

# Extended Reality (XR) Capstone - Transition Documentation

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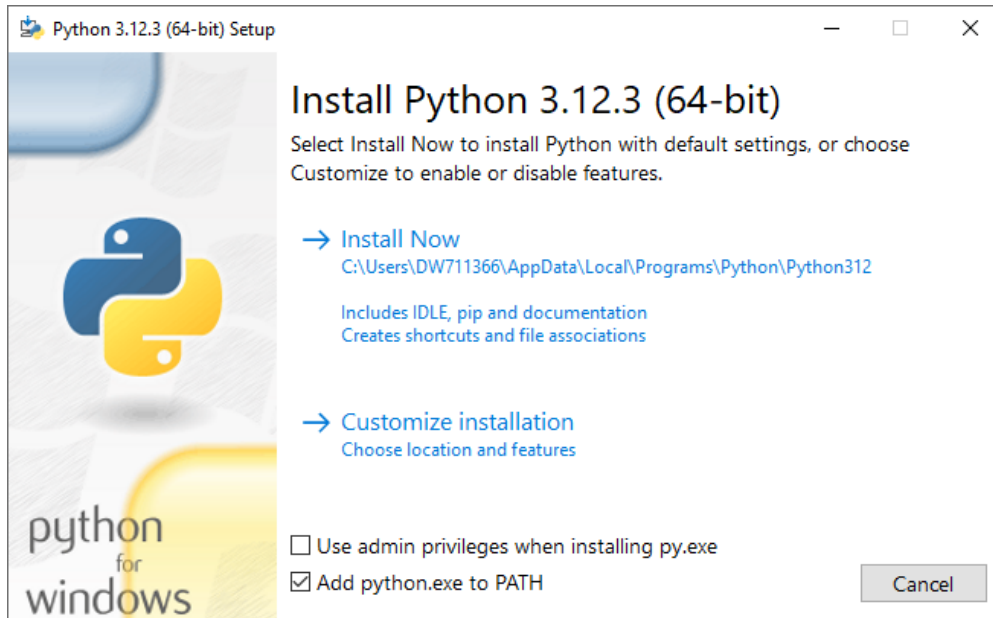
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## Download and Installation Instructions

1. Download and install the [Epic Games Launcher](#)
  - a. Open the launcher and create or log in to your Epic Games account.
  - b. Navigate to the Unreal Engine tab and click the Install button to download the most recent Unreal Engine version.
2. Download and install [Android Studio 4.0](#)
  - a. (This will be used to build APK and uploaded to hardware).
  - b. Agree to any terms and conditions.
  - c. Scroll to Android Studio Release Candidate 4 (May 28, 2020).
  - d. Download the installer for your device.
3. Download and install the [Oculus PC App](#)
  - a. Launch the app and follow through the installation process.
  - b. Connect the Oculus headset to the app [Recommended: Link (Cable)].
  - c. Follow the on-screen instructions to connect your headset.
4. Download and install [Visual Studio Code](#)
  - a. Launch the Setup and follow the on-screen instructions.
  - b. Install the Python extension for Visual Studio Code.

5. Download and install [Python](#)
  - a. Check box “Add python.exe to PATH”



6. Install the NumPy and PySpice libraries through the command prompt
  - a. CMD: pip install numpy
  - b. CMD: pip install pypspice
  - c. CMD: pypspice-post-installation --install-ngspice-dll --ngspice-version=32
7. Download and Install [GitHub Desktop](#)
  - a. Launch the Setup and follow the on-screen instructions.

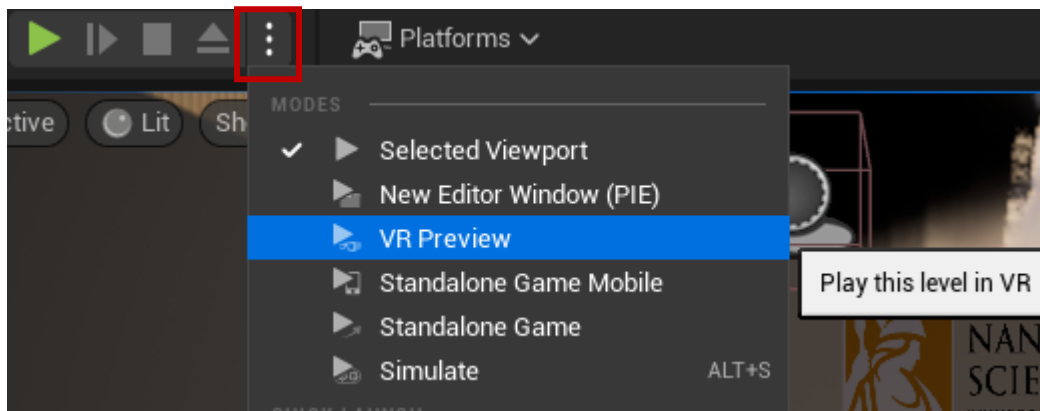
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## Steps to Start Running the Project

1. Launch GitHub Desktop and clone the Extended-Reality repository.
2. Locate the local repository and in the “X11823” project folder run the .uproject file.
3. Open the server.py file Visual Studio Code and run the Python file.

Documents > GitHub > Extended-Reality > Unreal Engine 5 Files > X11823				
Name	Date modified	Type	Size	
Build	4/13/2024 2:52 AM	File folder		
Component	4/4/2024 10:26 PM	File folder		
Config	4/12/2024 11:22 PM	File folder		
Content	4/16/2024 7:12 PM	File folder		
DerivedDataCache	4/4/2024 10:41 PM	File folder		
Intermediate	4/16/2024 7:13 PM	File folder		
Saved	4/16/2024 7:13 PM	File folder		
server.py	4/15/2024 9:01 PM	Python Source File	13 KB	
X11823.uproject	4/11/2024 3:04 AM	Unreal Engine Proj...	1 KB	

4. Launch the Meta Quest Link app and [connect your Oculus Headset](#)
5. In the UE5 project, from the [Level Editor](#) Toolbar buttons, click on the Play dropdown button to display the Play Options dropdown menu.



6. Select VR Preview and click the Play button to begin a Play In Editor (PIE) session and test gameplay through the headset viewport.

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## Requirements/Recommendations

- Prerequisites
  - Coding
    - Blueprint Visual Scripting
      - Blueprint Types
    - Python
    - C++

- 3D Modeling
  - [Autodesk Fusion](#)
- Game Development
  - [Classes on Campus](#)
    - C INF 371 Digital Game Design and Development I (3)
    - C INF 471 Digital Game Design and Development II (3)
- Terminology
  - Blueprint Visual Scripting (BPs)
- Meta Quest Link Requirements
  - [Window PC Requirements](#)

Component	Minimum Specifications
Processor	Intel i5-4590 / AMD Ryzen 5 1500X or greater
Graphics Card	See GPU tables below
Memory	8 GB+ RAM
Operating System	Windows 10, Windows 11
USB Ports	1x USB port
	<b>Recommended Specifications</b>
Processor	Intel i7 / AMD Ryzen 7
Graphics Card	Nvidia RTX 20 Series / AMD Radeon RX 6000 Series
Memory	16 GB DDR4 RAM
Operating System	Windows 10, Windows 11
USB Ports	1x USB-C port

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## Download Links

[Epic Games Launcher](#)

[Oculus PC app](#)

[GitHub Desktop](#)

[Autodesk Fusion 360](#)

[Android Studio 4.0](#)

[Visual Studio Code](#)

[Python](#)

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## Unreal Engine 5 Plugins

[TCP Socket Plugin](#)

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## Documentation References

[Unreal Engine 5.3 Documentation \(or latest\)](#)

[UE5 Introduction to Blueprints](#)

[Level Editor](#)

[In-Editor Testing \(Play & Simulate\)](#)

[Set up Meta Quest Link](#)

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## Video References

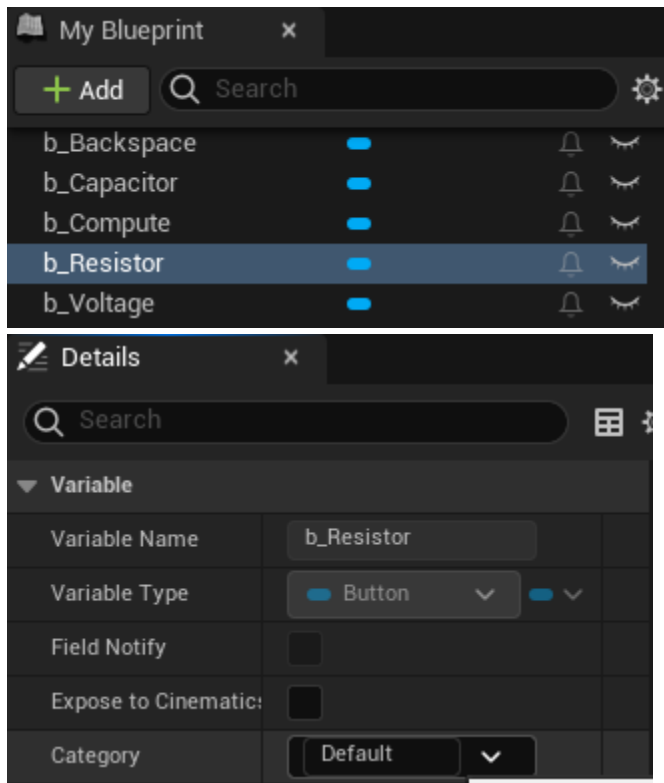
[Installing Unreal Engine | Unreal Engine](#)

[How To Use VIRTUAL REALITY In Unreal Engine 5 | Beginner Tutorial](#)

[PySpice - Part 1: Introduction & Discussion](#)

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## Blueprint Organization



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## Miscellaneous