**VR Development pathway**

**Setting up the Quest with Unity**

The Meta Quest is a virtual reality headset that allows users to experience immersive, interactive environments. Unity is a popular game engine that is often used to develop VR games and experiences. In this setup guide, we will walk you through the steps to get your Oculus Quest up and running with Unity so that you can start creating your own VR experiences.

### Set up your device

Taken from the [Meta Developer pages](https://developers.meta.com/horizon/documentation/unity/unity-env-device-setup/)

This topic provides instructions on setting up your [Meta Quest headset](https://www.meta.com/quest/compare/) for development, debugging, and testing.

In this topic, you will do the following:

* Pair your headset with the Meta Horizon mobile app
* Install Android Debug Bridge
* Install Link
* Install Meta Quest Developer Hub

Prerequisites

To fully set up your device for development and testing, you need the following:

* Development machine running Windows 10+ (64-bit) or macOS Sierra 10.10+ (x86)
* A USB-C cable
* A [Meta Developer account](https://developers.meta.com/horizon/sign-up/)
* An Android or iOS mobile device with the [Meta Horizon mobile app](https://www.meta.com/help/quest/articles/getting-started/getting-started-with-quest-2/install-meta-horizon-mobile-app/) installed

Pair headset with Meta Horizon mobile app

1. Open the Meta Horizon mobile app.  
   For instructions on installing the Meta Horizon mobile app, see [Install the Meta Horizon mobile app on your phone](https://www.meta.com/help/quest/articles/getting-started/getting-started-with-quest-2/install-meta-horizon-mobile-app/).
2. Sign in with your Meta developer account credentials through the app.
3. Pair your headset with the app.
4. Put on your headset and follow the instructions in the headset to finish the setup.

For detailed setup instructions and troubleshooting, refer to the [Getting started with your Meta Quest](https://www.meta.com/help/quest/articles/getting-started/) support page.

Set your device to “Developer Mode”

1. Open the Meta Horizon mobile app.
2. Navigate to Menu > Devices and then select your device.
3. Go to Headset Settings > Developer Mode and then enable Developer Mode.
4. Use a USB-C cable to connect the headset to your computer, and then put on the headset.
5. Go to Settings > Advanced > Developer, and then enable Enable custom settings and MTP Notification.
6. When asked to allow USB debugging, select Always allow from this computer.

To verify the connection:

1. Open an existing Unity project and navigate to File > Build Settings.
2. In the Platform list, select Android, and then select Switch Platform. If the target platform is already set to Android, skip to the next step.
3. In the Run Device list, select the Meta headset. If you don’t see the Meta headset in the list, select Refresh.
4. Select Build And Run, specify a name and location for the .apk (Android executable) file to output, and select Save to build the app and run it on your headset.

If the app runs successfully on the headset, you have properly connected your device.

### Set up Link

Note: Link is currently only supported on Windows. If you are developing on macOS, or developing without access to a headset, use [Meta XR Simulator](https://developers.meta.com/horizon/documentation/unity/xrsim-getting-started).

To set up Link on your development machine:

1. [Download Link](https://www.oculus.com/download_app/?id=1582076955407037) and install the app on your machine.
2. Put on your headset.
3. Open the Quick Settings window by selecting the clock on the left side of the menu bar.
4. Open Settings, select System > Quest Link, and toggle Quest Link on.
5. Select Launch Quest Link to start Link on your development machine and on your headset.

For more details on Link, see [Use Link for App Development](https://developers.meta.com/horizon/documentation/unity/unity-link).

#### Download and install MQDH

Meta Quest Developer Hub (MQDH) is an application for Windows and MacOS that allows developers to manage their devices, debug their apps, and submit their apps to the Store.

1. Download and install the Meta Quest Developer Hub application for [macOS](https://developers.meta.com/horizon/downloads/package/oculus-developer-hub-mac) or [Windows](https://developers.meta.com/horizon/downloads/package/oculus-developer-hub-win).
2. Open the application and log in using your Meta Developer credentials.
3. In the left navigation pane, choose Device Manager. All the devices you have set up are displayed in the main pane. Each device is shown with its status, which includes the device ID and connection status. The active device shows a green Active designator.

For more information about MQDH, see [Meta Quest Developer Hub Overview](https://developers.meta.com/horizon/documentation/unity/ts-odh/).

### Set up Unity for XR development

This page provides instructions on quickly configuring your Unity project for XR application development, using the following tools:

* [Unity Package Manager](https://docs.unity3d.com/Manual/Packages.html) (UPM), Unity’s package management system.
* The [Project Setup Tool](https://developers.meta.com/horizon/documentation/unity/unity-upst-overview/), a Unity Editor extension developed and maintained by Meta.

Prerequisites

To set up a Unity project for Meta XR development, you need the following prerequisites:

* Development machine running Windows 10+ (64-bit) or macOS Sierra 10.10+ (x86)
* [Unity ID](https://id.unity.com/)
* [Unity Editor](https://unity.com/download) 2021 LTS or higher with the following modules installed:
  + Android Build Support
  + OpenJDK
  + Android SDK & NDK Tools

Create a new Unity Project

Unity configuration settings are project-specific. To configure a project, you must first open the project in Unity.

If you have not yet created a Unity project, follow the steps below:

1. Open Unity Hub.
2. On the Projects tab, select New Project.
3. Select the Unity version you want to use to create the project.
4. Choose the Universal 3D template, a blank Unity project template built on the Universal Render Pipeline.
5. Enter your project name, a save location, and a Unity organization (you can use the default organization that Unity creates for you).
6. If applicable, select [Connect to Unity Cloud](https://unity.com/products/unity-cloud) and [Use Unity Version Control](https://unity.com/how-to/redeem/version-control).
7. Select Create Project.

#### Import the Meta XR All-in-One SDK

Meta develops and maintains a number of Unity SDKs for extended reality (XR) application development. If you are just getting started developing for Horizon OS, download the [Meta XR All-in-One SDK](https://developers.meta.com/horizon/downloads/package/meta-xr-sdk-all-in-one-upm/), a package that bundles the most essential Meta SDKs.

To download and import the Meta XR All-in-One SDK:

1. Go to the [Unity Asset Store](https://assetstore.unity.com/publishers/25353), and sign in using your Unity credentials.
2. Navigate to the [Meta XR All-in-One SDK](https://assetstore.unity.com/packages/tools/integration/meta-xr-all-in-one-sdk-269657) page.
3. Select Add to My Assets to add the package to your Unity account’s assets.
4. Select Open in Unity to open the Package Manager window in the Unity Editor.
5. Enter Unity credentials if prompted.
6. In the Package Manager window, in the upper-right side of the window, select Install to install the All-in-One SDK.

For more details about Meta XR packages, see [Meta XR Packages reference page](https://developers.meta.com/horizon/documentation/unity/unity-package-manager/).

#### Set the build platform

The target platform for Meta Quest headsets is Android, and the final build output is an .apk file (Android executable).

To set the Unity build platform for your project to Android:

1. Open the Build Settings window in the Unity Editor, by navigating to File > Build Settings.
2. Under Platform, select Android, and then select Switch Platform.

For more information about Unity build settings, see [Build Settings Overview](https://developers.meta.com/horizon/documentation/unity/unity-build/).

#### Install an XR vendor plugin

XR vendor plugins provide the base functionality for running XR applications on headsets.

For projects built on Unity versions 2021-2023, and for projects that target Meta Quest devices, we recommend using the Oculus XR Plugin due to a broader feature set for Meta Quest devices.

For projects built on Unity 6+, and for projects that you want to be compatible with Meta Quest devices and other XR devices, we recommend using the Unity OpenXR Plugin.

Install an XR vendor plugin by following these steps:

1. Open any 3D project in the [Unity Editor](https://unity.com/download) (2021 LTS or higher).
2. From the top menu of the Unity Editor, navigate to Edit > Project Settings to open the Project Settings window.
3. Select XR Plug-in Management in the Project Settings window.
4. If XR Plugin Management is not installed, select Install XR Plugin Management.
5. In the Windows, Mac, Linux settings tab, select either Oculus or OpenXR.
6. In the Android settings tab, select either Oculus or OpenXR.
7. Close the Project Settings window.
8. From the top menu of the Unity Editor, navigate to Windows > Package Manager to open the Unity Package Manager window.
9. At the top left of the window, select Packages: and change the selection to Packages: In Project.
10. In the list of packages in the left menu, verify that there is a check mark beside the vendor plugin that you selected, indicating that the package is installed.

Note: Installing an XR plugin does not download and import the Meta XR SDKs in to your project. Make sure you [download the Meta XR SDKs](https://developers.meta.com/horizon/documentation/unity/unity-package-manager/) you need from the [Unity Asset Store](https://assetstore.unity.com/publishers/25353).

For more information about XR vendor plugins, see [XR Plugin Management for Meta Quest](https://developers.meta.com/horizon/documentation/unity/unity-xr-plugin/).

#### Configure your project with the Project Setup Tool

The Project Setup Tool is a Unity Editor extension that is designed to quickly configure Unity projects for Meta XR development.

Use the Project Setup Tool to configure your project for Android:

1. Open the Project Setup Tool in the Unity Editor, by navigating to Meta > Tools > Project Setup Tool.  
   Note: You can also open the Project Setup Tool by clicking on the Meta icon in the bottom right corner of the Unity Editor, and then selecting Project Setup Tool from the pop-up menu.
2. To resolve all outstanding issues for the Android platform, select Fix All.
3. To apply all recommended settings for the Android platform, select Apply All.

For more details about the Project Setup Tool, see the [Project Setup Tool reference page](https://developers.meta.com/horizon/documentation/unity/unity-upst-overview/).

For more information about configuring Unity projects manually, see [Project Configuration Overview](https://developers.meta.com/horizon/documentation/unity/unity-project-configuration/)