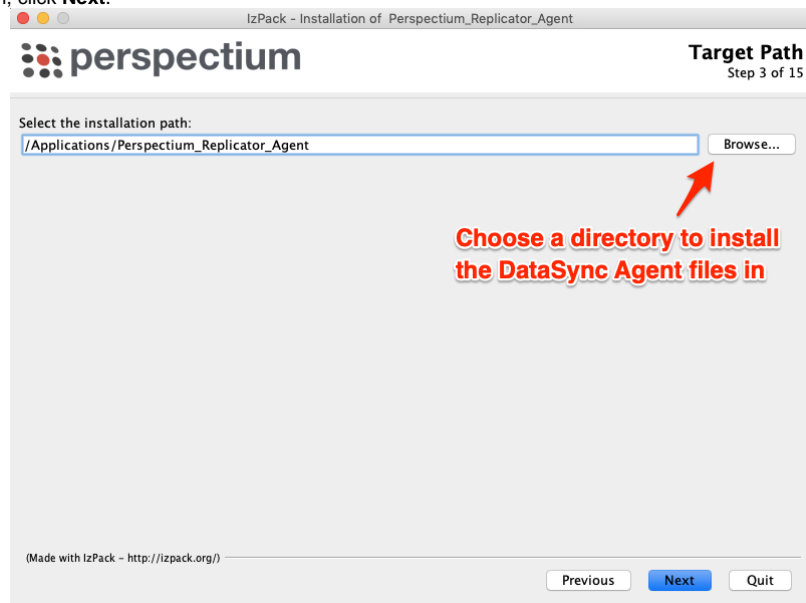
5. Open the **Agent Installer .jar** file. If you didn't receive this file, you can request one from [Perspectium Support](#). A pop-up may appear indicating that the Agent Installer file can't be opened because it is from an unidentified developer. If this happens, click **OK** to close the pop-up and then navigate to **System Preferences > Security & Privacy**. Under the **General** tab, locate the section beginning with **Allow apps downloaded from:** and click **Open Anyway**. Then, click **Open** in the resulting pop-up to open the Agent Installer wizard.



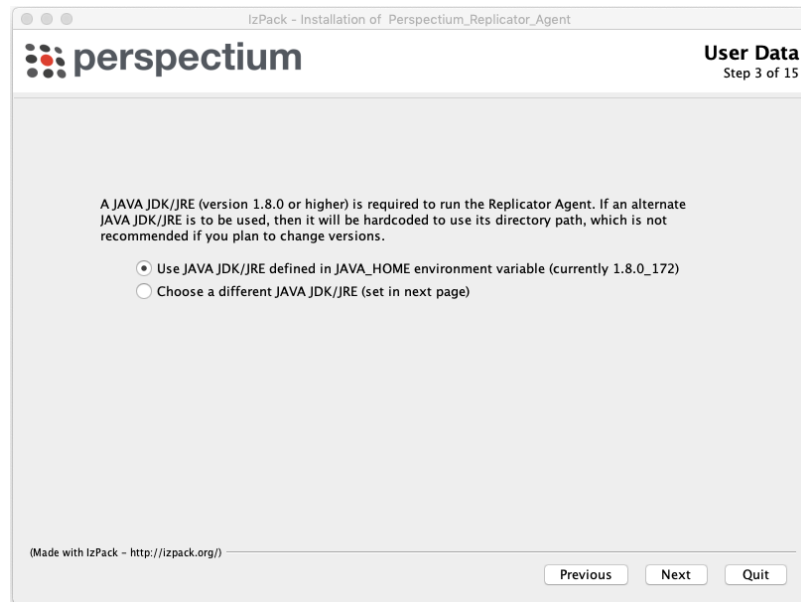
6. Check the box to accept the terms of the [Perspectium End User License Agreement](#). Then, click **Next**.



7. Choose a directory to install the DataSync Agent files in. If you specify a new directory, that directory will first be created and then populated with the Agent files. Then, click **Next**.



8. Choose the option **Use the directory defined in JAVA_HOME...**, then click **Next**.



9. Follow the rest of **Steps 5-12** from the **Install the DataSync Agent through Agent Installer**.

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Install the DataSync Agent through Command Line

The following is for Linux only.

Prerequisites

⚠ First, you should have received a download such as the following (per your version):

```
perspectium-replicator-installer-VERSION.jar
```

This is the file we will use to run the agent installer. Contact support@perspectium.com if you have not received this file. You may use the browser to download directly and copy the file over.

⚠ Then, check the [DataSync Agent Requirements](#) to see if your system is compatible.

To install the DataSync Agent through the command line, follow these steps:

1. Before we start the installation, it is recommended to create a user called **perspectium** and install the agent as that user.

```

ubuntu@ip-10-221-138-246:~$ sudo adduser perspectiveum
Adding user `perspectiveum' ...
Adding new group `perspectiveum' (1001) ...
Adding new user `perspectiveum' (1001) with group `perspectiveum' ...
Creating home directory `/home/perspectiveum' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for perspectiveum
Enter the new value, or press ENTER for the default
    Full Name []: Perspectiveum
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] Y
ubuntu@ip-10-221-138-246:~$

```

2. Next, login or *sudo* to the **perspectiveum** user and copy or download the agent installation file into it. See [Download](#). If your download is currently zipped, you can use the following command to unzip it.

```

perspectiveum@ip-10-221-138-246:~/Perspectiveum_Replicator$ unzip perspectiveum-replicator-installer.zip
Archive:  ../perspectiveum-replicator-installer.zip
  inflating: perspectiveum-replicator-installer.jar

```

3. To run the installer from a linux console using a GUI, type the following (per your version):

```

java -jar ./perspectiveum-replicator-installer-VERSION.jar

```

The following is an example of the installation script when run in console mode (no GUI) using the “-console” switch:

```

perspectiveum@ip-10-221-138-246:~/Perspectiveum_Replicator$ java -jar perspectiveum-replicator-installer.jar -console
Mar 16, 2015 2:01:17 PM INFO: Logging initialized at level 'INFO'
Mar 16, 2015 2:01:17 PM INFO: Commandline arguments:
Mar 16, 2015 2:01:18 PM INFO: Detected platform: ubuntu_linux,version=3.2.0-40-virtual,arch=x64,
symbolicName=null,javaVersion=1.7.0_25
Welcome to the installation of Perspectiveum Replicator Agent 3.1.9!
This software is developed by:
  - Perspectiveum Corporation <support@perspectiveum.com>

Press 1 to continue, 2 to quit, 3 to redisplay

```

4. Press **1** to continue. You will be presented with the **End User License Agreement**.
5. Press **Enter** to continue until the end of the agreement. (There are about 20 pages of the EULA).

```
SOFTWARE AS A SERVICE ("SAAS ") TERMS OF SERVICE FOR END-USERS
THE SERVICE PROVIDERS (DEFINED BELOW) ARE WILLING TO GRANT YOU RIGHTS
TO ESTABLISH AN ACCOUNT AND TO USE THE WEB SERVICES (DEFINED BELOW)
ONLY UPON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN
THIS AGREEMENT. PLEASE READ THE SERVICE AGREEMENT CAREFULLY. BY
CLICKING ON "I ACCEPT", YOU WILL INDICATE YOUR AGREEMENT WITH THEM. IF
YOU ARE ENTERING INTO THIS AGREEMENT ON BEHALF OF A COMPANY OR OTHER
LEGAL ENTITY OR PERSON, YOUR ACCEPTANCE REPRESENTS THAT YOU HAVE THE
AUTHORITY TO BIND SUCH ENTITY OR PERSON TO THESE TERMS. IF YOU DO NOT
AGREE WITH THESE TERMS, OR IF YOU DO NOT HAVE THE AUTHORITY TO BIND
YOUR ENTITY OR PERSON, THEN THE SERVICE PROVIDERS ARE UNWILLING TO
GRANT YOU RIGHTS TO ACCESS AND USE THE WEB SERVICES.
SAAS TERMS OF SERVICE AGREEMENT Effective Date as of first day Perspectium
services commence.
```

...

Press Enter to continue, X to exit

...

40. Miscellaneous. This Agreement constitutes the entire understanding of the parties with respect to the subject matter of this Agreement and merges all prior communications, understandings, and agreements. This Agreement may be modified only by a written agreement signed by the parties. The failure of either party to enforce at any time any of the provisions hereof shall not be a waiver of such provision, or any other provision, or of the right of such party thereafter to enforce any provision hereof. The application the United Nations Convention of Contracts for the International Sale of Goods is expressly excluded. This license is written in English, and English is its controlling

Press Enter to continue, X to exit

Press 1 to accept, 2 to reject, 3 to redisplay

Press **1** to accept the agreement.

Afterwards, you will be asked for the installation destination, this is where the agent files will be copied.

If you have a previous agent already installed in the destination directory, it will be overridden.

6. Press **Enter** to select the default or type in a new one. Keep the directory within the home of the **perspectium** user.

```
Select target path [/home/perspectium/Perspectium DataSync Agent]
```

Then, the installer will scan your path for a suitable JDK or JRE and suggest the path for it.

Please choose the directory of your installed Java JDK or JRE (version 1.7.0 or higher)

```
[/usr/lib/jvm/java-7-openjdk-amd64/jre]
```

If this is the right JDK or JRE (See [Agent Requirements](#)), press **Enter** to select or enter a different path.

7. Enter the supplied **hostname** and press **Enter** to continue.

Enter the information for accessing the Perspectium Cloud Server:

```
Server: []
server10.perspectium.com
```

Then, enter the **user**, **password**, **name** of the agent and specified **queue**.

```
User: [demo]

Password: [demo]

Enter the information for your agent:
Name: [ ]
demo_agent

Queue Name: [psp.out.replicator.yourqueue]
psp.out.replicator.demo_agent
```

8. You will now be asked to select the type of agent to install. Depending on which type, additional information may be required. For example you may be asked for database credentials for subscribing to ServiceNow and writing to a local database.

```
Type:
0  [x] MySQL Replicator
1  [ ] MSSQL Replicator
2  [ ] Oracle Replicator
3  [ ] File Replicator
4  [ ] Directory Replicator
input selection:
```

9. After entering the agent type information, you will now be prompted for the decryption key, maximum number of records to read and the interval between reads. The decryption key should be the same as the encryption key you would have set, e.g. in ServiceNow.

```
Decryption Key: [Some decryption key here]

Max Reads: [4000]

Polling Interval (sec): [30]
```

10. The installer will now complete its task and copy the files to the target directory, you should see the following output:

```
[ Starting to unpack ]
[ Processing package: core (1/2) ]
[ Processing package: (2/2) ]
[ Unpacking finished ]
[ Starting processing ]
Starting process Update wrapper.conf (1/3)
Updating wrapper.conf...
wrapper.conf configuration complete.
Starting process Update license.txt (2/3)
Updating license.txt...
license.txt configuration complete.
Starting process Update config.xml (3/3)
Updating config.xml...
config.xml configuration complete.
Installation was successful
application installed on /home/perspective/Perspective Replicator Agent
[ Writing the uninstaller data ... ]
[ Console installation done ]
```

11. **(Optional)** After successful installation of the agent, you have the option to generate an automatic install script on the last panel of the agent installer. This is useful to install an agent on another machine using the same settings.

You can execute the auto-install.xml by running the following command:

```
java -jar perspective-replicator-installer.jar auto-install.xml
```

You must copy and paste the created **auto-install.xml** along with the **perspectium-datasync-installer.jar** in the same folder or directory and issue the command stated above.

This will use the credentials and directory locations you used in the initial install. If you would like to change the directory where the Agent will be installed you can modify the auto-install.xml file.

12. **(Optional)** After the initial set up, you can look at your configuration within the agent.xml file of the conf directory. Here you will see a generic task set up with the credentials you have just input. You can either run it now, however, it is recommended to run our tool to test and validate your current connections. It will run through your Message Bus Connections, Database Connections, and Instance Connections (to ServiceNow or elsewhere) as you have prescribed.

Following these connections it will notify you which pieces failed as well as other diagnostic information about your current configuration. To see how to run this test see [here](#).

13. If you are using Java 14 or Java 15 with the **Iodine 7.0.5 or older**, remove the wrapper.jar and wrapperApp.jar files from the lib folder of the agent directory and import the new wrapper.jar and wrapperApp.jar files provided by Perspectium Support. **NOTE: Iodine 7.0.6 and newer versions do not have to do this step.**

Execute the following command within the lib folder of the agent directory to remove the files:

```
rm wrapper.jar
rm wrapperApp.jar
```

Then, execute the following command to add the new files:

```
mv wrapper.jar /Perspectium_DataSync_Agent/lib
mv wrapperApp.jar /Perspectium_DataSync_Agent/lib
```

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Next steps

[Start or stop the DataSync Agent](#)