# How to Create a VR Application using Godot 4.0.1 and Godot XR Tools

## Introduction

This guide will walk you through the process of creating a VR application using Godot 4.0.1 and Godot XR tools. You'll learn how to set up the environment, add controllers, configure movement, and more.

## Prerequisites

- A VR headset
- Godot 4.0.1 installed
- Godot XR tools installed

## Step 1: Download and Install Godot Engine

1. Open a web browser and navigate to the Godot website.
2. Click on "Download Latest" and select the standard Godot engine 4.0.1 for download.
3. Once downloaded, open the download folder and extract the contents of the zip file.

## Step 2: Launch Godot Application

1. Navigate into the extracted folder and launch the Godot application.
2. Dismiss the open Assets Library pop-up.

## Step 3: Create a New Project

1. Click on the "New Project" button.
2. Enter "Godot VR Demo" as the project name.
3. Click on "Create Folder" and then "Create and Edit" to create the project.

## Step 4: Add XR Tools Plugin

1. Click on the "Asset Library" button at the top of the window.
2. Search for "Godot XR tools" and download it.
3. Install the downloaded files.

## Step 5: Configure XR Settings

1. Open the project settings and switch to the "Plugins" tab.
2. Enable the Godot XR tools plugin.
3. Switch to the "General" tab and scroll to the XR section.
4. Enable both OpenXR and the associated shaders.
5. Click on the "Save and Restart" button.

## Step 6: Set Up the Scene

1. Click on "3D Scene" to create a top-level 3D node named "Main."

2. Rename the scene file to "main.tscn."

### Step 7: Add VR Components

1. Under the Main node, add a child of type XR origin 3D.
2. Add an XR camera 3D node under the XR origin.
3. Add 2 XR controller 3D nodes under the XR origin for both hands.
4. Adjust the positions of the camera and controllers for player height and hand positions.

### Step 8: Configure Controllers

1. Rename the XR controllers to "Left Controller" and "Right Controller."
2. Configure the left controller tracker to left hand and pose to aim.
3. Configure the right controller tracker to right hand and pose to aim.

### Step 9: Add Environment and Start VR Scene

1. Navigate to the "Godot XR tools" folder and drag the "Start XR" scene under the Main node.
2. Set the modified scene as the main scene.

### Step 10: Test VR Scene

1. Save the scene modifications and set the main scene.
2. Click on the play button to test the VR scene with your headset.(Refer 1st document for Steps to connect Meta Quest 2 to PC)
3. The controller joysticks can be used to move, strafe, and turn the player.

### Step 11: Adding Movement

1. Expand the XR origin 3D node and browse to the "Godot XR tools" functions folder.
2. Drag the "Movement Direct" scenes under the left and right controllers.
3. Drag the "Movement Turn" scene under the right controller.

### Step 12: Configure Movement

1. Select the left controller's movement direct node and set the maximum speed to 3 meters per second and enable strafing.
2. Set the right controller's movement direct node speed to 3 meters per second.
3. The movement turn node should already be correctly configured.

### Step 13: Save and Test Movement

1. Save the scene and press play to test the VR scene with movement.
2. Use the controller joysticks to move, strafe, and turn the player.

### Conclusion

Congratulations! You've successfully created a VR application using Godot 4.0.1 and Godot XR tools. Feel free to explore further and enhance your VR experience with additional features and interactions.

**Youtube Link**

https://youtu.be/AZ-GrLx6V2I

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