



SIGOS App Experience

Android Device Onboarding Guide

App Experience 8.11

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Symbols used in this Guide

The figures below are associated with safety and informative messages that might be used in this document:



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.



Informative Note

Typographical Conventions

The table below describes the typographical conventions used in SIGOS documentation.

Style	Element	Examples
Blue	Links, references and email addresses	http://www.appexperience.sigos.com
Bold	User interface elements such as menu items	Click My Devices in the Test Center Enterprise view of App Experience Studio.
Monospace	Directories, Commands, code output	<code>/AppExperience/example.run</code>
<i>Italic</i>	Emphasis	Refer to the <i>Enterprise Installation Guide</i> for instructions on setting up server infrastructure.
• Unordered list	Lists	List or group of items without a defined order
1. Ordered list	Lists	Steps which need to be executed in the sequence suggested

Contacting Support

If you have any comments or suggestions regarding this document, contact SIGOS App Experience support for enterprise customers at support@sigos.com. You may also send your inquiries about SIGOS App Experience product demonstrations and consulting services to this address.

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About this Document

This document is intended for customers who manage their own/local devices, use local devices and describes how to set up software-integrated Android devices in the SIGOS App Experience mobile test environment.

In this document, you will learn how to prepare your Android device for communication via USB cable. In order to control device input and view device output in the App Experience Studio client application, you must attach, or onboard, the device instance to your Ensemble Server. The onboarding process is run from App Experience Studio.

Summary

In this document you will find the following topics:

- Section 1 Requirements: provides information on hardware and software prerequisites for onboarding your Android device to the Ensemble Server.
- Section 2 Installation and Configuration: explains the steps for installing the required software before onboarding your android device
- Section 3 Onboarding Your Android Device: describes how to add a device from App Experience Studio, configure the App Experience Agent on the device and finish up the onboarding process in App Experience Studio.

Additional Documentation

You can find additional information in the following documents available at:

<https://appexperience.sigos.com/resources/product-documentation/test-automation-private-systems/>

- Studio Scripting Guide
- Mobile Testing Enterprise Release Notes
- Mobile Testing Enterprise Interactive User Guide

In addition, you can access documentation from the **Help** menu of App Experience Studio.

1 Requirements

Below you will find the hardware and software requirements for connecting to software-integrated Android devices:

1.1 Hardware

Hardware requirements include:

- One USB port and USB cable per mobile device on the computer hosting the Ensemble Server.
- Android mobile device(s) running Android OS 4.4 or higher. Please inform your SIGOS App Experience customer support about the device(s) you intend to test on.

1.2 Software

Software requirements are:

- A SIGOS App Experience account assigned the **Account Admin** role (required for onboarding devices). If you require an account, please contact your system administrator or App Experience customer support at support@sigos.com
- Ensemble Server (Team or Individual), pointing to a fully operational SIGOS App Experience test environment (including Access Server, SQL Server, and other components)
Refer to section 1 - System Requirements for the Ensemble Server below for minimum installation requirements. For detailed instructions, please refer to the [Enterprise Installation Guide](#)
- App Experience Studio client software, pointing to a fully operational App Experience test environment. Refer to Section 1 - System Requirements for App Experience Studio below for minimum installation requirements
- Device profile XML files, provided from SIGOS App Experience, for the mobile devices you wish to test—please contact your SIGOS App Experience customer support *before* you update device firmware or install custom components as this might entail changes to the device profile XML file.
- The SIGOS App Experience Agent for Android devices, `DAAgent.apk` (available at <http://devtools.deviceanywhere.com/Login.aspx>)—your SIGOS App Experience customer support will provide the exact version of the Agent you must download
- Appropriate licensing for the SIGOS App Experience product modules you wish to use
- USB drivers for your Android devices (available from device vendor Web sites)

The Java Runtime Environment (JRE) and Android Debug Bridge (ADB) tool are provided by SIGOS App Experience and are automatically installed with the Ensemble Server. For optimal performance, we recommend that you uninstall or deactivate any previously installed version of ADB from your Ensemble Server machine. See section 2 - Installation and Configuration for further details.

Components of the SIGOS App Experience test environment require a network connection to communicate with each other.

2 Installation and Configuration

This chapter explains the software installation and configuration steps that you must perform before installing the App Experience Agent on your Android device.

Please follow the steps below:

2.1 Enable USB debugging

Plug in your Android device via USB cable to the Ensemble Server and enable USB debugging. The way to enable USB debugging mode varies from one Android version to another. Please find some examples below:

2.1.1 Android 4.4.x - 7.x

1. Click the Menu button and access the **App drawer**
2. Go to **Settings**, scroll down to the bottom and tap **About Phone**
3. Scroll down to the bottom of **About phone** and locate **Build Number**
4. Tap Build Number seven times to enable **Developer Options**
5. When done, you will see the message **You are now a developer!**

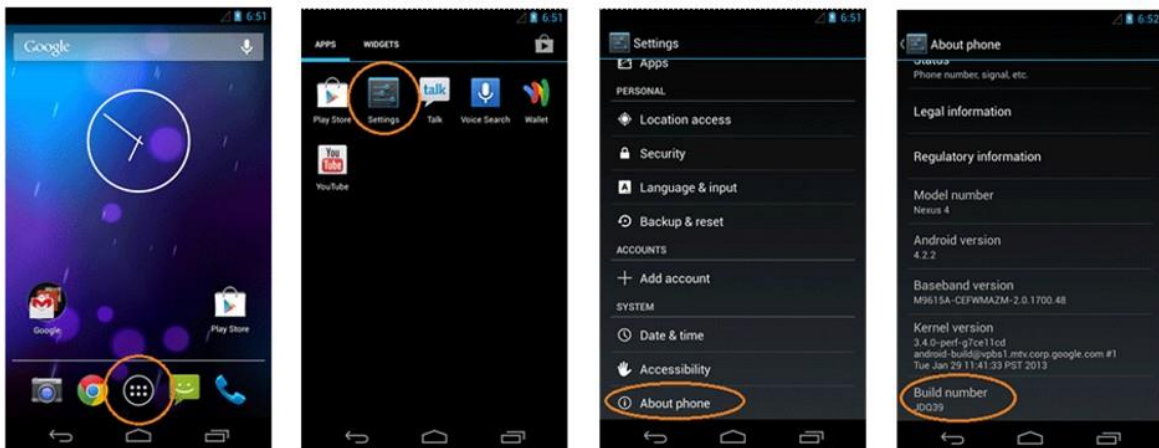


Figure 1: Enable Debugging - Android 4.2.x and higher

6. Tap the back button and go to **Developer Options**
7. Tick the USB Debugging checkbox

Most devices display a caution icon in the notification bar when USB debugging has been enabled (two examples are highlighted in the image below).



Figure 3: Notification Bar Debugging (a)



Figure 4: Notification Bar Debugging (b)

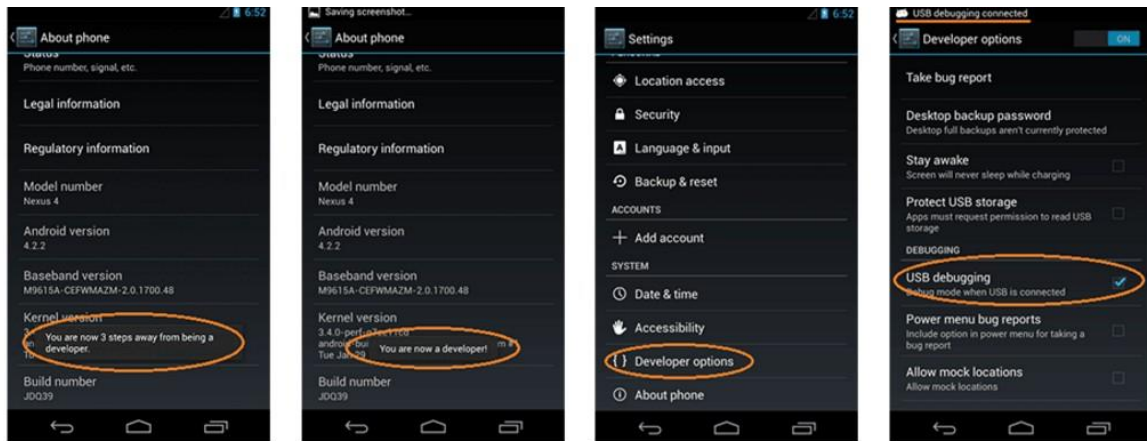


Figure 2: Enable Debugging - Android 4.2.x and higher

When you drag down the notification bar, many devices display a notification in the **Ongoing** section.



Figure 5: Notification Debugging MyTouch 4G

When done, please check if you require to install USB drivers. To check this, please open up Windows Device Manager and follow the steps below:

1. Right click **My Computer**
2. Click **Manage**
3. Click **Device Manager**

If your device is listed under **Other devices**, you will need to download and install the device's USB drivers.

2.1.2 Android 8 and higher

1. Click the Menu button and access the **App drawer**
2. Go to **Settings**, scroll down to the bottom and tap **About Phone**
3. Tap **Build Number** four times to enable **Developer Options**



Figure 6: Enable Debugging - Android 8 and higher (a)

4. Tap the back button and go to **Developer Options** and enable **USB Debugging**

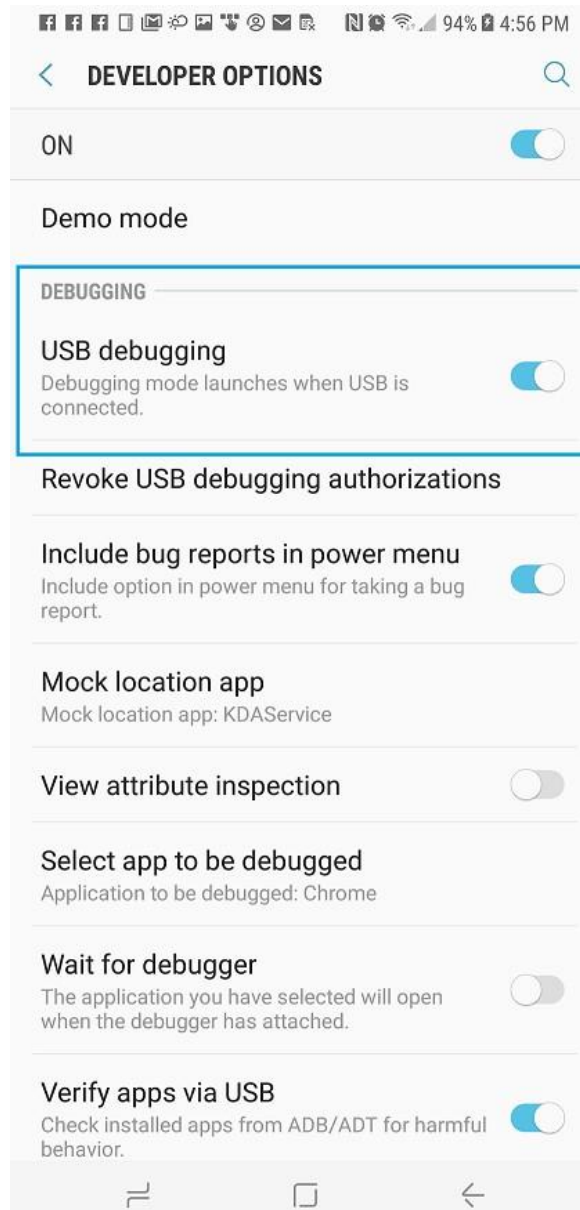


Figure 7: Enable Debugging - Android 8 and higher (b)

5. Enable Media Transfer Protocol

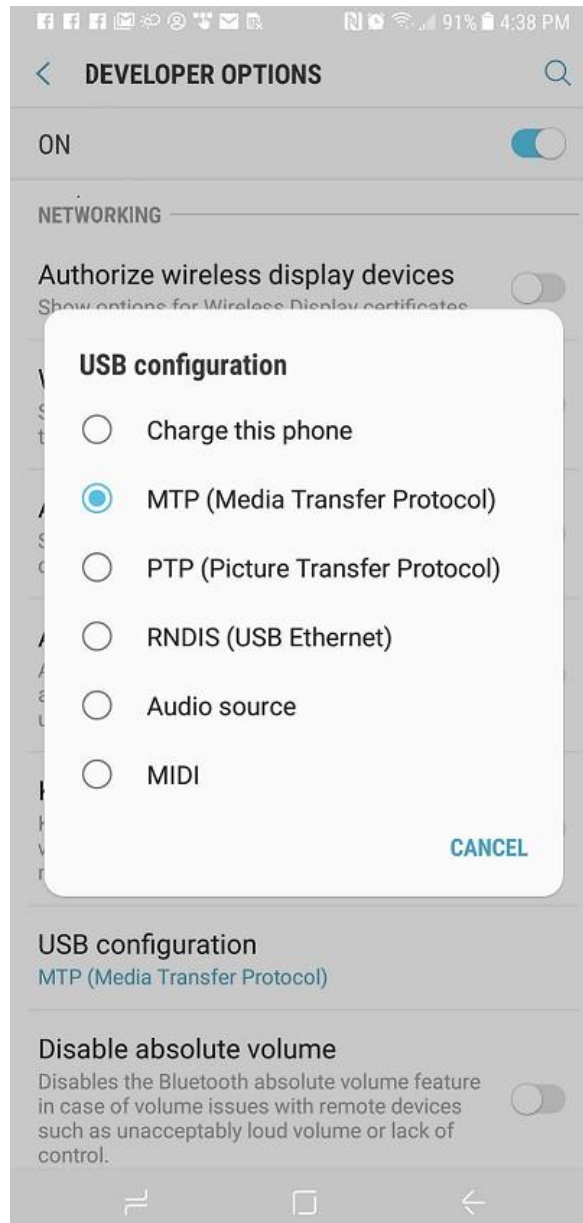


Figure 8: Enable Debugging - Android 8 and higher (c)

2.2 Installing the USB Drivers

Please make sure that you have installed the respective USB drivers. The location of the USB drivers varies depending on your Android Model, Operating System and Carrier.

Below you will find an example on how to install the USB drivers of a Samsung phone:

1. Go to <http://www.samsung.com>
2. Click **Support**
3. Select your product type and model
4. Scroll Down and select your **Device Details**

The screenshot shows a web interface with two tabs: 'DEVICE DETAILS' (active) and 'MODEL NUMBER'. Below the tabs, there is a dropdown menu labeled 'Phone Name' with a downward arrow, and a rounded rectangular button labeled 'SUBMIT'.

Figure 9: Device Details

5. Select your **Carrier**

The screenshot shows the same web interface as Figure 9. The 'DEVICE DETAILS' tab is still active. Below the tabs, there are two dropdown menus: the first is labeled 'S8' and the second is labeled 'Carrier', both with downward arrows. A rounded rectangular button labeled 'SUBMIT' is also visible.

Figure 10: Select your Carrier

6. Scroll down to **Product info** and download the USB drivers

For further information about these step, please contact your mobile service provider, smartphone seller or local service directly.



Device drivers for Google-branded devices can be downloaded as part of the Android SDK.

When your device is connected to the Ensemble Server by USB cable, the notification bar displays the USB icon.



Figure 11: Notification Bar USB

Once the device is recognized as **Android Device** by Device Manager, please proceed to install **Android Agent** as suggested in section 2.3

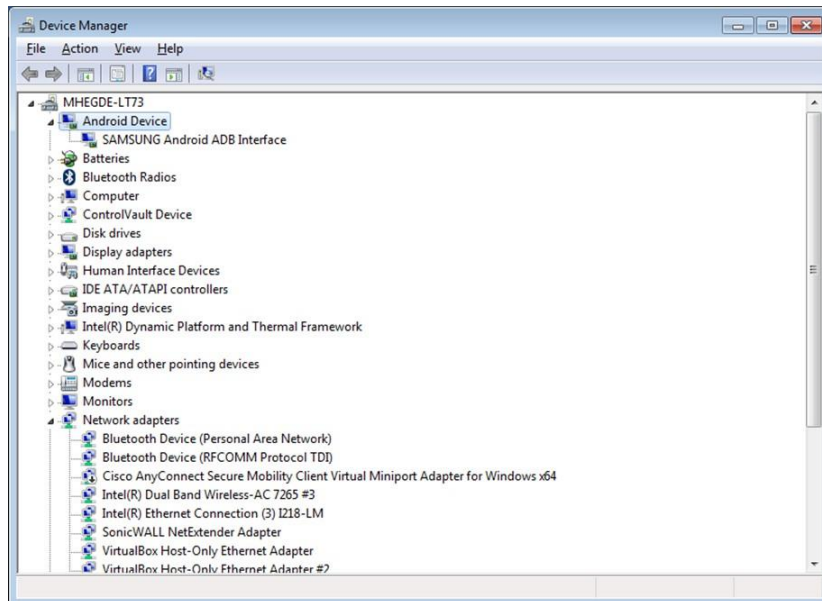


Figure 12: Device Visible in Device Manager

2.3 Installing Android Agent

To install the Android Agent software, please follow the steps below:

1. Download Android Agent at:
<http://devtools.deviceanywhere.com/Login.aspx>
2. Unzip the file
3. Execute the Android Agent installer: **Android Agent Installer.exe**
4. Allow access from the Ensemble Server to the Smartphone
5. Click **Refresh**

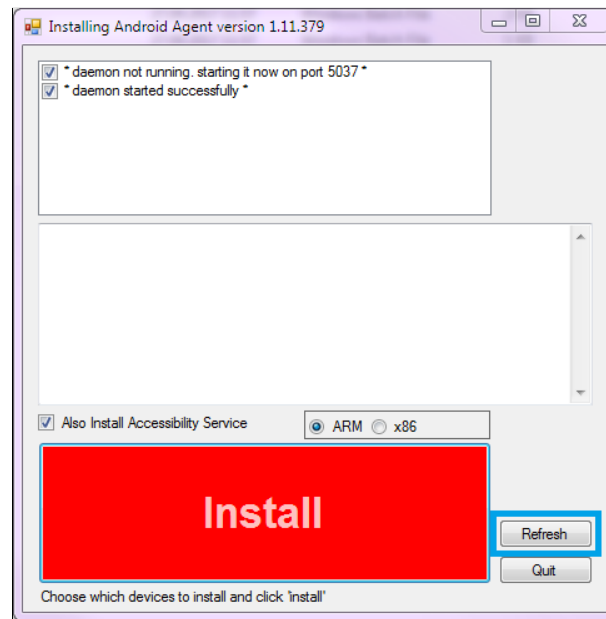


Figure 13: Installing Android Agent (a)

6. Click **Install**
7. When done, you will be able to see the following screen

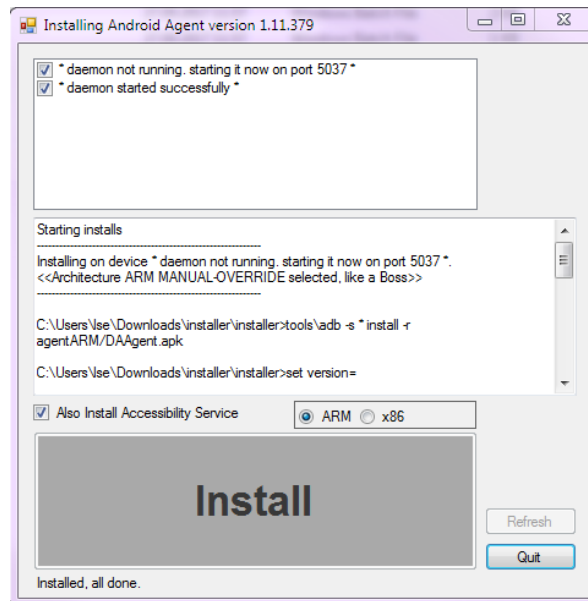


Figure 14: Installing Android Agent (b)

8. Activate **KDAService** after **Android Agent** installation as follows:
Settings > > Accessibility > > KDAService - set to ON

2.4 Check ADB Tool

The ADB tool is provided by SIGOS App Experience and is installed automatically with the Ensemble Server at the following default location: `C:\Program Files\App Experience\EnsembleServer\adb\adb.exe`.

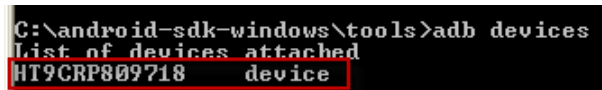
For optimal performance, we recommend that you uninstall or deactivate any previously installed version of ADB from your Ensemble Server machine (located in the Android SDK's `tools` or `platform-tools` directories). Alternatively, you can replace it with the ADB tool provided by App Experience.

If you choose to retain a previously installed version of ADB, we strongly recommend that you issue an `adb kill-server` command from the installation directory before starting up the Ensemble Server. The ADB tool shipped with the Android SDK has several known issues and can cause instability during prolonged interaction with devices.

2.5 Check Devices

Check that your device is correctly recognized by the Ensemble Server:

1. Open a command window and navigate to the ADB installation directory (the default installation location is `C:\Program Files\App Experience\EnsembleServer\adb\adb.exe`)
2. Enter the following command: `adb devices`



```
C:\android-sdk-windows\tools>adb devices
List of devices attached
HT9CRP809718 device
```

Figure 15: ADB Command

You should see your device's Android serial number followed by the word `device` in the command output.

3. If you do not see your device's serial number listed proceed with the following steps:
 - (a) Enter the command `adb kill-server` from the same directory.
 - (b) Re-enter the `adb devices` command.

If you are still unable to see your device's serial number in the command output:

- (a) Disconnect all other Android devices from the Ensemble Server.
- (b) Check the Windows Device Manager (right-click **My Computer** > **Manage** > **Device Manager**). Your device should be listed as an **Android Phone** or an **ADB Interface**.

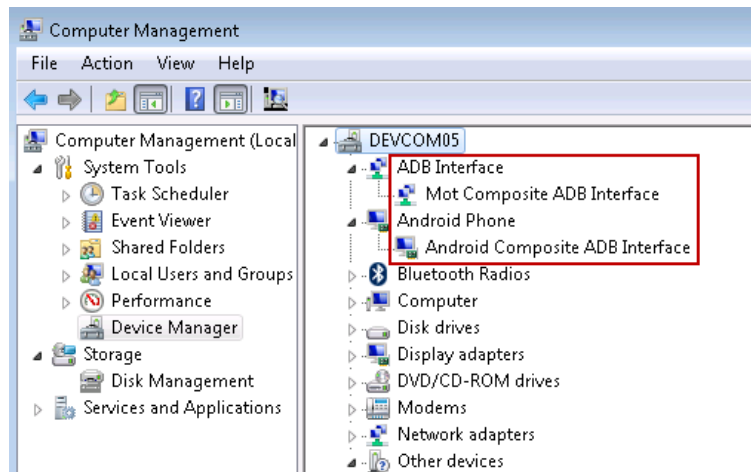


Figure 16: Device Manager Android



Additionally, you can unplug and reconnect the device USB cable, or turn off USB debugging and turn it back on to check and ensure your device's connectivity to the Ensemble Server

2.6 Install the XML file

Install the device profile XML file(s) provided by SIGOS:

1. Copy the device profile XML file (e.g., Droid_v2-2.xml) to the `smartphoneXMLs` directory of your App Experience Studio installation. The default location is:
 - Windows XP: `C:\Documents and Settings\\Local Settings\Application Data\DeviceAnywhere\smartphoneXMLs`
 - Windows Vista and later: `C:\Users\\AppData\Local\DeviceAnywhere\smartphoneXMLs`



Users with older installations of App Experience Studio might see this folder located at: `C:\Program Files\App Experience\App-ExperienceStudio\smartphoneXMLs`.

If you do not have a device profile XML file, please contact your system administrator or App Experience TAM (support@sigos.com).

3 Onboarding Your Android Device

Please follow the steps below to onboard

1. Login with a user having **MC Super User** rights or **Account Admin** rights to access the Device Manager tab.

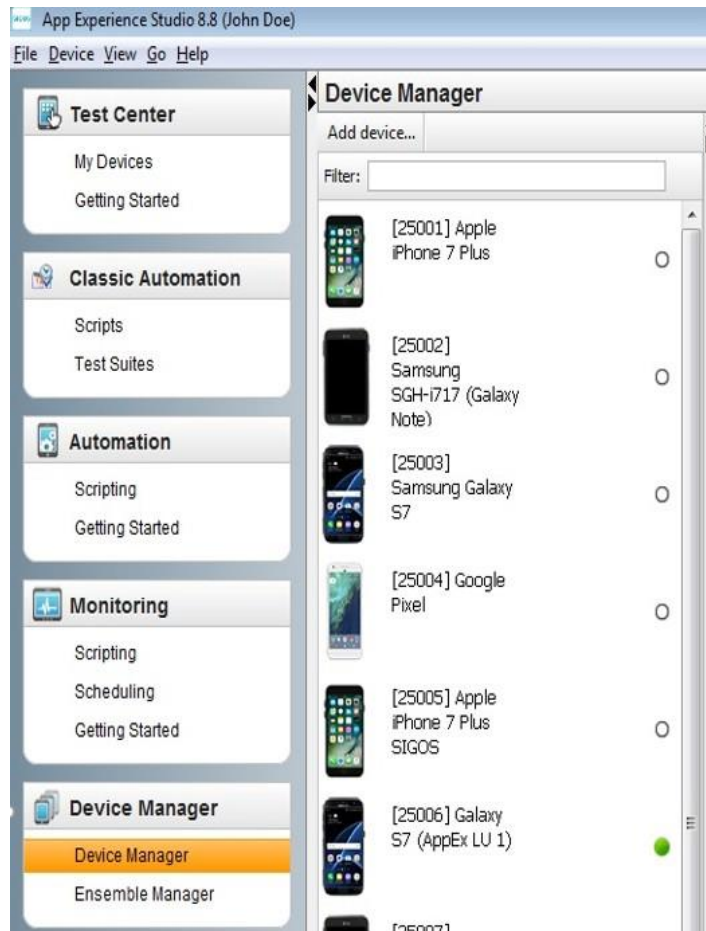


Figure 17: Device Manager Tab

2. Click on **Add Device** tab to bring up the following dialog:

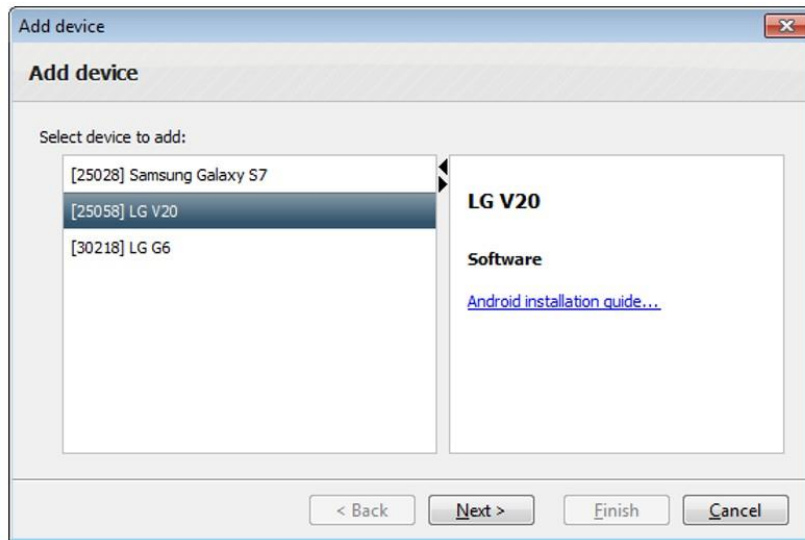


Figure 18: Add Device (a)

The dialog will parse the XML files in the folder and will list out the name of each device.

3. Select the device whose XML was copied and press **Next**

When the device XML is uploaded to **Access Server**, you will be prompted with following dialog:

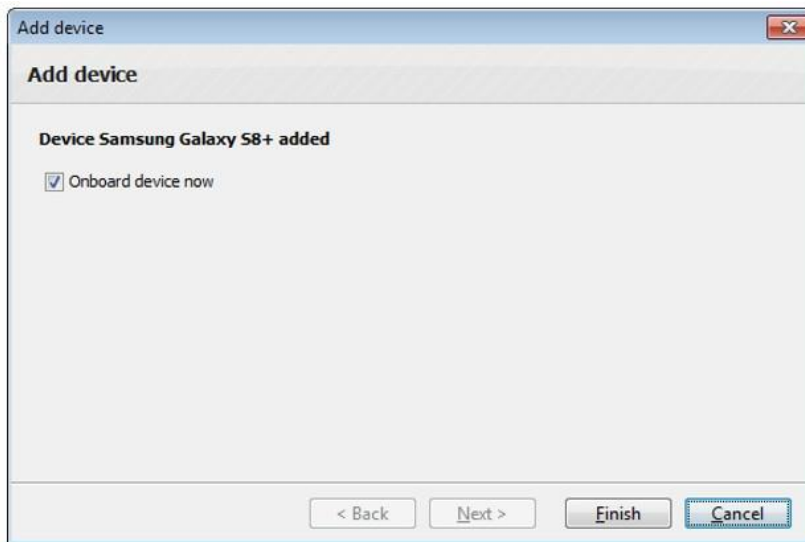


Figure 19: Add Device (b)

4. Click **Finish** and Select **USB cable**

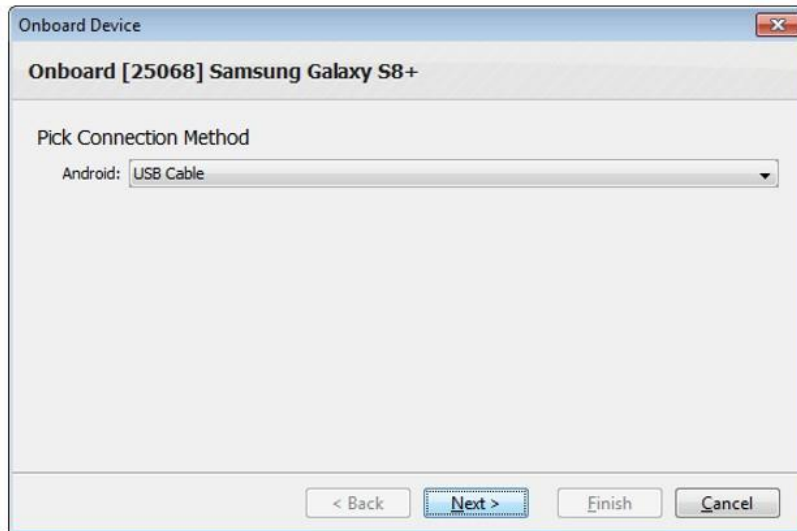


Figure 20: Onboard Device (a)

5. Select the **Ensemble Server** to which the Device/Smartphone is connected and press **Next**

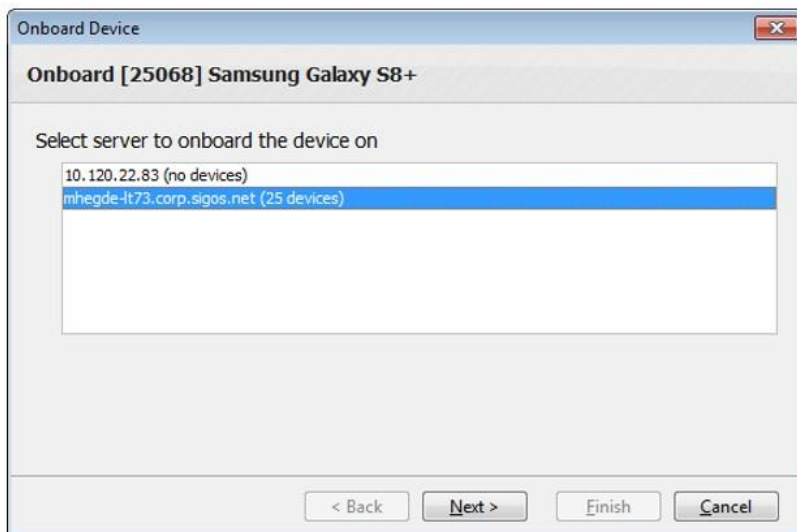


Figure 21: Onboard Device (b)

- The device identified by **ADB ID** will be selected. Click **Next** to continue



Figure 22: Onboard Device (c)

- When done, you will see the following dialog:



Figure 23: Onboard Device (d)

Now, your device is ready to start a new App Experience!

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Abbreviations

ADB	Android Debug Bridge
AVD	Alternate Voice/Data
IP	Internet Protocol
JRE	.....	Java Runtime Environment
RAM	.....	Random-access memory
SDK	.....	Software Development Kit
USB	.....	Universal Serial Bus
WiFi	.....	Wireless Fidelity

End of document