

# How to build to a Meta Quest 2

Building a VR app for the Meta Quest 2 from Unreal Engine involves a series of steps, including setting up the development environment, configuring project settings, and packaging the app. Below are detailed instructions to guide you through the process:

## 1. Install Unreal Engine and Required SDKs:

- Download and install the latest version of Unreal Engine from the Epic Games website (<https://www.unrealengine.com/>).
- Ensure you have the Android SDK and NDK installed on your development machine. You can download these tools through Android Studio or separately from the Android developer website (<https://developer.android.com/studio>).

## 2. Set Up Oculus Development Hub:

- Download and install Oculus Development Hub from the Oculus developer website (<https://developer.oculus.com/>).
- Log in with your Oculus developer account or create a new one if you don't have one already.

## 3. Enable Developer Mode on Quest 2:

- On your Meta Quest 2, navigate to Settings > Oculus Quest 2 > More Settings > Developer Mode.
- Enable Developer Mode and follow the instructions to set it up.

## 4. Create a New VR Project:

- Launch Unreal Engine and create a new project.
- Choose the "Virtual Reality" or "VR Template" as a starting point for your Meta Quest 2 project.

## 5. Configure Project Settings:

- Go to Edit > Project Settings.
- Under Platforms > Android, configure Android-specific settings such as package name, minimum SDK version (recommended to use Android 7.0 or higher), and any required permissions.

- Under Platforms > Android > APKPackaging, enable "Package For Oculus Mobile Devices."
- Enter your Oculus app ID obtained from the Oculus developer dashboard.

#### **6. Set Up Oculus Quest 2 for Development:**

- Connect your Meta Quest 2 to your development machine using a USB cable.
- In the Oculus Development Hub, you should see your connected device under "My Devices."
- Follow the prompts to authorize the device for development.

#### **7. Install Oculus Quest 2 ADB Drivers (if needed):**

- If your computer doesn't recognize the Quest 2, you may need to install the Oculus ADB Drivers. The drivers can be installed through the Oculus Development Hub or separately from the Oculus website.

#### **8. Build and Run the VR App:**

- In Unreal Engine, select the "Launch" or "Package" option for Android.
- Choose "Quest 2" as the target device and build the APK.
- Once the APK is built, it will be automatically installed on your connected Meta Quest 2 device.

#### **9. Testing and Debugging:**

- Disconnect the Meta Quest 2 from your development machine after the app is installed.
- Put on the headset and navigate to the "Unknown Sources" section in the Library to find and launch your app.
- Test the app thoroughly on the Meta Quest 2, ensuring all VR interactions and functionalities work as intended.

#### **10. Optimize Performance (if needed):**

- Use Unreal Engine's profiling tools to identify performance bottlenecks and optimize your VR app for smooth performance on the Meta Quest 2.
- Optimize textures, reduce draw calls, and use level streaming to manage resources efficiently.

## 11. **Submit to Oculus Store (Optional):**

- If you plan to distribute your app through the Oculus Store, you need to follow the Oculus submission guidelines and perform necessary testing for approval.

Remember, Meta Quest 2 development with Unreal Engine requires attention to performance optimization and adherence to Oculus store guidelines (if applicable). Regularly test your app on the device to ensure a comfortable and immersive experience for users. Also, keep up-to-date with the latest Unreal Engine updates and Oculus SDK changes to maintain compatibility with future releases.

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