Mac OS X Installation Guide for AIQ (GraalVM 11 Based)

A step-by-step guide for installing and configuring Appvance IQ on Mac OS X.

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- Install Java GraalVM11
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Download AIQ for macOS

1. Download AIQ.
   If you do not have an Appvance IQ download link, please reach out to your Appvance contact, or email support@appvance.ai.

1. Extract Appvance IQ to the desired install location.
   For example: `/Users/<username>/AIQ`

   Next step: Install Java GraalVM11

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Install Java GraalVM11

1. Navigate to https://github.com/graalvm/graalvm-ce-builds/releases/tag/vm-21.3.0
2. Locate **MacOS (amd64)** and click **link**/
   MacOS.png
3. Open **Terminal** and change directory to **Downloads**.
   Syntax: `cd $HOME/Downloads`
4. Unzip the archive. Note that `<version>` represents the graalvm version (ex: 21.3.0).
   Syntax: `tar -xzf graalvm-ce-java11-darwin-amd64-<version>.tar.gz`
   Example: `tar -xzf graalvm-ce-java11-darwin-amd64-21.3.0.tar.gz`
5. Remove the quarantine attribute. Enter password when you are prompted.
   Syntax: `sudo xattr -r -d com.apple.quarantine graalvm-ce-java11-<version>/`
   Example: `sudo xattr -r -d com.apple.quarantine graalvm-ce-java11-21.3.0/`
6. Move the directory package to `JavaVirtualMachines`.
   Syntax: `sudo mv graalvm-ce-java11-<version>/ /Library/Java/JavaVirtualMachines`
   Example: `sudo mv graalvm-ce-java11-21.3.0/ /Library/Java/JavaVirtualMachines`
7. Verify the move was successful. You may now have more than one version listed.
   Syntax: `/usr/libexec/java_home -V`

Next step: Configure Java

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Configure Java for AIQ

1. Update your **PATH** environment variable to the GraalVM bin directory. (where <version> represents the graalvm version, ex: 21.3.0)
   Syntax: `export PATH=/Library/Java/JavaVirtualMachines/graalvm-ce-java11-<version>/Contents/Home/bin:$PATH`
   Example: `export PATH=/Library/Java/JavaVirtualMachines/graalvm-ce-java11-21.3.0/Contents/Home/bin:$PATH`
2. Update your **JAVA_HOME** environment variable to resolve to the GraalVM installation directory (where <version> represents the graalvm version, ex: 21.3.0)
   Syntax: `export JAVA_HOME=/Library/Java/JavaVirtualMachines/graalvm-ce-java11-<version>/Contents/Home/`
   Example: `export JAVA_HOME=/Library/Java/JavaVirtualMachines/graalvm-ce-java11-21.3.0/Contents/Home/`
3. Verify your install was successful.
   Syntax: `java -version`
   Sample Output:
   ```
   openjdk version "11.0.13" 2021-10-19
   OpenJDK Runtime Environment GraalVM CE 21.3.0 (build 11.0.13+7-jvmci-21.3-b05)
   OpenJDK 64-Bit Server VM GraalVM CE 21.3.0 (build 11.0.13+7-jvmci-21.3-b05, mixed mode, sharing)
   ```

Next step: MacOS Required Configurations for AIQ

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MacOS Required Configurations for AIQ

The following steps are necessary to improve AIQ compatibility with macOS systems.

Java 8 Related Configuration

This configuration addresses a known issue that causes slowing in Java 8 applications with macOS Sierra or newer.

> See StackOverflow for more information.
>
> This configuration is required for macOS Sierra (10.12), High Sierra (10.13) Mojave (10.14), and earlier versions of Catalina (10.15.1 through 10.15.4).

1. Type "**hostname**" in a terminal window to get your system's canonical name. This **<system canonical name>** should look similar to `Joe-MacBook-Pro.local`.
2. Enter the hostname obtained in the first step into your `/etc/hosts` text file.
   1. Open the nano text editor to edit the `/etc/hosts` file by typing in a terminal: **`sudo nano /etc/hosts`**
   2. Assuming your hostname is "`Joe-MacBook-Pro.local`", then you should add two lines similar to this ones to the `/etc/hosts` file.
      `127.0.0.1 Joe-MacBook-Pro.local`
      `::1 Joe-MacBook-Pro.local`
   3. Press Ctrl+O to write changes to the hosts file, and Ctrl-X to exit the nano text editor. Make sure to replace `Joe-MacBook-Pro.local` with your actual hostname returned by the command in the first step. Save your file, and retry executing your script in test designer.
      This change is NOT needed for recent Catalina OS releases (10.15.5+).

System Preferences

This configuration is necessary to be able to record and playback using Test Designer IDE using a Safari browser.

- In the Security & Privacy preference, select the Privacy section, for Accessibility and Full Disk Access: add the **Java** app to the list of apps that are allowed to control your computer. (Mojave requires the Accessibility permissions to control your computer to the **Terminal** App instead of the Java App)
  Security&PrivacyAccessibility.png
  Security&PrivacyFullDiskAccess.png
- If you want to record/playback Test Designer script with Safari, make sure you select Safari as your default system browser in the Preferences General tab
  Screen%20Shot%202021-02-11%20at%2011.59.21.png
- In the Network preferences, Proxies settings: set the Bypass proxy settings to your AIQ server DNS
  PreferencesNetworkProxy.png

Safari Preferences

This configuration is necessary to be able to record and playback using Test Designer IDE using a Safari browser.

Safari opens with: A new private window. New window open with Empty PageNew tabs open with Empty Page

SafariGeneral.png

Select "When a new tab or window opens, make it active" in Tabs section

SafariTabs.png

Other optional settings in Safari Advanced tab:

Screen%20Shot%202017-03-08%20at%209.22.48%20PM.png

Apvance Certificate

Check if the Appvance Certificate is present (only needed if after the above steps you have Test Designer IDE recording problems)

The client installer for Test Designer scripts should automatically install Appvance 2020 SSL certificate in MacOS and in Mozilla Firefox (if present). But if you have problems recording on HTTPS sites, do validate if the certificate "**Appvance 2020**" is installed in the MacOS and/or Firefox.

Verifying the Appvance certificate is installed in MacOS

To check the MacOS certificates open the **Keychain Access** application and click over the tab. You should be able to find the "Appvance 2020" certificate with a blue dot (meaning it is trusted) as in this image:

Screen%20Shot%202019-11-28%20at%203.12.28%20PM.png

Catalina updates (May 2019) requires that the Appvance2020 certificate needs to be installed both in System and login keychains.

Installing the Appvance certificate in MacOS

If the certificate is not installed in Mozilla Firefox, you can download it from this link:https://aiq-client-installer.s3-us-west-2.amazonaws.com/appvance2020.cerThen click the "Import" button in the Firefox Certificate Manager and select the downloaded "appvance2020.cer" file.

Double-click the **appvance2020.cer** file and it will be added to the Keychain Access application. Locate the Appvance 2020 in the System Keychain and doble click over it to see its details. Expand the Trust option and select Always Trust in the first select box.
Screen%20Shot%202019-11-28%20at%203.28.38%20PM.pngThe OS will ask for your password to trust this certificate and the screen should look like this
Screen%20Shot%202019-11-28%20at%203.30.49%20PM.png

Verifying the Appvance certificate is installed in Firefox

To check if the certificate is installed on **Mozilla Firefox**, open Firefox and open the Preferences, then type "Certificates" in the search input box. Click the View Certificates button to open the Certificates Manager:

Screen%20Shot%202019-11-28%20at%203.16.08%20PM.png

In the Certificate Manager, click the "Authorities" tab and scroll down until you find the Appvance 2020 certificate

Screen%20Shot%202019-11-28%20at%203.16.26%20PM.png

Installing the Appvance certificate in Firefox

If the certificate is not installed in Mozilla Firefox, you can download it from this link:https://aiq-client-installer.s3-us-west-2.amazonaws.com/appvance2020.cer

Then click the "Import" button in the Firefox Certificate Manager and select the downloaded "appvance2020.cer" file. Then click both trust checkboxes as in this image, and click Ok.

Screen%20Shot%202019-11-28%20at%203.32.46%20PM.png

Next step: MySQL Install & Setup

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MySQL Install & Setup

Install MySQL Server

1. Go to https://downloads.mysql.com/archives/community/
2. Click **Product Version** and select **5.7.31**
3. Click **Operating System** and select **Mac OS X**
4. Locate **macOS 10.14 (x86, 64-bit), DMG Archive** and click **Download**
5. Open the downloaded package
6. A warning may appear, with a legend similar to “can’t be opened because Apple cannot check it…” click **OK**
   MacOS02.png
7. Select **Apple Menu** and click **System Preferences**
8. Click **Privacy & Security**
9. Click the **General** tab and select **Open Anyway**
   MacOS03.png
10. Another warning may appear, click **Open**
    MacOS04.png
11. When the **Install MySQL** installer appears, click **Continue**
    MacOS05.png
12. Review the Software License Agreement, click **Continue**, then click **Agree**
    MacOS06.png
    MacOS052.png
13. When the Installation Type window appears, click **Customize**
    MacOS07.png
14. Ensure **MySQL Server**, **Preference Pane** and **Launchd Support** are selected, and click **Install**
    MacOS08.png
15. Enter password when prompted
    MacOS09.png
16. If the System Events.app warning appears, click **OK**
    MacOS10.png
17. **IMPORTANT** When MySQL Installer provides the temporary password, **note this password, it cannot be recovered!**
    MacOS11.png
18. When the Summary window appears, click **Close**

    If prompted you may move the installer to trash
    MacOS12.png
19. Select **Apple Menu** and click **System Preferences**
20. Click **MySQL**

21. If MySQL is running, click **Stop MySQL Server**
22. Click **Start MySQL Server**

Install MySQL Workbench

1. Go to https://dev.mysql.com/downloads/workbench/ and download MySQL Workbench
2. Open the installer
3. When prompted, drag and drop **MySQLWorkbench.app** to **Applications**
   MacOS13.png

Next step: Install Appvance IQ Database Schema

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Install Appvance IQ Database Schema

1. Open **MySQLWorkbench**
2. If warning appears, click **OK**
   MacOS14.png
3. Select **Apple Menu** and click **System Preferences**
4. Click **Privacy & Security**
5. Click the **General** tab and select **Open Anyway**, and then **Open**
   MacOS15.png

   MacOS16.png
6. If version compatibility issues occur, please try alternate download from
   https://downloads.mysql.com/archives/workbench/
7. When MySQL Workbench appears, assuming a database connection does not already exist, click **MySQL Connections +** (add) button
   MacOS17.png
8. Enter a name for the connection in the **Connection Name** box
   Enter the **hostname**, **port** and credentials (if needed) and click **OK**
   MacOS18.png
9. Follow any prompts for updating the password
10. Click the newly created connection, for example AIQ as illustrated below
    MacOS19.png
11. Select **File** and click **Open SQL Query Script...**
12. Browse to <AIQ>**\TestNode\webapps\AppvanceServer\WEB-INF\classes\database**
13. Select **MySQLInitial.sql** and click **Open**
14. Select **Query** and click **Execute (All or Selection)**
15. Select **File** and click **Open SQL Script...**
16. From the same location, select **MySQLAppvance.sql** and click **Open**
17. Select **Query** and click **Execute (All or Selection)**

Troubleshooting

```
Error Code: 1419. You do not have the SUPER privilege and binary logging is enabled
```

If you get the above error while running the `MySQLAppvance.sql` script on AWS RDS, make sure that the RDS parameter group has the value `1 (ON)` for the `log_bin_trust_function_creators` parameter. The RDS database MUST be rebooted for parameter changes to take effect.

Next step: Update MySQL Max Packet and Case Settings

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If you have any feedback on this topic, please contact us at documentation@appvance.ai

Update MySQL Max Packet and Case Settings

1. Open **MySQLWorkbench**
2. Select **Server** and click **Status and System Variables**
   The Server Variables window appears
3. Click the **System Variables** tab
4. Enter **max_allowed** in the search box
5. Update the **max_allowed_packet** value to **102400000** and press **Enter**
6. Enter **lower** in the search box
7. Update the **lower_case_table_names** value to **2** and press **Enter**

You may now close MySQLWorkbench

Next step: Anti-Virus Settings

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