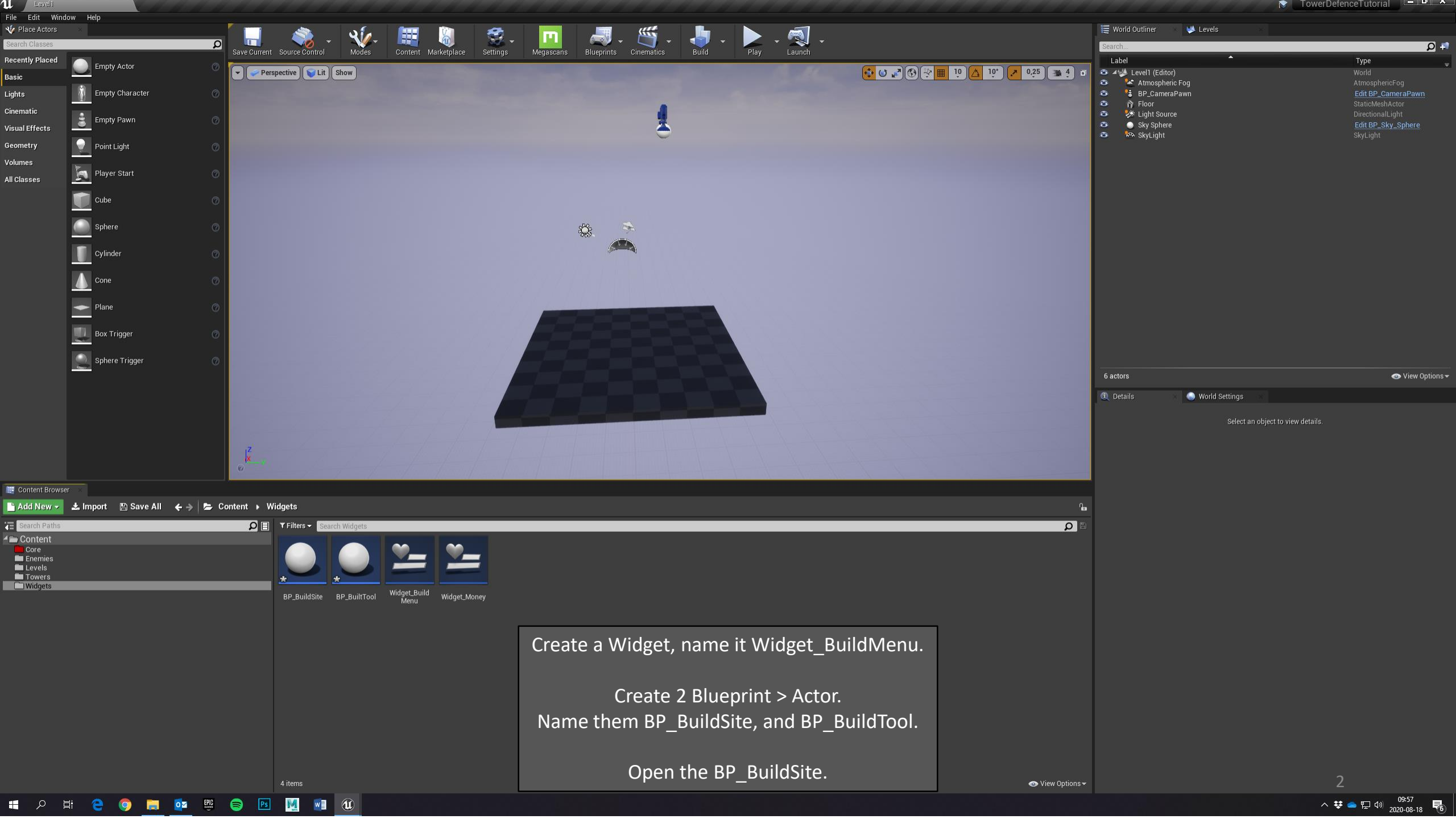


# **Tower Defence**

## **Building, Part 1**

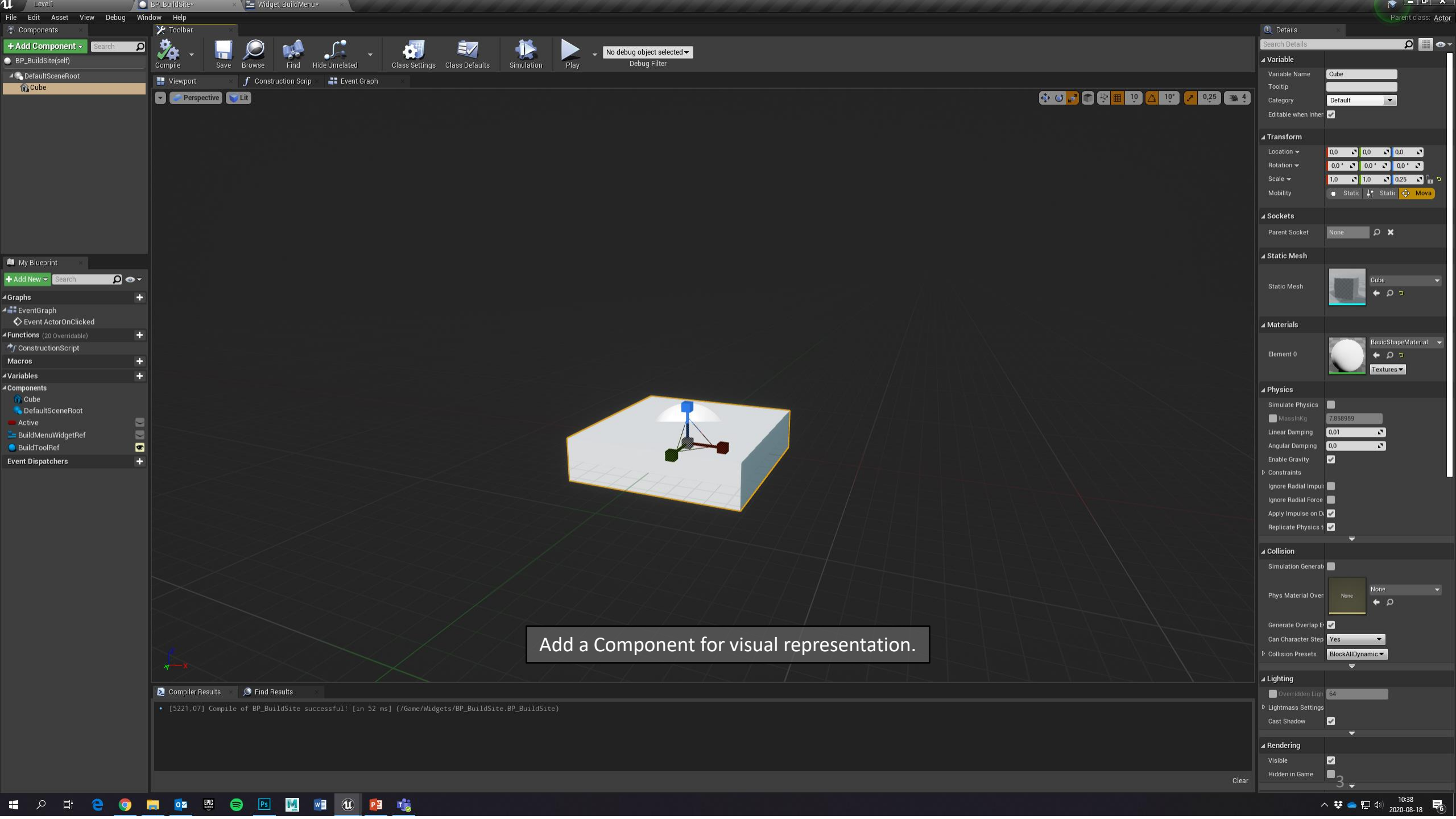
Mårten Jonsson  
jm-j.com  
marten@jm-j.com



Create a Widget, name it Widget\_BuildMenu.

Create 2 Blueprint > Actor.  
Name them BP\_BuildSite, and BP\_BuildTool.

Open the BP\_BuildSite.



Add a Component for visual representation.

Details

Search Details

Variable

Variable Name: Cube

Tooltip: [Empty]

Category: Default

Editable when Inher:

Transform

Location: 0.0, 0.0, 0.0

Rotation: 0.0°, 0.0°, 0.0°

Scale: 1.0, 1.0, 0.25

Mobility:  Static  + Static  Mova

Sockets

Parent Socket: None

Static Mesh

Static Mesh: Cube

Materials

Element 0: BasicShapeMaterial

Physics

Simulate Physics:

MassInKg: 7.058959

Linear Damping: 0.01

Angular Damping: 0.0

Enable Gravity:

Constraints

Ignore Radial Impul:

Ignore Radial Force:

Apply Impulse on D:

Replicate Physics t:

Collision

Simulation Generat:

Phys Material Over: None

Generate Overlap E:

Can Character Step: Yes

Collision Presets: BlockAllDynamic

Lighting

Overridden Ligh: 64

Lightmass Settings

Cast Shadow:

Rendering

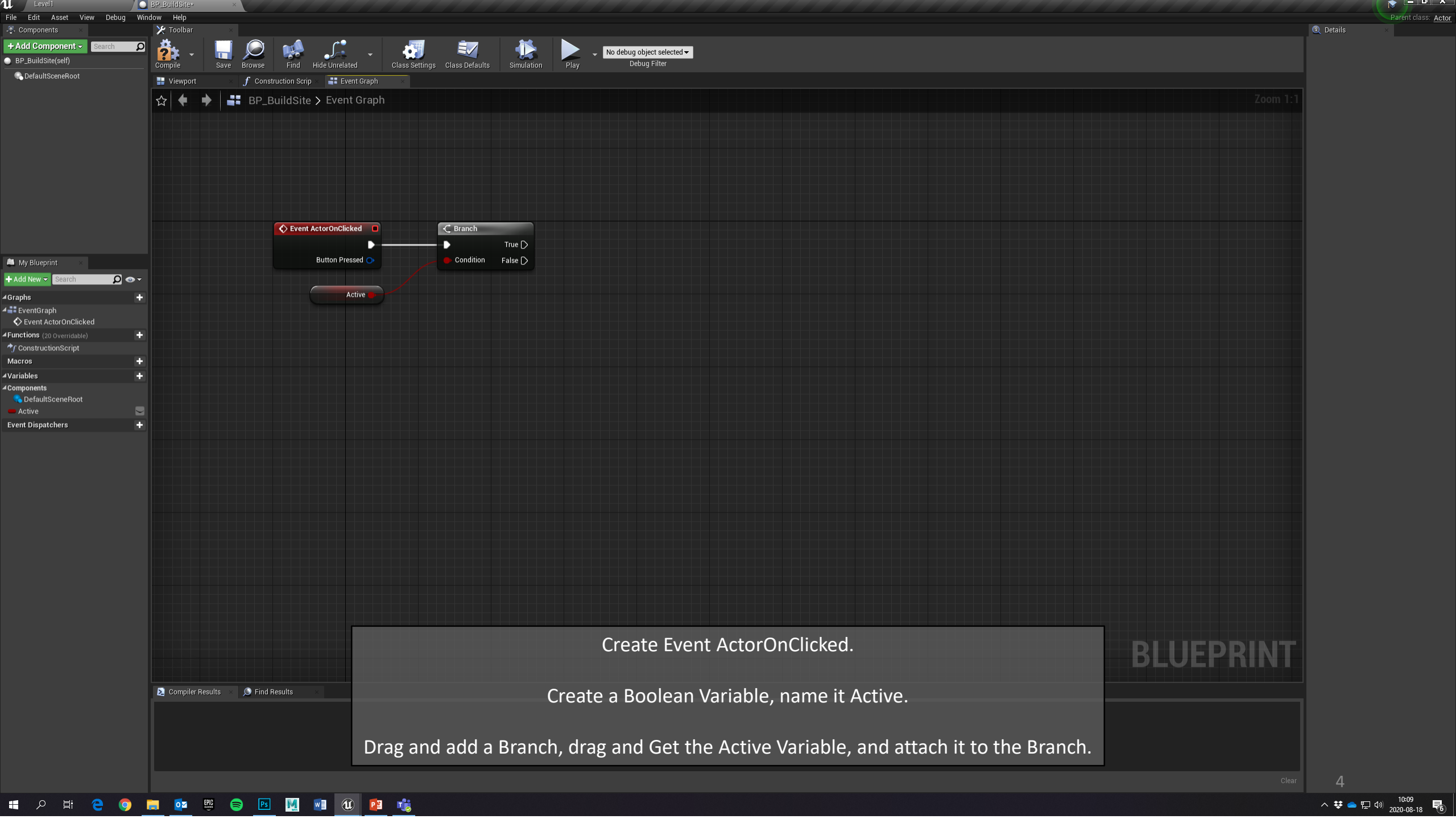
Visible:

Hidden in Game: 3

Compiler Results Find Results

[5221.07] Compile of BP\_BuildSite successful! [in 52 ms] (/Game/Widgets/BP\_BuildSite.BP\_BuildSite)

Clear

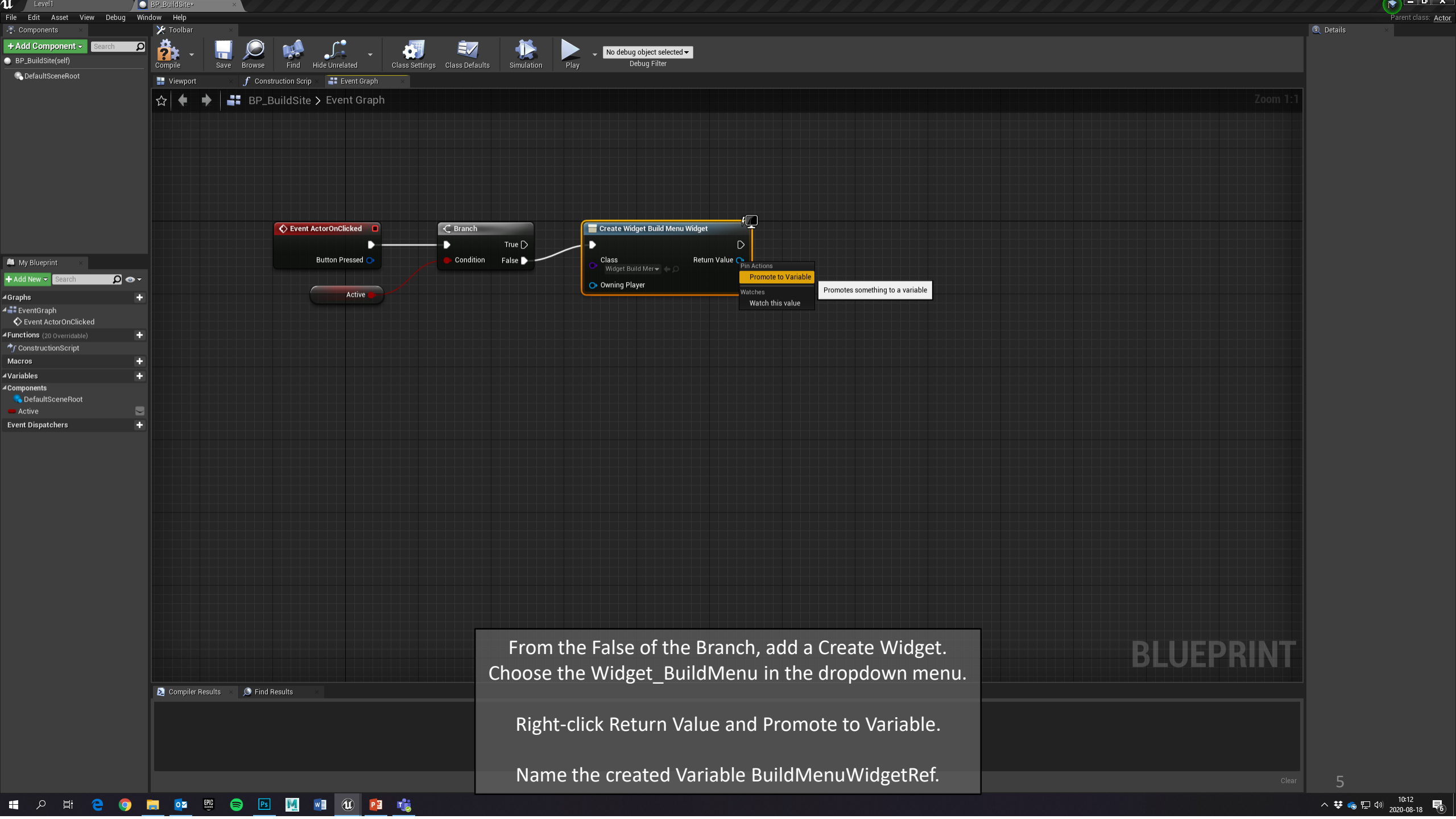


Create Event ActorOnClicked.

Create a Boolean Variable, name it Active.

Drag and add a Branch, drag and Get the Active Variable, and attach it to the Branch.

BLUEPRINT

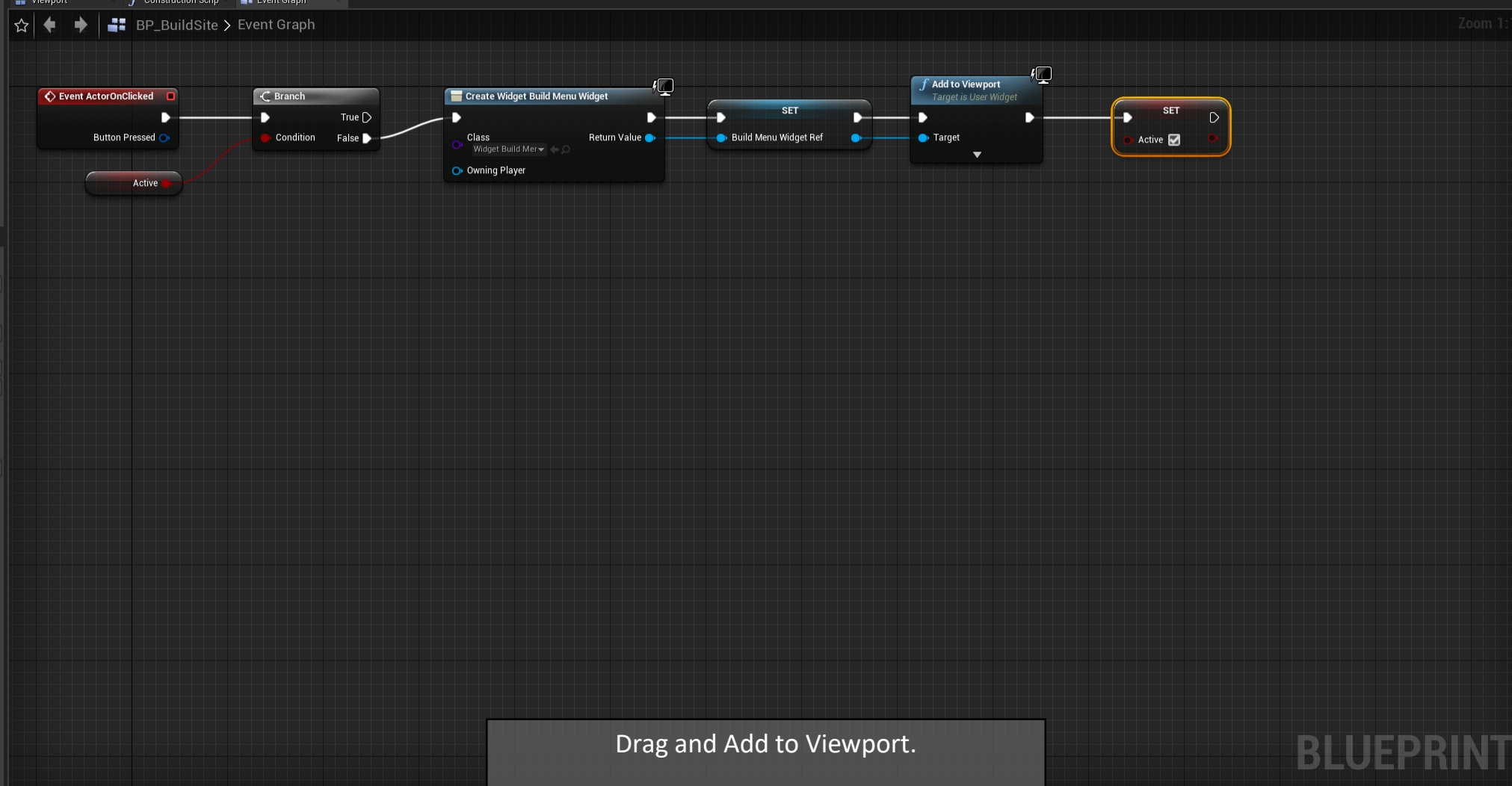
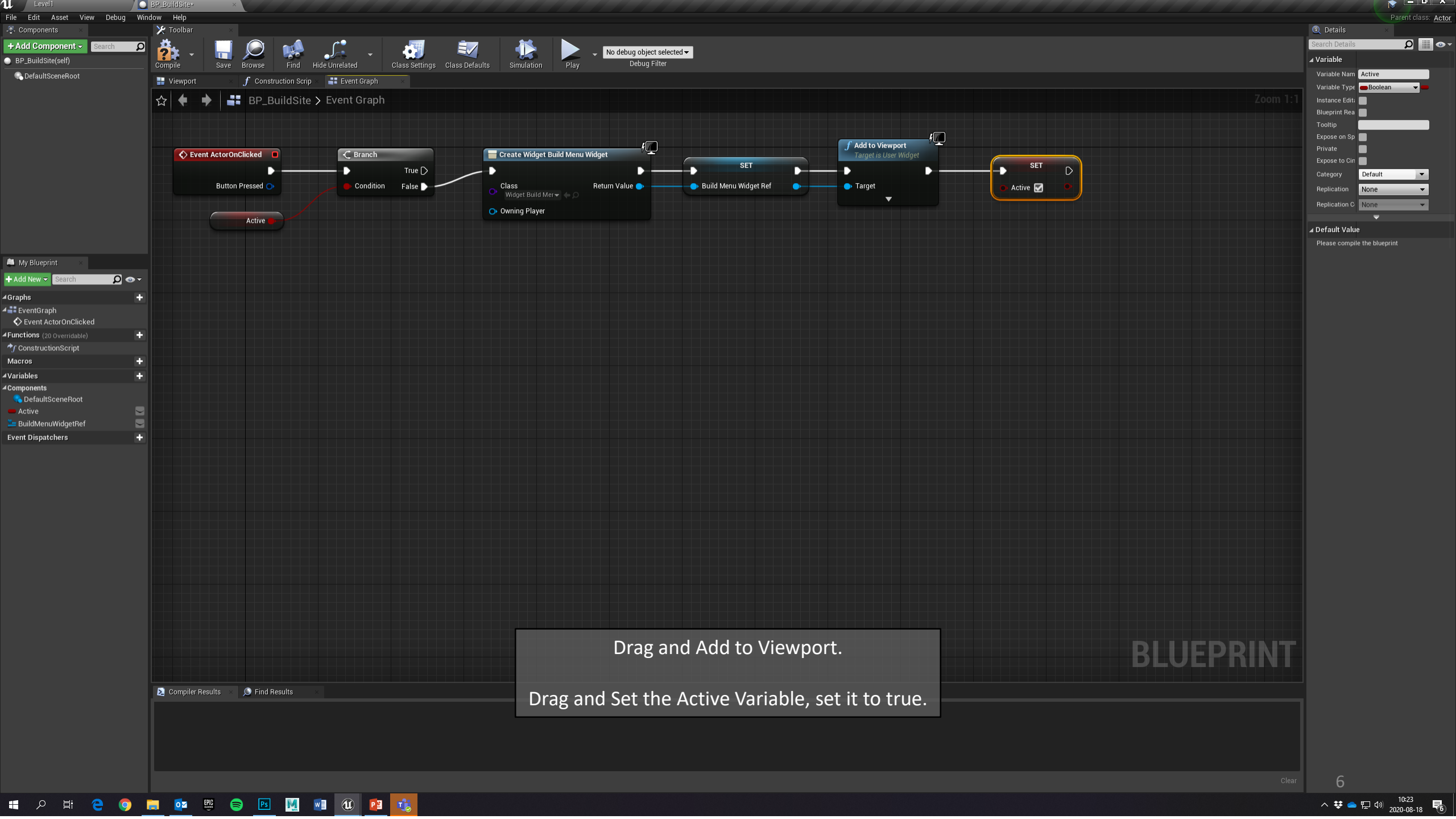


From the False of the Branch, add a Create Widget.  
Choose the Widget\_BuildMenu in the dropdown menu.

Right-click Return Value and Promote to Variable.

Name the created Variable BuildMenuWidgetRef.

BLUEPRINT



Drag and Add to Viewport.  
Drag and Set the Active Variable, set it to true.

BLUEPRINT

Details

Search Details

Variable

Variable Name: Active

Variable Type: Boolean

Instance Edit:

Blueprint Rea:

Tooltip:

Expose on Sp:

Private:

Expose to Cin:

Category: Default

Replication: None

Replication C: None

Default Value

Please compile the blueprint

My Blueprint

+ Add New Search

- Graphs
  - EventGraph
    - Event Pre Construct
    - Event Construct
    - Event Tick
- Functions (36 Overridable)
- Macros
- Variables
  - Position
- Event Dispatchers

Details

Search Details

Variable

Variable Name: Position

Variable Type: Vector

Instance Editable:

Blueprint Read Only:

Tooltip:

Show 3D Widget:

Expose on Spawn:

Private:

Expose to Cinematics:

Category: Default

Replication: None

Replication Condition: None

Default Value

Position: X 0.0 Y 0.0 Z 0.0

Widget\_BuildMenu > Event Graph

Right-Click to Create New Nodes.

This node is disabled and will not be called. Drag off pins to build functionality.

- Event Pre Construct
  - Is Design Time
- Event Construct
- Event Tick
  - My Geometry
  - In Delta Time

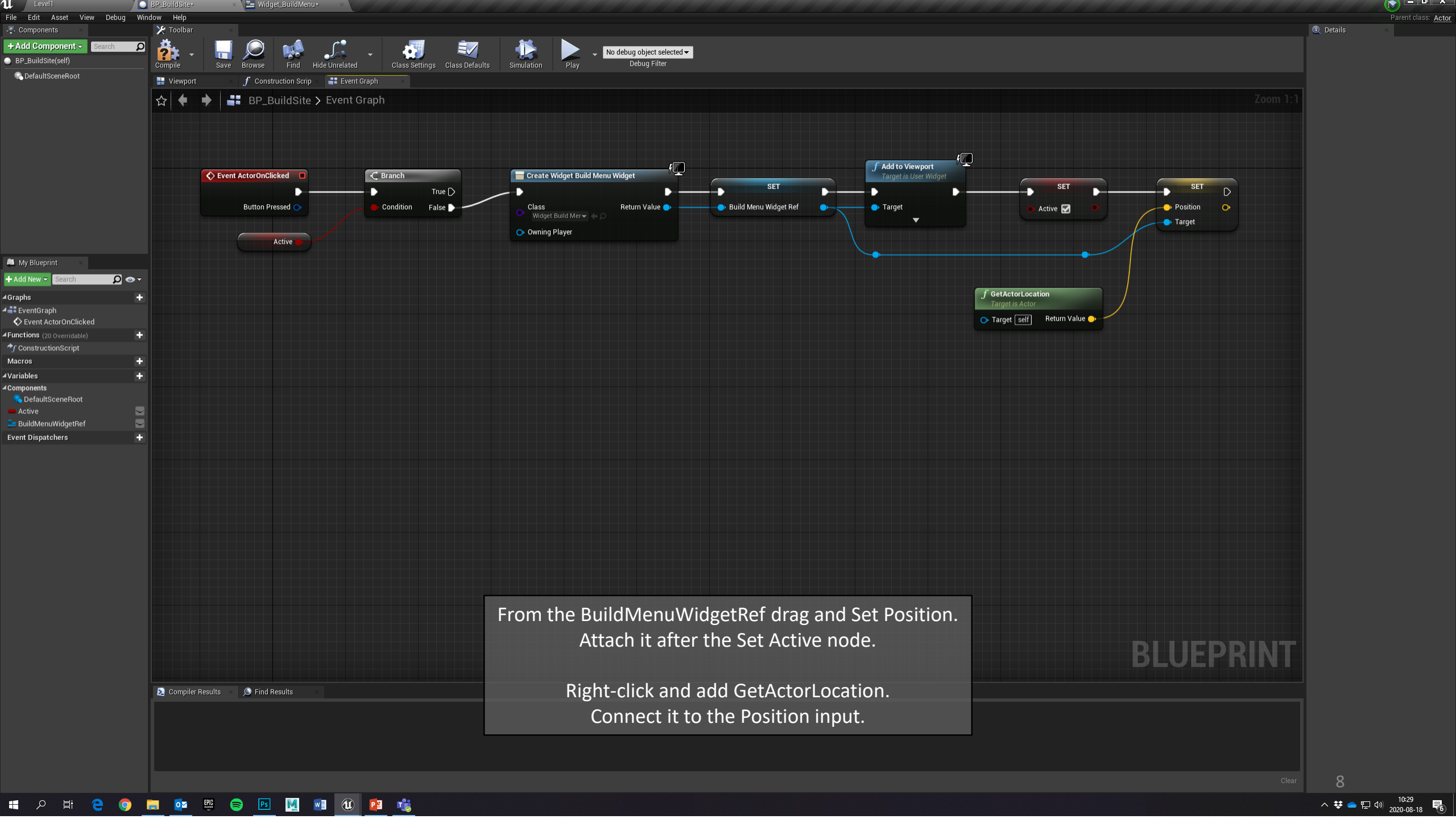
WIDGET BLUEPRINT

Compiler Results

- Fast Template Successfully Created.
- [4502,31] Compile of Widget\_BuildMenu successful! [in 56 ms] (//Game/Widgets/Widget\_BuildMenu/Widget\_BuildMenu)

Open the Widget\_BuildMenu.  
Go into the Event Graph.  
Add a Variable, Vector type.  
Name it position, make it visible.  
Compile and go back to BP\_BuildSite.

7

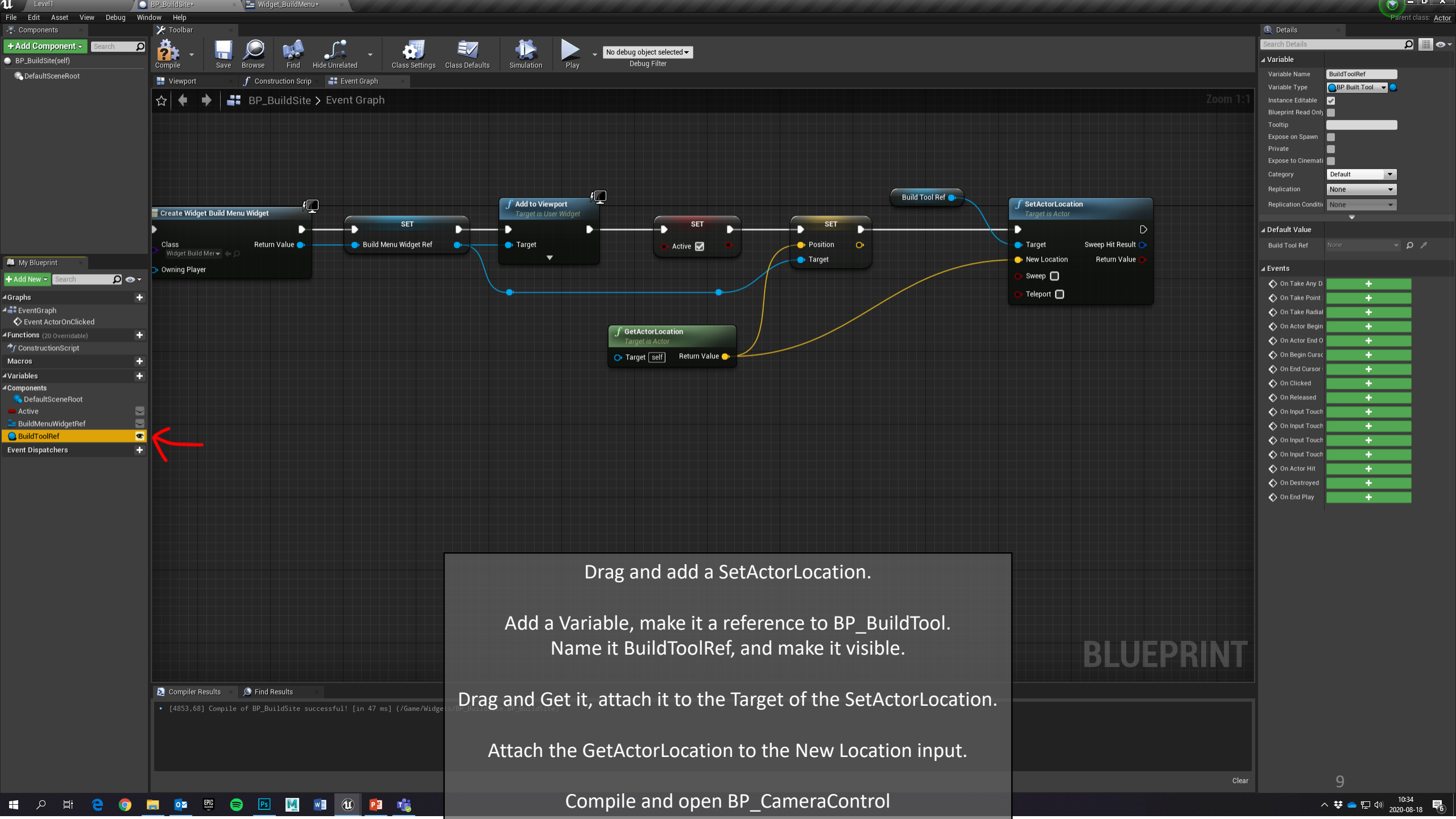


From the BuildMenuWidgetRef drag and Set Position.  
Attach it after the Set Active node.

Right-click and add GetActorLocation.  
Connect it to the Position input.

BLUEPRINT





Drag and add a SetActorLocation.

Add a Variable, make it a reference to BP\_BuildTool.  
Name it BuildToolRef, and make it visible.

Drag and Get it, attach it to the Target of the SetActorLocation.

Attach the GetActorLocation to the New Location input.

Compile and open BP\_CameraControl

Details

Search Details

Variable

Variable Name: BuildToolRef

Variable Type: BP\_BuildTool

Instance Editable:

Blueprint Read Only:

Tooltip:

Expose on Spawn:

Private:

Expose to Cinematic:

Category: Default

Replication: None

Replication Condition: None

Default Value

Build Tool Ref: None

Events

- On Take Any D: +
- On Take Point: +
- On Take Begin: +
- On Actor End O: +
- On Begin Curs: +
- On End Curs: +
- On Clicked: +
- On Released: +
- On Input Touch: +
- On Input Touch: +
- On Input Touch: +
- On Input Touch: +
- On Actor Hit: +
- On Destroyed: +
- On End Play: +

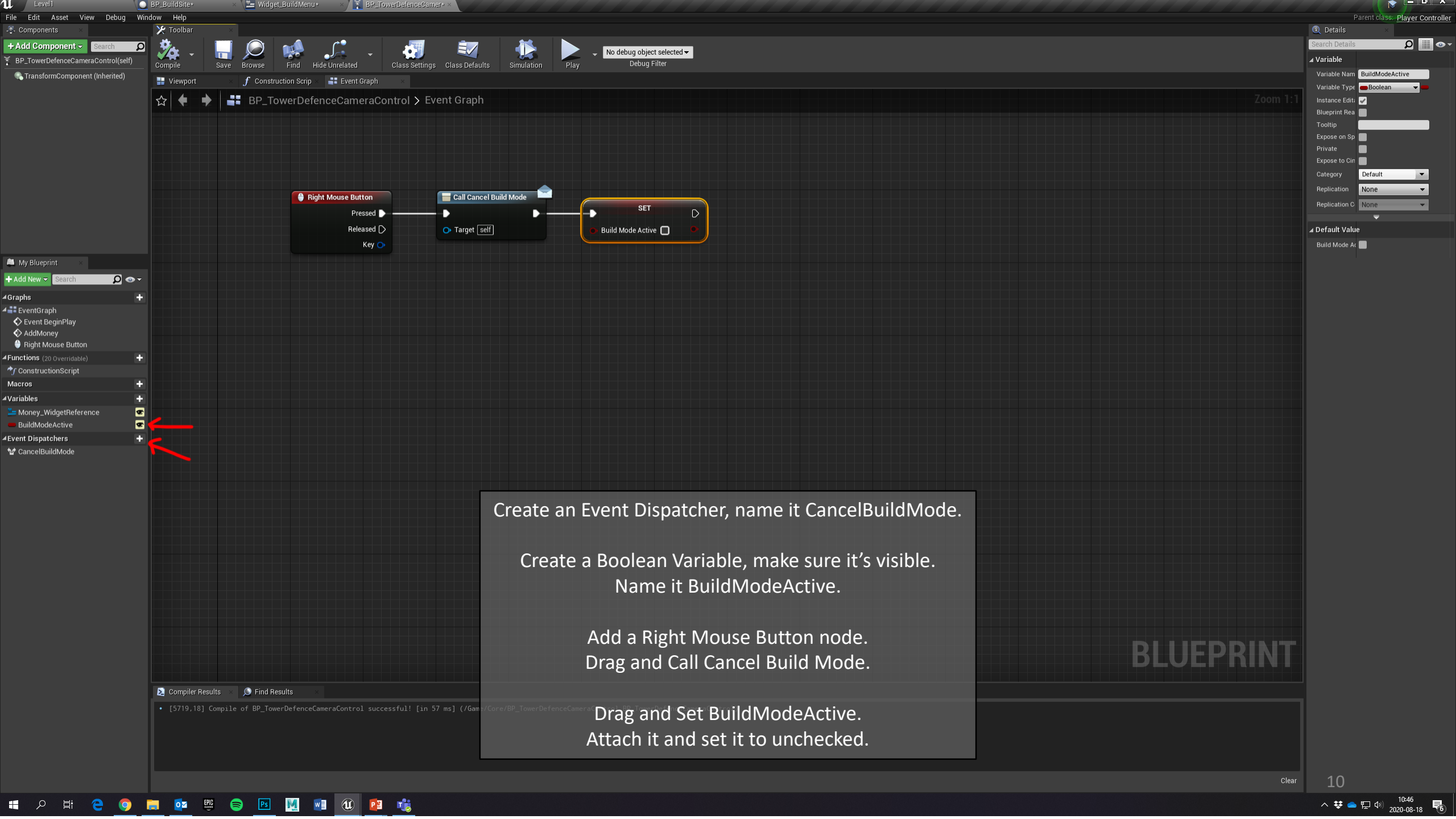


BLUEPRINT

Compiler Results

Find Results

[4853,68] Compile of BP\_BuildSite successful! [in 47 ms] (/Game/Widgets/BP\_BuildSite/BP\_BuildSite)



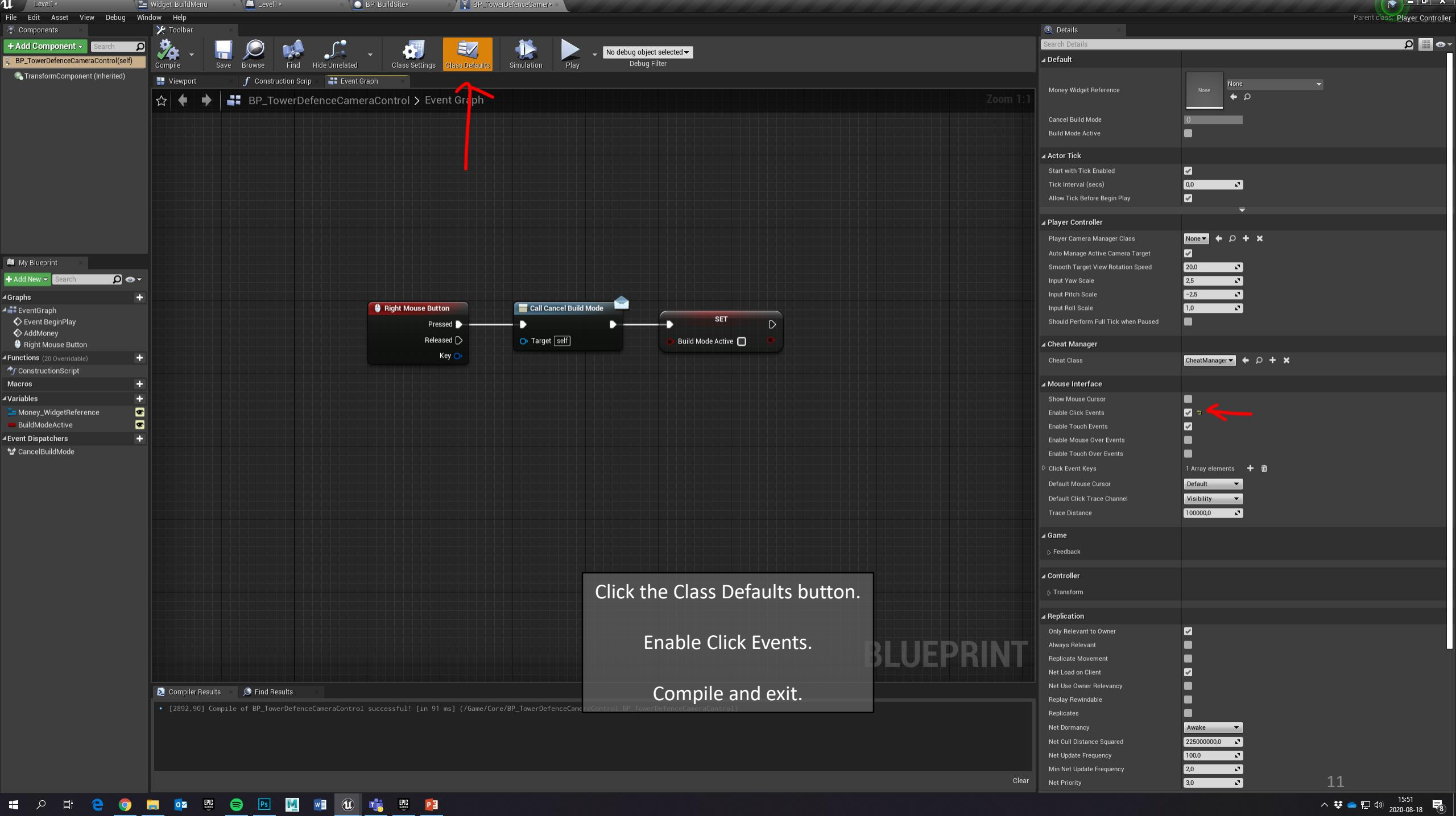
Create an Event Dispatcher, name it CancelBuildMode.

Create a Boolean Variable, make sure it's visible.  
Name it BuildModeActive.

Add a Right Mouse Button node.  
Drag and Call Cancel Build Mode.

Drag and Set BuildModeActive.  
Attach it and set it to unchecked.

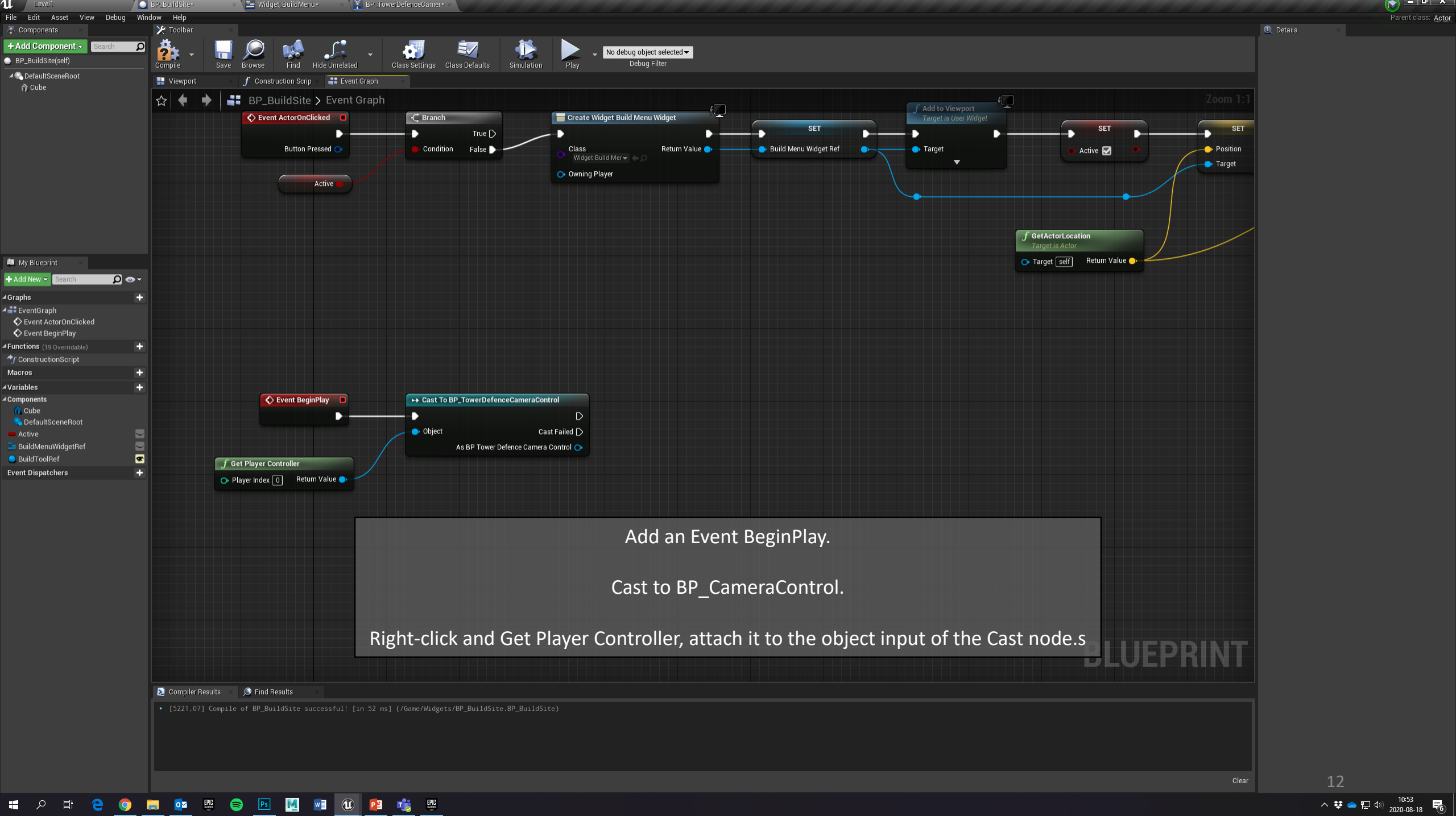
BLUEPRINT



Click the Class Defaults button.

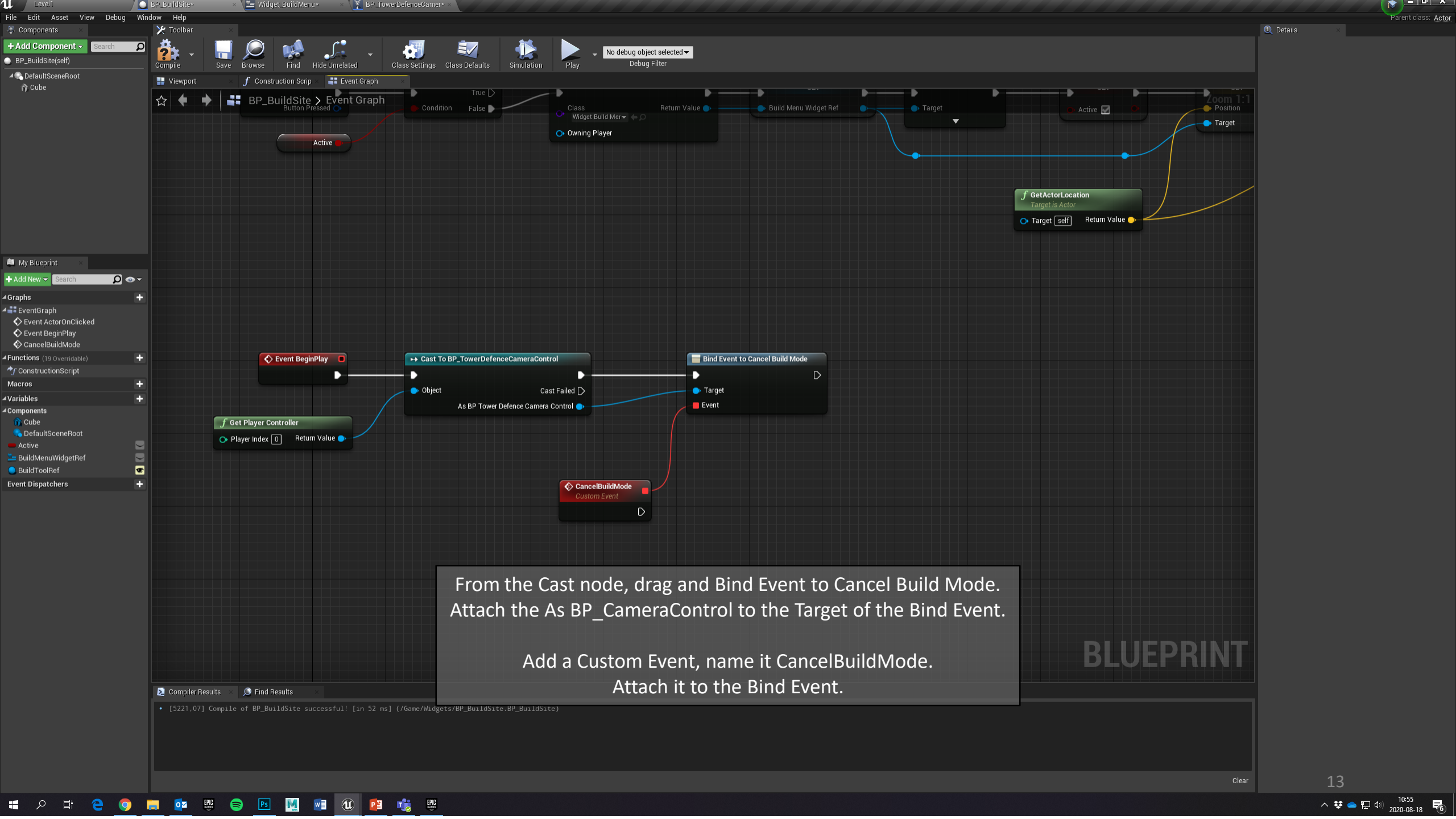
Enable Click Events.

Compile and exit.



Add an Event BeginPlay.  
Cast to BP\_CameraControl.  
Right-click and Get Player Controller, attach it to the object input of the Cast node.s

Compiler Results Find Results  
• [5221.07] Compile of BP\_BuildSite successful! [in 52 ms] (/Game/Widgets/BP\_BuildSite.BP\_BuildSite)

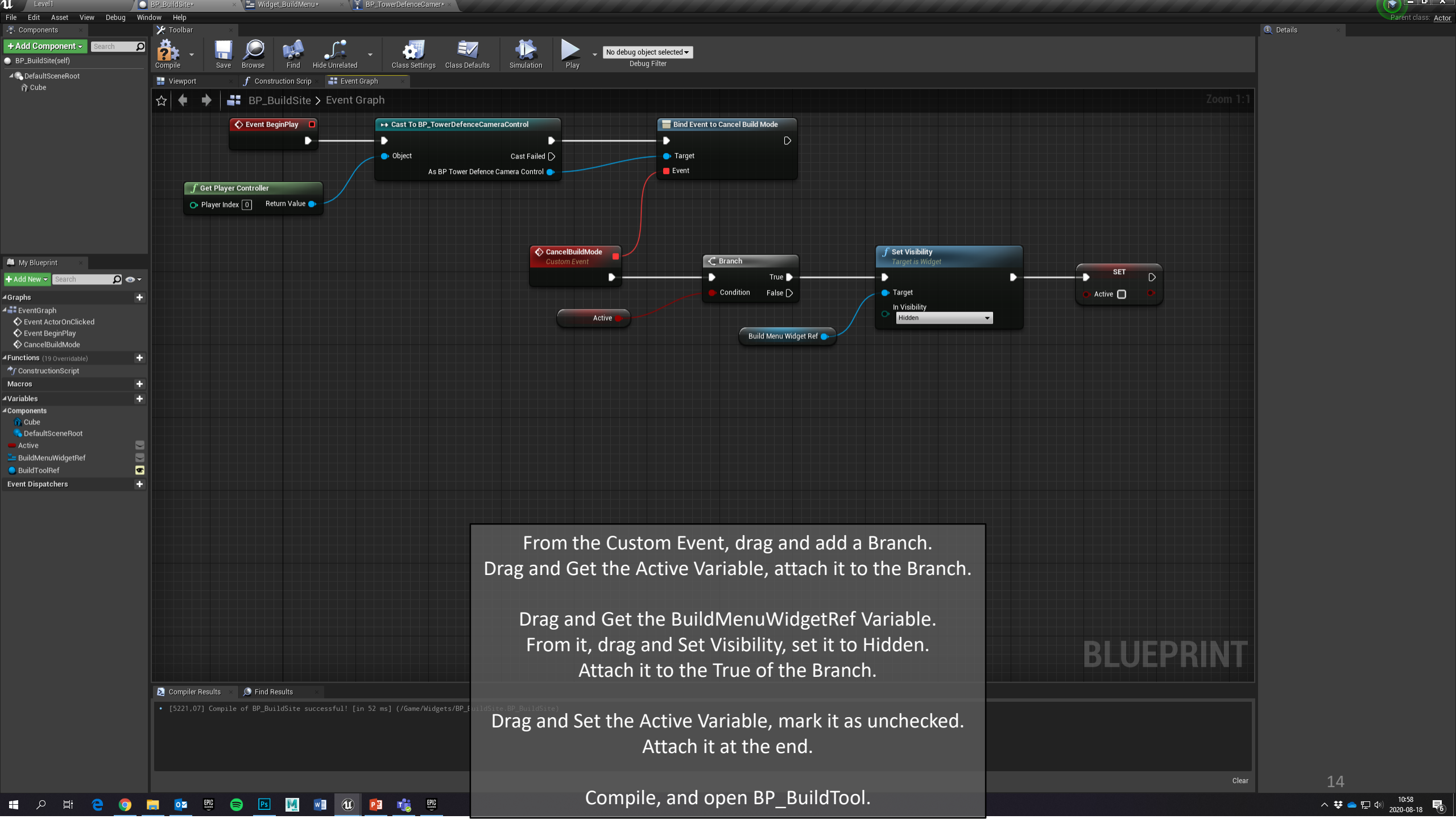


From the Cast node, drag and Bind Event to Cancel Build Mode. Attach the As BP\_CameraControl to the Target of the Bind Event.

Add a Custom Event, name it CancelBuildMode. Attach it to the Bind Event.

BLUEPRINT

Compiler Results Find Results  
• [5221.07] Compile of BP\_BuildSite successful! [in 52 ms] (/Game/Widgets/BP\_BuildSite.BP\_BuildSite)



From the Custom Event, drag and add a Branch.  
Drag and Get the Active Variable, attach it to the Branch.

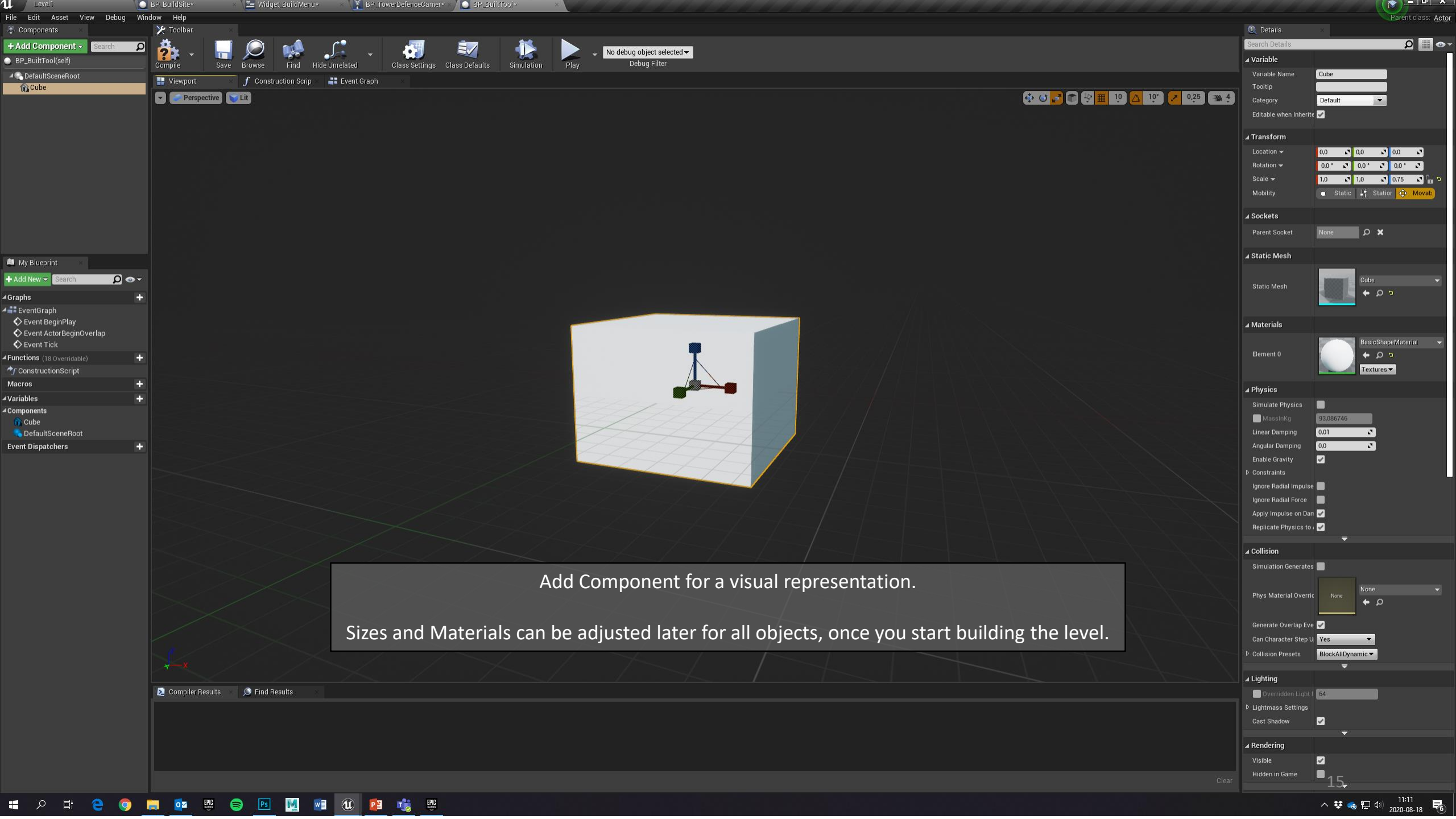
Drag and Get the BuildMenuWidgetRef Variable.  
From it, drag and Set Visibility, set it to Hidden.  
Attach it to the True of the Branch.

Drag and Set the Active Variable, mark it as unchecked.  
Attach it at the end.

Compile, and open BP\_BuildTool.

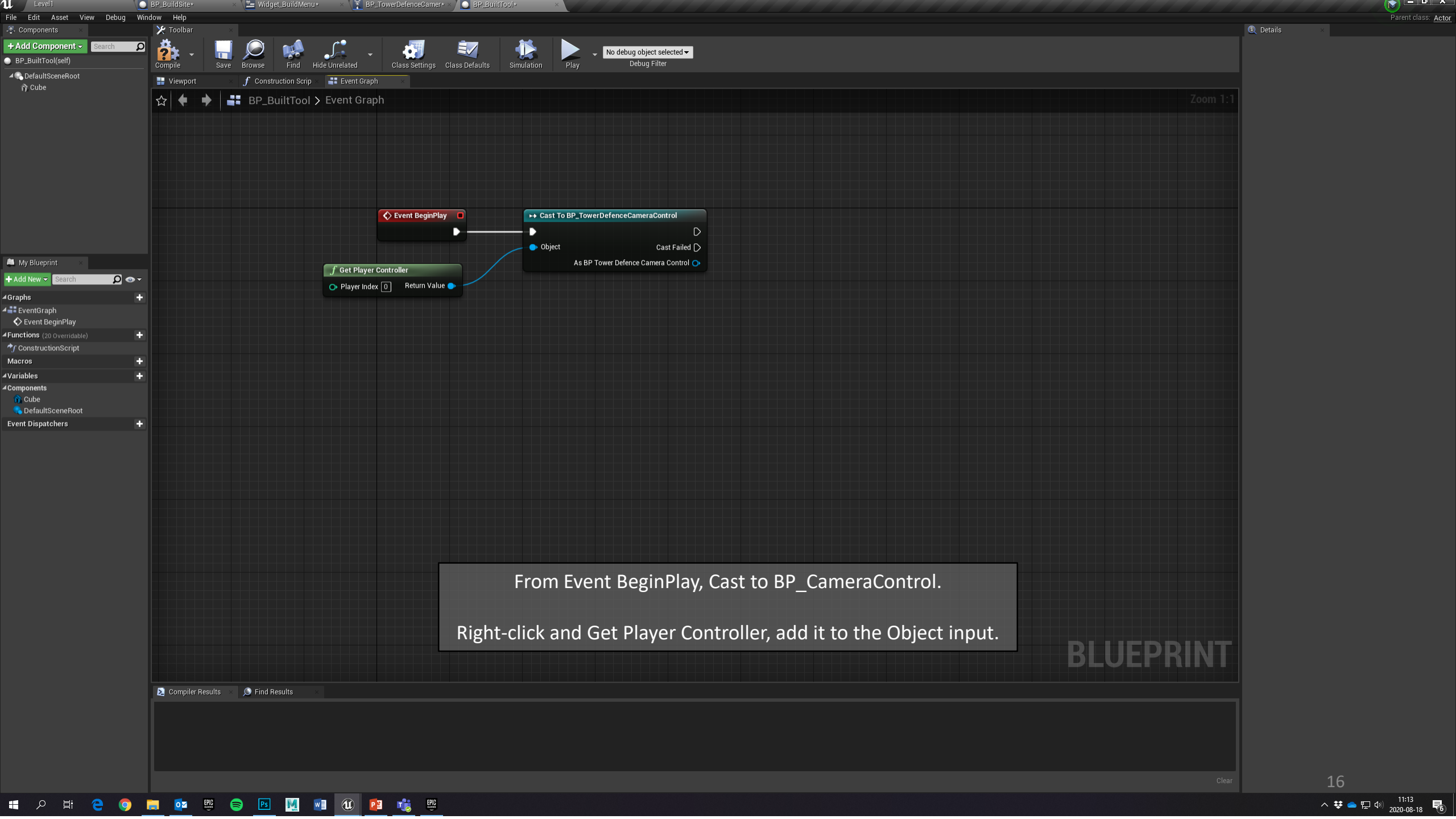
BLUEPRINT





Add Component for a visual representation.

Sizes and Materials can be adjusted later for all objects, once you start building the level.



From Event BeginPlay, Cast to BP\_CameraControl.  
Right-click and Get Player Controller, add it to the Object input.

BLUEPRINT



