



Unit 3

Oculus Quest Workflow

[This course was designed specifically with Oculus Rift in mind. If you are using the Oculus Quest, understand that the steps for development between the two headsets are different. The intent of this document is to provide additional assistance for Oculus Quest owners in following along with Unit 3 - Using Unity to Develop VR Experiences.]

2. Creating a Unity Project

1. Open the Unity Hub and Using Unity 2018.4 LTS create a new project named **"Escape Room Vertical Slice"** and save it to the **Desktop**
2. Go to the Asset Store in Unity and search for **Oculus Integrations**
3. Click **Import** and **Install**
4. When prompted to install the update for **Oculus Utilities** click **"Yes"**
5. When prompted to restart click **"Yes"**
6. Next Go to **"Window"** and open **"Package Manager"**
7. Locate **"Oculus Android"** and click **"Install"** Located in the upper right corner of the window
8. In Windows Explorer open the Packages folder in your project directory
9. Open the manifest.json in a text editor
10. At the top of the manifest under the first { add: "scopedRegistries": [{ "name": "npmjs", "url": "https://registry.npmjs.org/", "scopes": ["io.extendreality"] }],
11. Add the following entry to the "dependencies section": "io.extendreality.vrtk.prefabs": "1.1.3", This will add the vrtk.prefabs package as well as it's dependencies to your project. The latest version of the prefabs can always be found on: <https://github.com/ExtendRealityLtd/VRTK.Prefabs>
12. Return to the Editor and let these new packages load. Once they finish you will see the VRTK Prefabs in your Package Manager. It will have a download icon next to it.
13. Go to <https://git-scm.com/> and install Git
14. Once you have Git navigate to Desktop/Escape Room Vertical Slice
15. Right-click the "Assets" folder and select "Git Bash Here"
16. In the Command Window Enter: git clone <https://github.com/ExtendRealityLtd/VRTK.Tutorials.OculusIntegration.git>
17. Return to Unity and let it load
18. Once it's done loading you are ready to move on to the next video



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3. Unity Player Settings

1. *Only Concept Approved Developers can create Quest applications for release on the store. Without going through the concept approval process you will not be able to release your app.*
2. Make sure you have enabled Developer Mode on your quest by going to **Settings** in the Oculus App, select your Quest, and select **More Settings** then enable **Developer Mode**
3. Make sure you have installed your Android Studio and SDK Tools and at least SDK 23 or higher
4. In the Unity Editor go to **"File"** and click **"Build Settings"**
5. In the Build Settings window switch the **Platform** to **Android** and press the **"Switch Platform"** button
6. Make sure you have your Quest plugged into a USB port
7. In **"Build Settings"** under the **Android** section change the **Run Device** to your Quest (you may need to press the **Refresh** button to see it)
8. In the Unity Editor go to **"Edit"** and click **"Project Settings"**
9. Navigate down to **"Player"** and open the **"XR Settings"** Tab
10. Check the **"Virtual Reality Supported"** checkbox
11. Click the **"+"** button and add in the Oculus SDK if it has not already been added
12. Navigate to Other Settings, and In the **"Identification"** section change **"Package Name"** to **com.DefaultCompany.EscapeRoomVerticalSlice**
13. Still in Other Settings, change the **"Minimum API Level"** to **"API level 23"**
14. You are ready to move onto the next video

4. Creating a Vertical Slice

1. Download the Escape Room Vertical Slice file for this Video
2. Open a new Scene
3. Right-click in the Project Window and go to **"Import Package/Custom Package"**
4. Select the **"EscapeRoom_VS"** Unity Package
5. Select **"Import"** on the window that pops up
6. Save the Scene into the Scenes folder
7. In the Unity Editor go to **"File"** and click **"Build Settings"**
8. Click the **"Add Open Scenes"** button
9. Close the Window
10. Delete the **"Main Camera"** located in your scene
11. In the Project Window navigate to **"Assets/Oculus/VR/Prefabs"**
12. Drag the **"OVRCameraRig"** Prefab into your Hierarchy view
13. In the Project window navigate to **"Packages/VRTK Prefabs/CameraRig/TrackedAlias"**



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14. Drag the **"TrackedAlias"** Prefab into the **Hierarchy** view
15. Select the **"OVRCameraRig"** in the Hierarchy
16. Click **"Add Component"** in the **Inspector Window**
17. Search for **"Linked Alias"** and select **"Linked Alias Association Collection"**
18. Open the **OVRCameraRig** prefab as well as the **TrackingSpace** child object in your **Hierarchy**. Select the **OVRCameraRig** then navigate to the **LinkedAliasAssociationCollection** script in the **inspector**. Drag and drop the following assets into the appropriate inputs on the **LinkedAliasAssociationCollection** Script:
 19. TrackingSpace to Play Area
 20. CenterEyeAnchor to Headset
 21. CenterEyeAnchor to Headset Camera
 22. LeftHandAnchor to Left Controller
 23. RightHandAnchor to Right Controller
24. Navigate to the **TrackedAlias** Object in your **Hierarchy** and view the **TrackedAliasFacade** script in the inspector. Under **Camera Rigs**, set the Elements array Size to 1.
25. Drag the **OVRCameraRig** prefab in your scene into Element 0
26. Open the **"TrackedAlias"** object in your scene and the **"Aliases"** child object
27. Add a cube with the scale of 0.02x, 0.02y, 0.2z to the **"LeftControllerAlias"** and **"RightControllerAlias"** child objects
28. Apply a Blue Material to the **"RightControllerAlias"** cube, and a Red Material to the **"LeftControllerAlias"** Cube.
29. In the **Project Window** navigate to "Assets/EscapeRoom/Prefabs" and drag the first **"Environment"** prefab into the **Hierarchy**
30. Select the **"OVRCameraRig"** in the Hierarchy
31. In the **"OVR Manager"** script change **"Tracking Origin Type"** from **"Eye Level"** to **"Floor Level"** so you can view it at the proper height
32. Select the **OVRCameraRig** and in the **OVR Manager** script change the **Target Devices > Element 0** to **Quest**.
33. Go to the dropdown Oculus>Tools and select **"Create store-compatible AndroidManifest.xml"**
34. Go to **"File"** and click **"Build Settings"** make sure your saved scene is the only one in the **"Scenes To Build"** list
35. Press **"Build And Run"**
36. The first build may take a while to build
37. You should be able to run the scene and enter the environment in VR
38. Once you have completed these steps you are ready to move on to the next video