Tower Defence
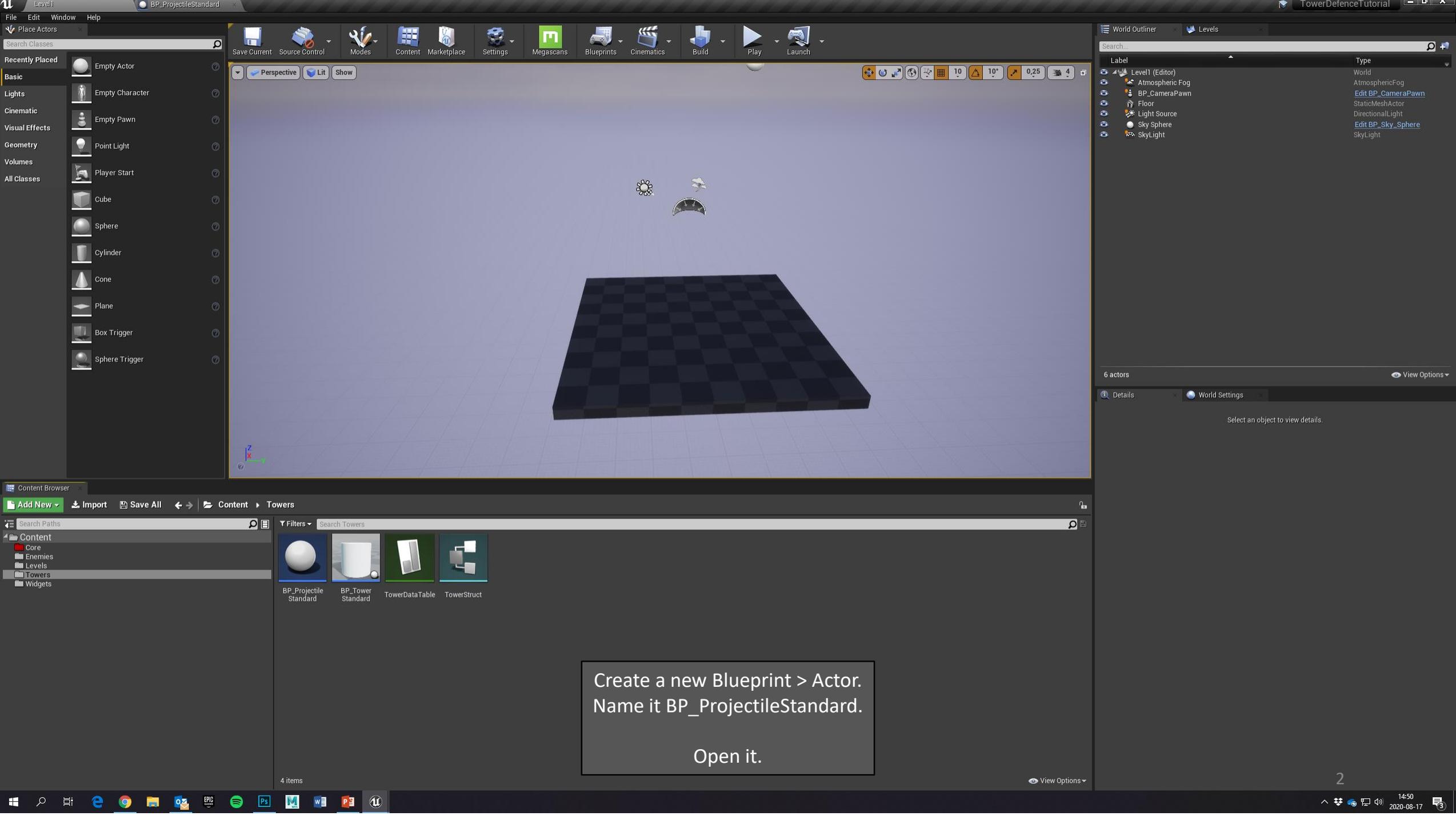
Standard Projectile

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Create a new Blueprint > Actor.
Name it BP_ProjectileStandard.

Open it.

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File　Edit　Asset　Window　Help

Components

+ Add Component ▾　Search

Search Components

Behavior Tree
Blackboard
Pawn Noise Emitter
Pawn Sensing

Audio
Audio
Audio Curve Source

Basic Shapes
Sphere
Cube
Plane
Cylinder
Cone

Camera
Camera
Cine Camera
Spring Arm

Chaos
Chaos Debug Draw
Chaos Destruction Listener
Chaos Event Listener

Collision

Graphs
EventGraph
Event BeginPlay
Event ActorBeginOverlap
Event Tick

Functions (18 Overridable)
ConstructionScript

Macros

Variables

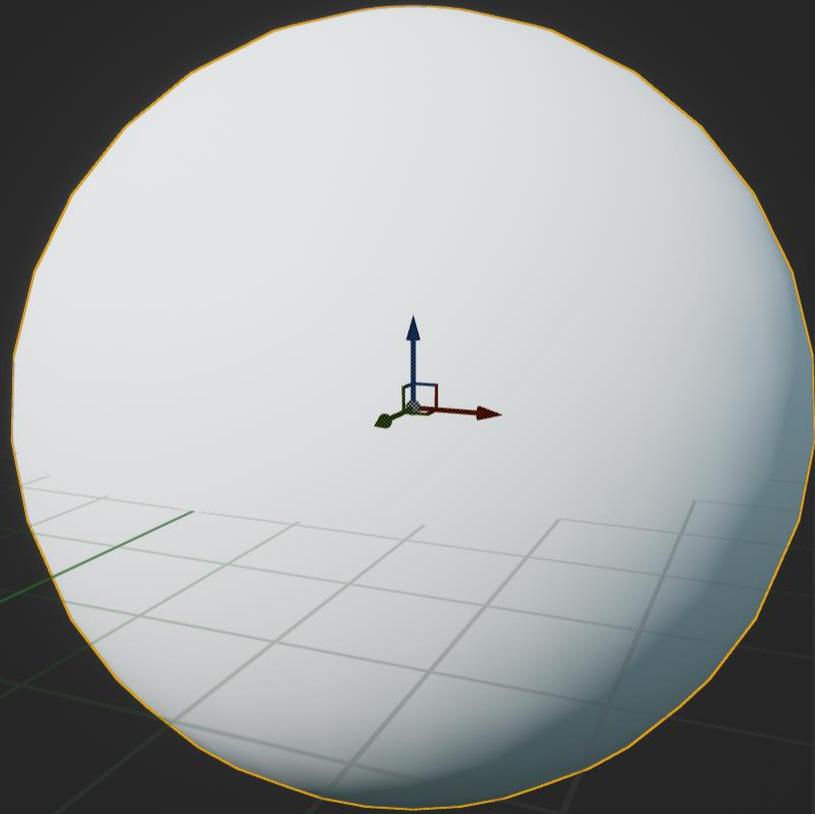**Components**
Sphere
DefaultSceneRoot
TargetEnemy

Event Dispatchers

Toolbar

Compile　Save　Browse　Find　Hide Unrelated　Class Settings　Class Defaults　Simulation　Play

No debug object selected ▾

Debug Filter

Viewport　　f Construction Scrip　　Event Graph

Perspective　Lit

StaticMeshComponent is used to create an instance of a UStaticMesh.
A static mesh is a piece of geometry that consists of a static set of polygons.

@see https://docs.unrealengine.com/latest/INT/Engine/Content/Types/StaticMeshes/
@see UStaticMesh

hold (Ctrl + Alt) for more

Use Add Component to give it a visual representation.

Compiler Results　　Find Results

• [1699,03] Compile of BP_ProjectileStandard successful! [in 38 ms] (/Game/Towers/BP_ProjectileStandard.BP_ProjectileStandard)

Clear

Details

Search Details

▲ **Variable**
Variable Name　Sphere
Tooltip
Category　Default
Editable when Inherite ☑

▲ **Transform**
Location ▾　X 0,0　Y 0,0　Z 0,0
Rotation ▾　X 0,0°　Y 0,0°　Z 0,0°
Scale ▾　X 1,0　Y 1,0　Z 1,0
Mobility　　Static　Statior　Movab

▲ **Sockets**
Parent Socket　None

▲ **Static Mesh**
Static Mesh　Sphere

▲ **Materials**
Element 0　BasicShapeMaterial
Textures ▾

▲ **Physics**
Simulate Physics ☐
MassInKg　109,456337
Linear Damping　0,01
Angular Damping　0,0
Enable Gravity ☑
▷ Constraints
Ignore Radial Impulse
Ignore Radial Force
Apply Impulse on Dam ☑
Replicate Physics to / ☑

▲ **Collision**
Simulation Generates
Phys Material Overri　None
Generate Overlap Eve ☑
Can Character Step U　Yes
▷ Collision Presets　BlockAllDynamic ▾

▲ **Lighting**
Overridden Light I　32
▷ Lightmass Settings
Cast Shadow ☑

▲ **Rendering**
Visible ☑
Hidden in Game
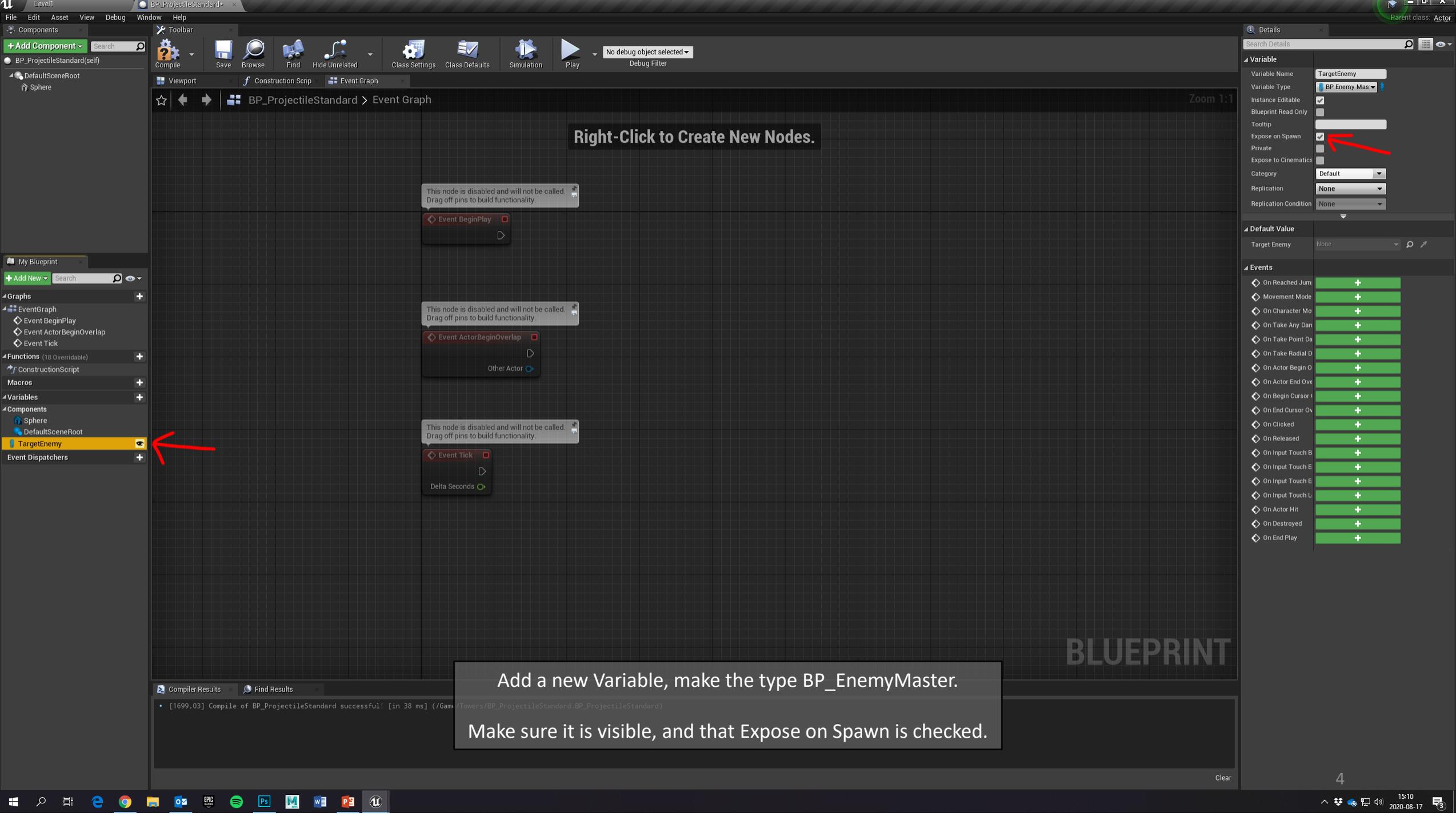
Add a new Variable, make the type BP_EnemyMaster.

Make sure it is visible, and that Expose on Spawn is checked.

File Edit Asset View Debug Window Help

Components
Add Component Search
BP_ProjectileStandard(self)
  DefaultSceneRoot
    Sphere

Toolbar
Compile Save Browse Find Hide Unrelated Class Settings Class Defaults Simulation Play

No debug object selected
Debug Filter

Details

Viewport   Construction Scrip   Event Graph

BP_ProjectileStandard > Event Graph   Zoom 1:1

Event ActorBeginOverlap

Other Actor

Get Data Table Row TowerDataTable
                                      Row Found
Data Table   Row Not Found
  TowerDataTable
                                      Out Row
Row Name Standard

My Blueprint
Add New Search
Graphs
  EventGraph
    Event ActorBeginOverlap
Functions (20 Overridable)
  ConstructionScript
Macros
Variables
Components
  Sphere
  DefaultSceneRoot
  TargetEnemy
Event Dispatchers

BLUEPRINT

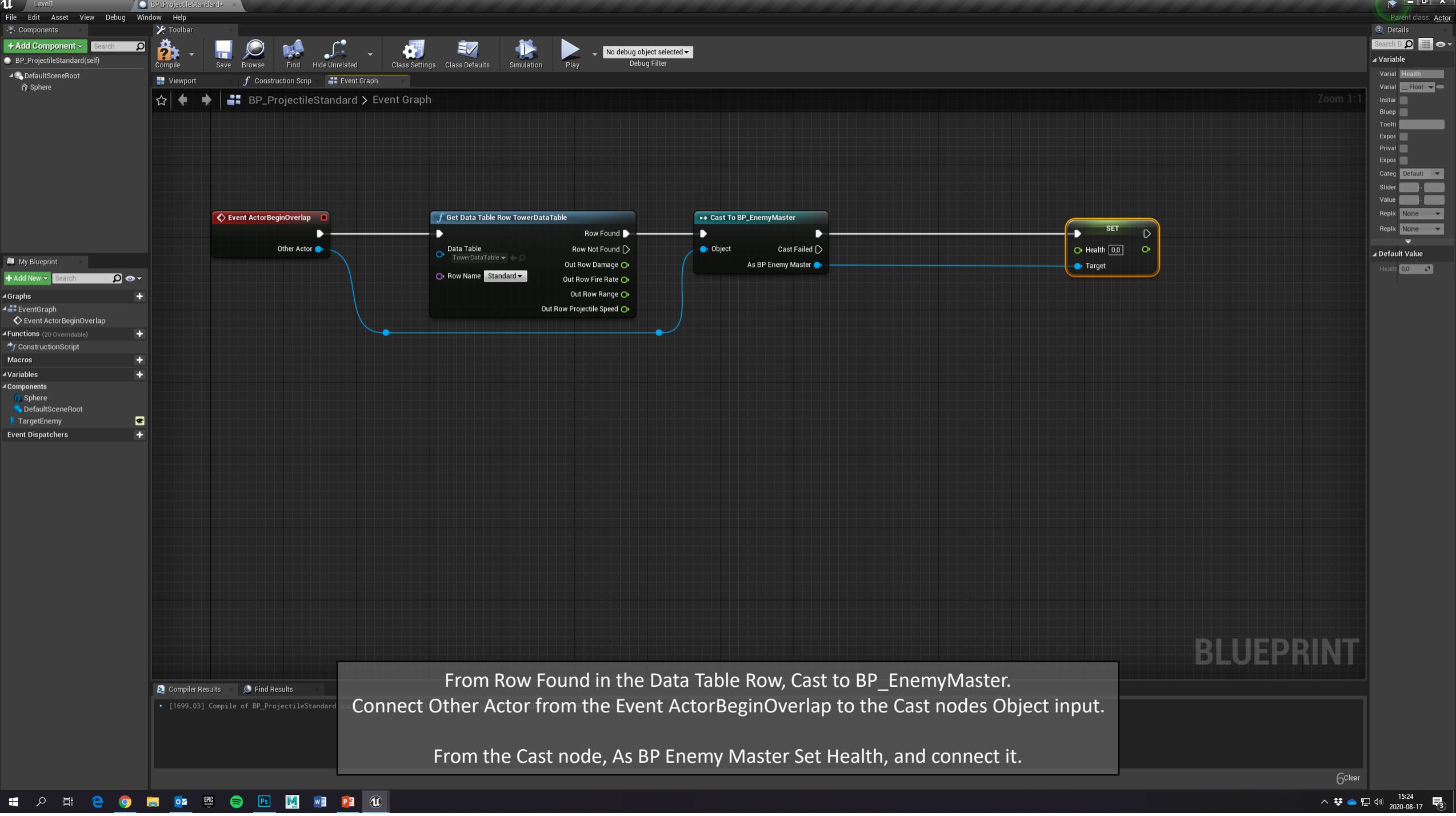From Event ActorBeginOverlap, add a Get Data Table Row.

Select the TowerDataTable.
In Row name, select the one you want to use.

Compiler Results   Find Results

• [1699,03] Compile of BP_ProjectileStandard successful! [in 38 ms] (/Game/Towers/BP_ProjectileStandard.BP_ProjectileStandard)
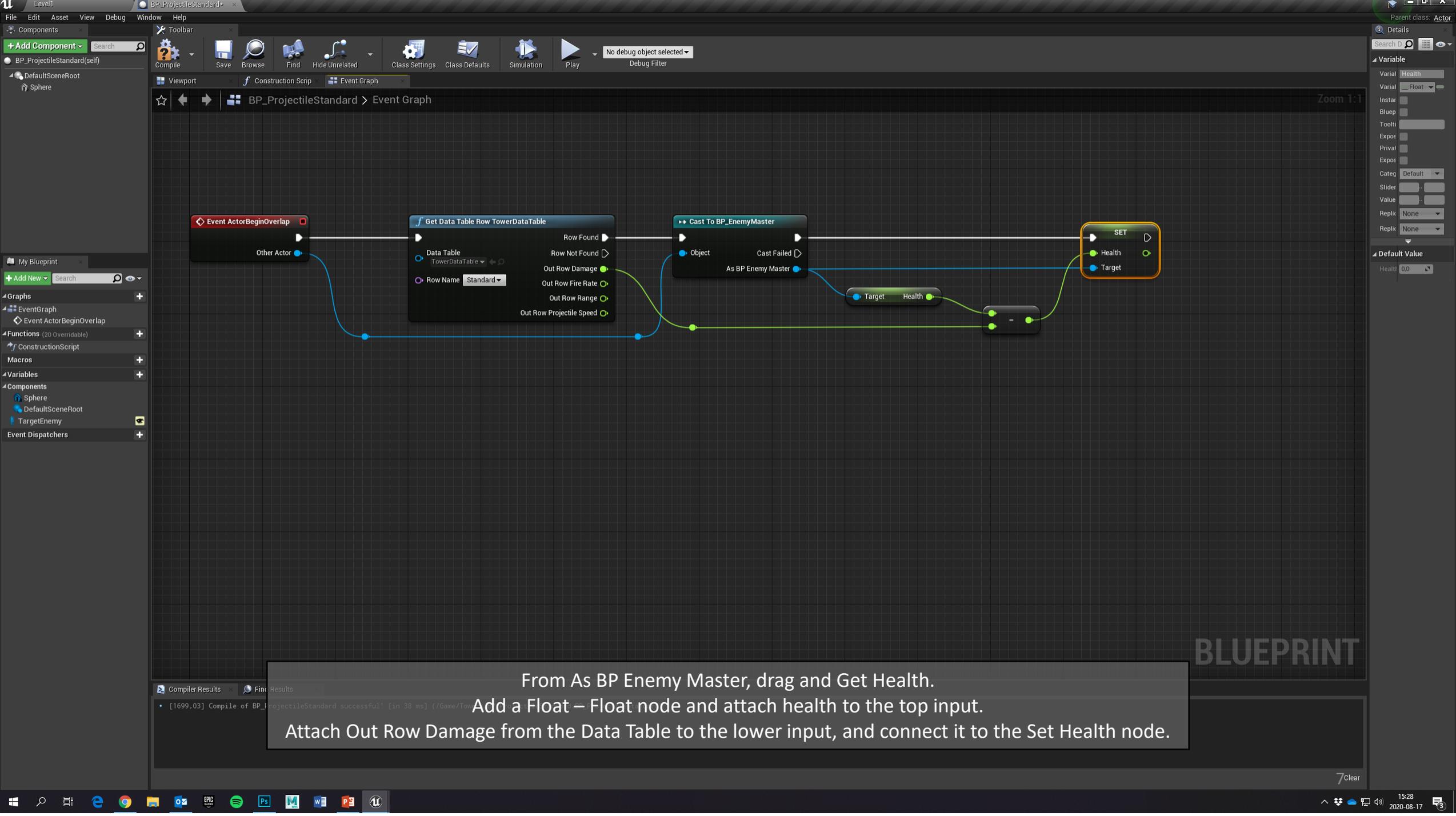
Clear

5

From Row Found in the Data Table Row, Cast to BP_EnemyMaster.
Connect Other Actor from the Event ActorBeginOverlap to the Cast nodes Object input.

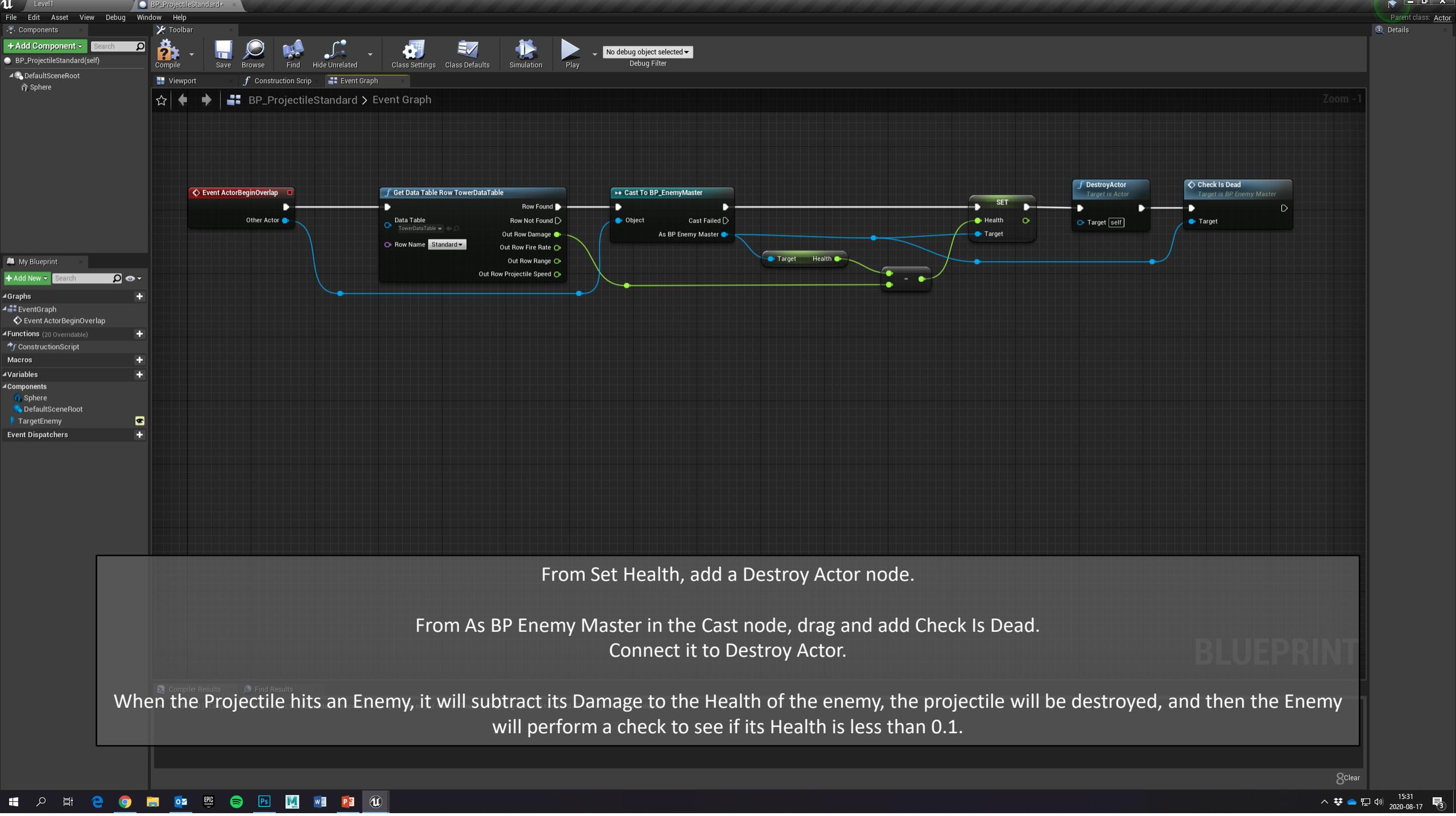From the Cast node, As BP Enemy Master Set Health, and connect it.

Instructional overlay text:

From As BP Enemy Master, drag and Get Health.
Add a Float – Float node and attach health to the top input.
Attach Out Row Damage from the Data Table to the lower input, and connect it to the Set Health node.

Node labels visible in graph:

- Event ActorBeginOverlap — Other Actor
- Get Data Table Row TowerDataTable — Row Found, Row Not Found, Data Table (TowerDataTable), Row Name (Standard), Out Row Damage, Out Row Fire Rate, Out Row Range, Out Row Projectile Speed
- Cast To BP_EnemyMaster — Object, Cast Failed, As BP Enemy Master
- Target — Health
- SET — Health, Target

Toolbar: Compile, Save, Browse, Find, Hide Unrelated, Class Settings, Class Defaults, Simulation, Play, No debug object selected, Debug Filter

Left panel: Components, Add Component, BP_ProjectileStandard(self), DefaultSceneRoot, Sphere, My Blueprint, Add New, Graphs, EventGraph, Event ActorBeginOverlap, Functions (20 Overridable), ConstructionScript, Macros, Variables, Components, Sphere, DefaultSceneRoot, TargetEnemy, Event Dispatchers

Top tabs: Level1, BP_ProjectileStandard, Parent class: Actor

Breadcrumb: BP_ProjectileStandard > Event Graph

Right panel: Details, Variable, Varial Health, Varial Float, Default Value
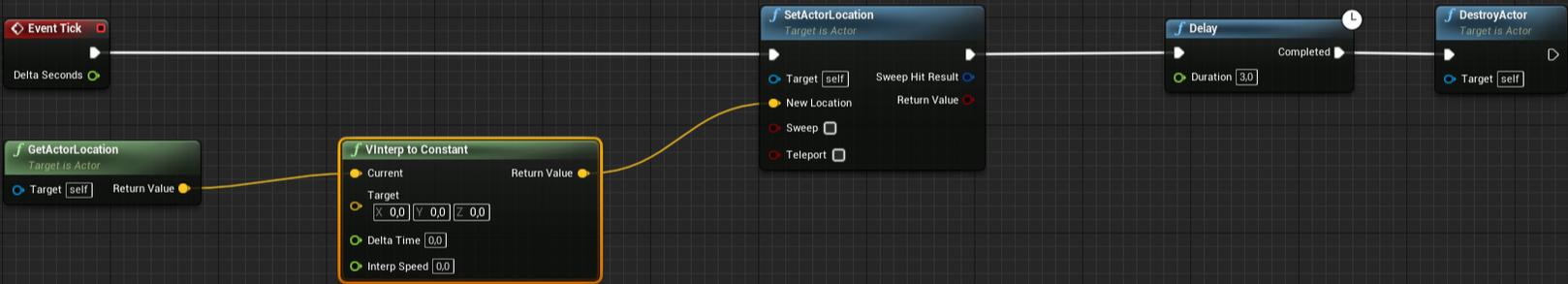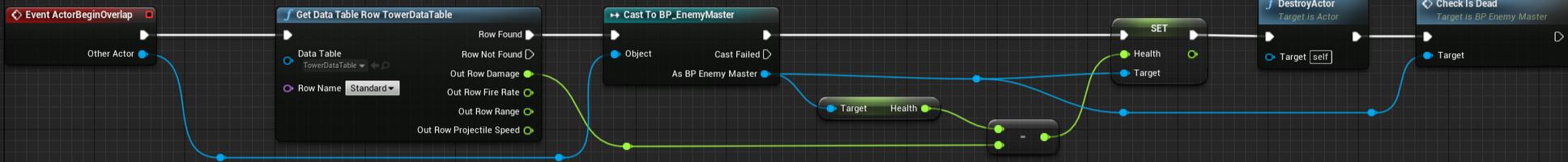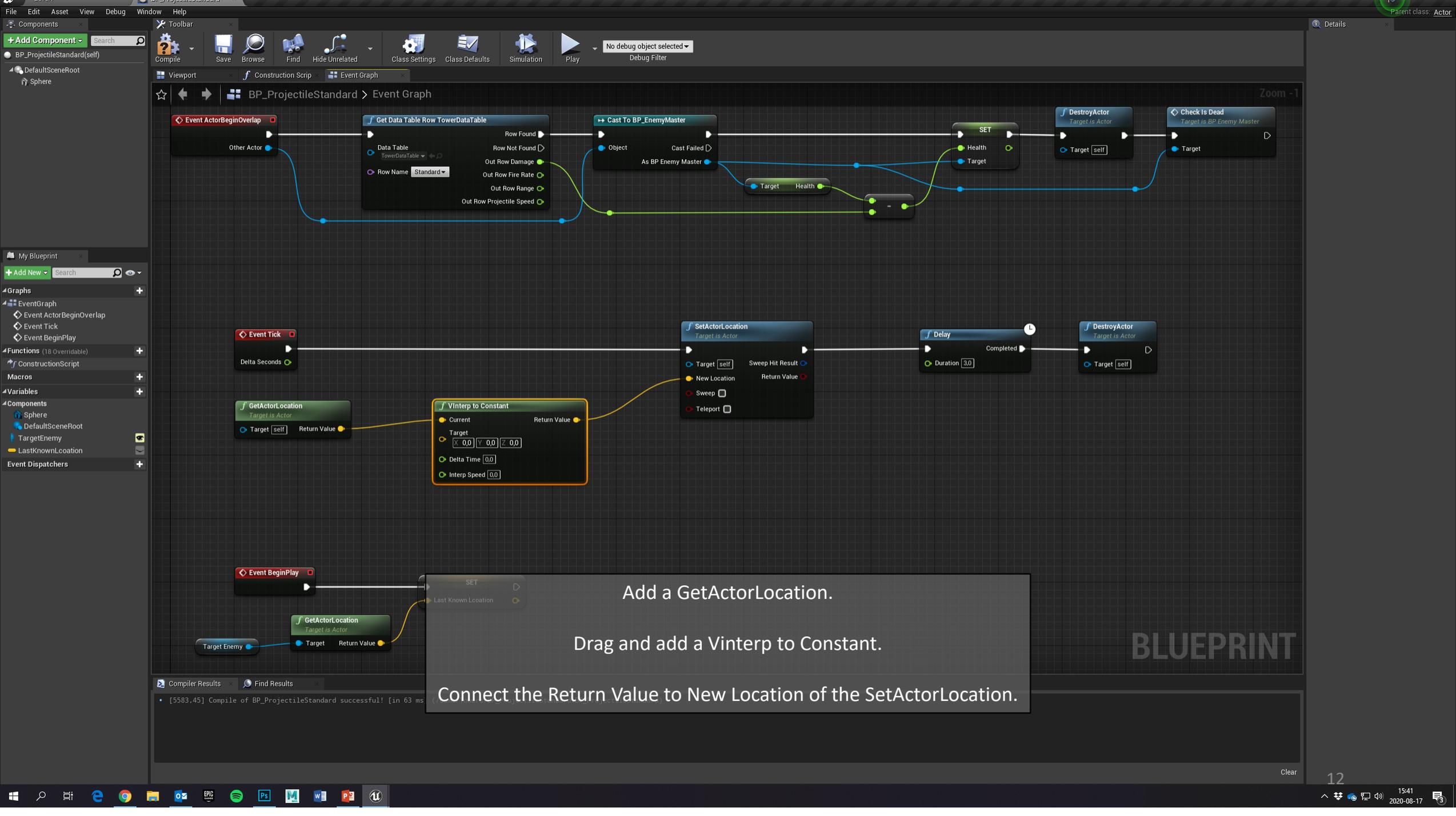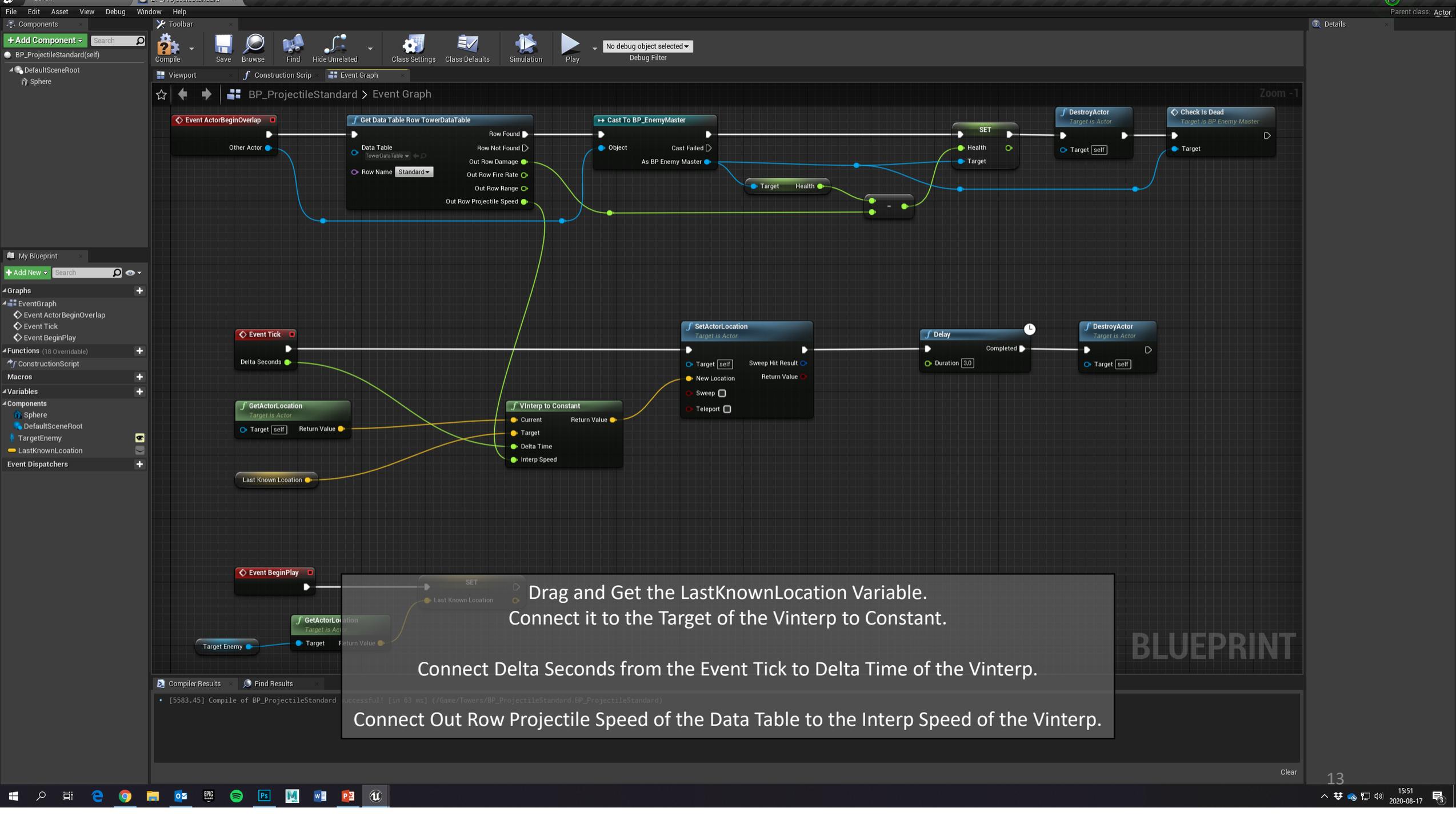
Compiler Results: [1699,03] Compile of BP_ProjectileStandard successful! [in 38 ms]

Zoom 1:1

BLUEPRINT

15:28 2020-08-17

From Set Health, add a Destroy Actor node.

From As BP Enemy Master in the Cast node, drag and add Check Is Dead.
Connect it to Destroy Actor.

When the Projectile hits an Enemy, it will subtract its Damage to the Health of the enemy, the projectile will be destroyed, and then the Enemy will perform a check to see if its Health is less than 0.1.
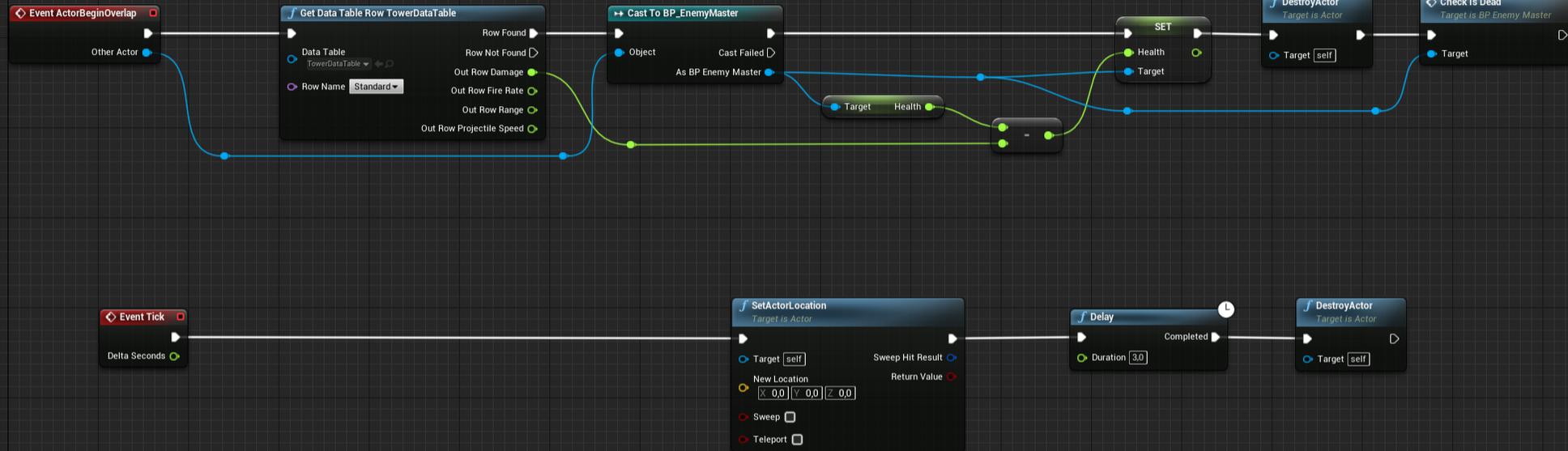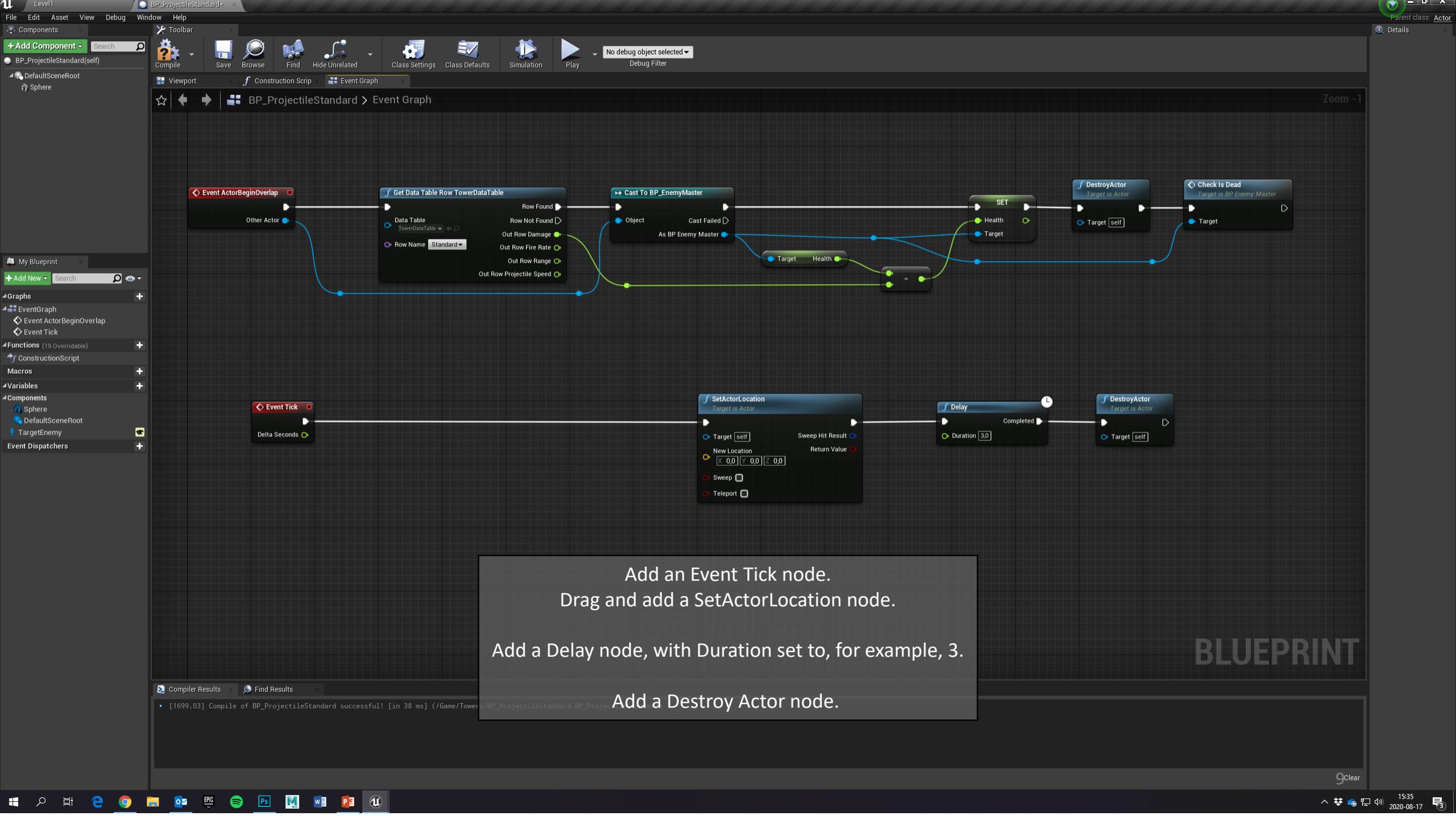
Add an Event Tick node.
Drag and add a SetActorLocation node.

Add a Delay node, with Duration set to, for example, 3.

Add a Destroy Actor node.
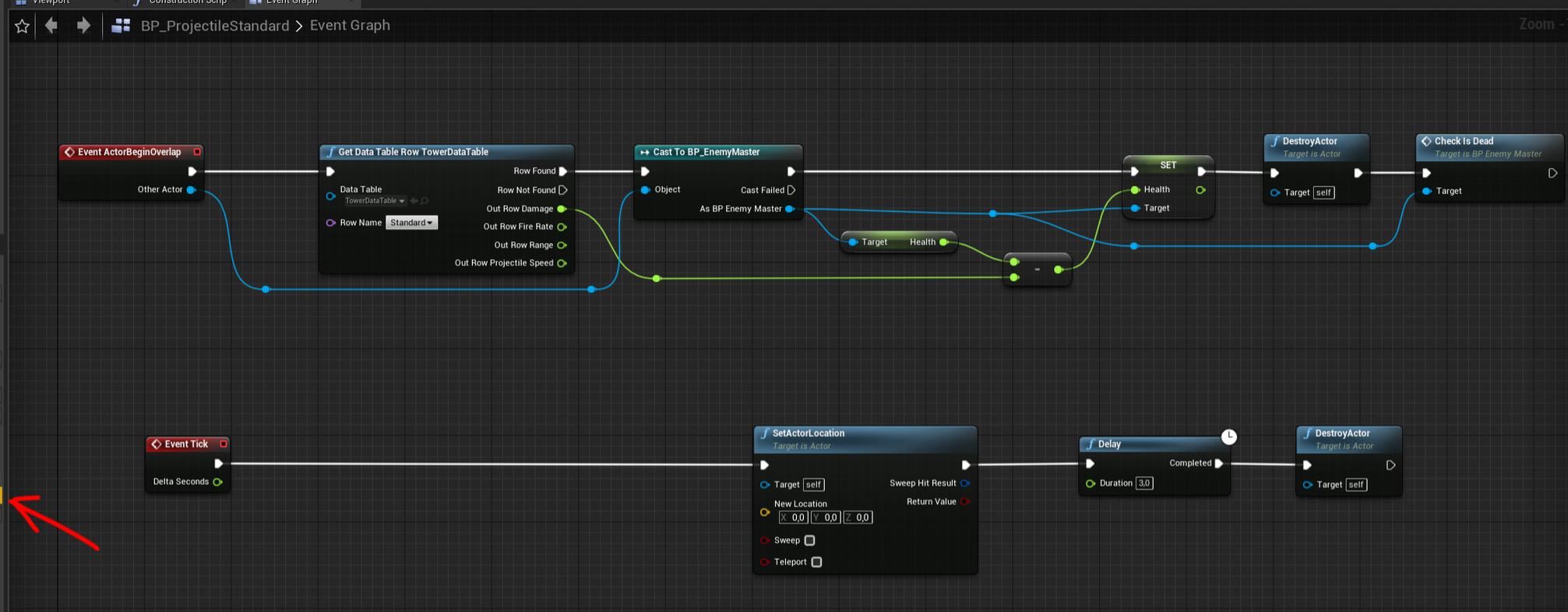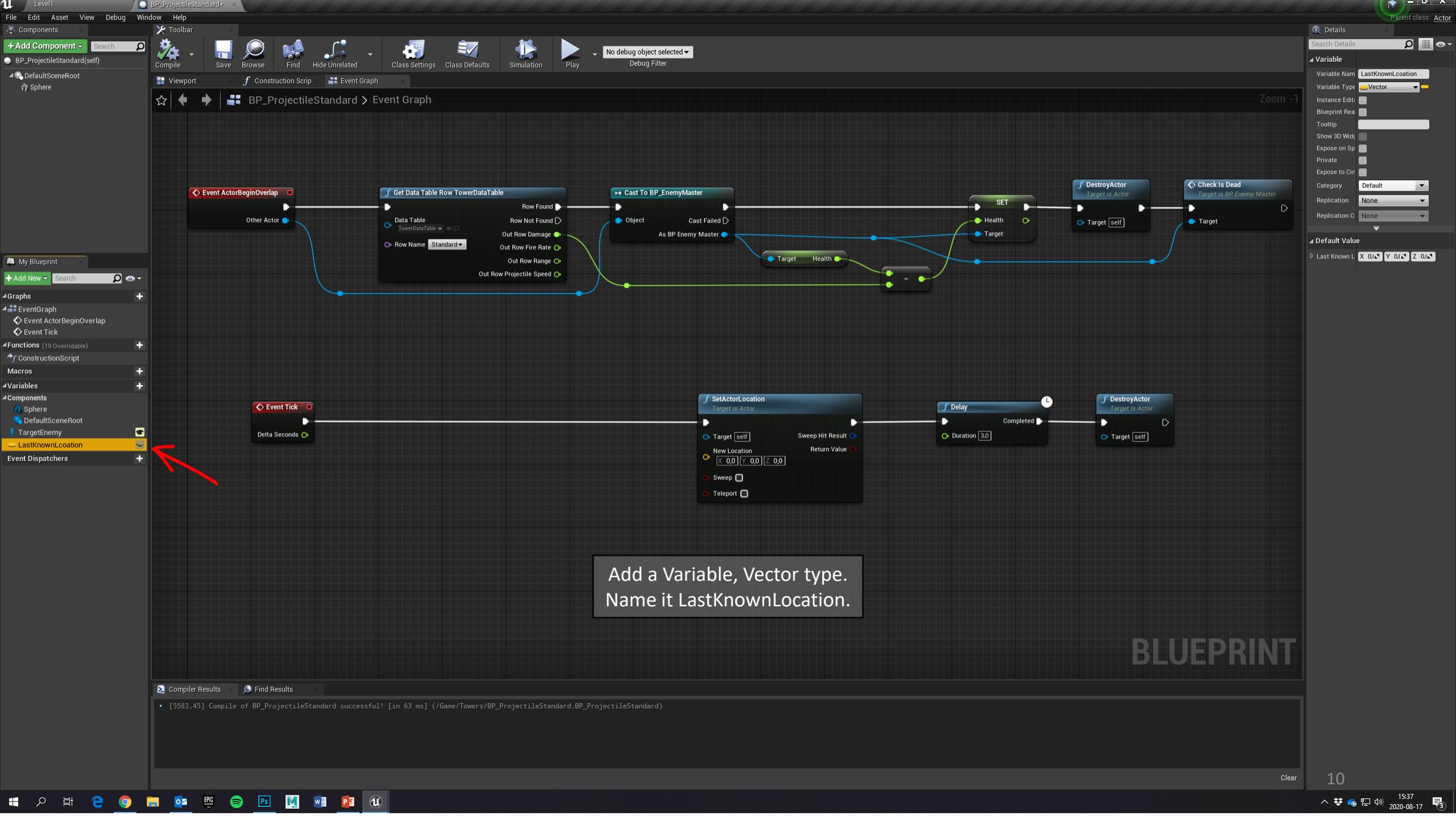
Add a Variable, Vector type.
Name it LastKnownLocation.

Create an Event BeginPlay node.
Drag and Set LastKnownLocation.

Drag and Get the Target Enemy variable.
From that GetActorLocation.
Add it to the input of the LastKnownLocation.

BLUEPRINT

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Add a GetActorLocation.

Drag and add a Vinterp to Constant.

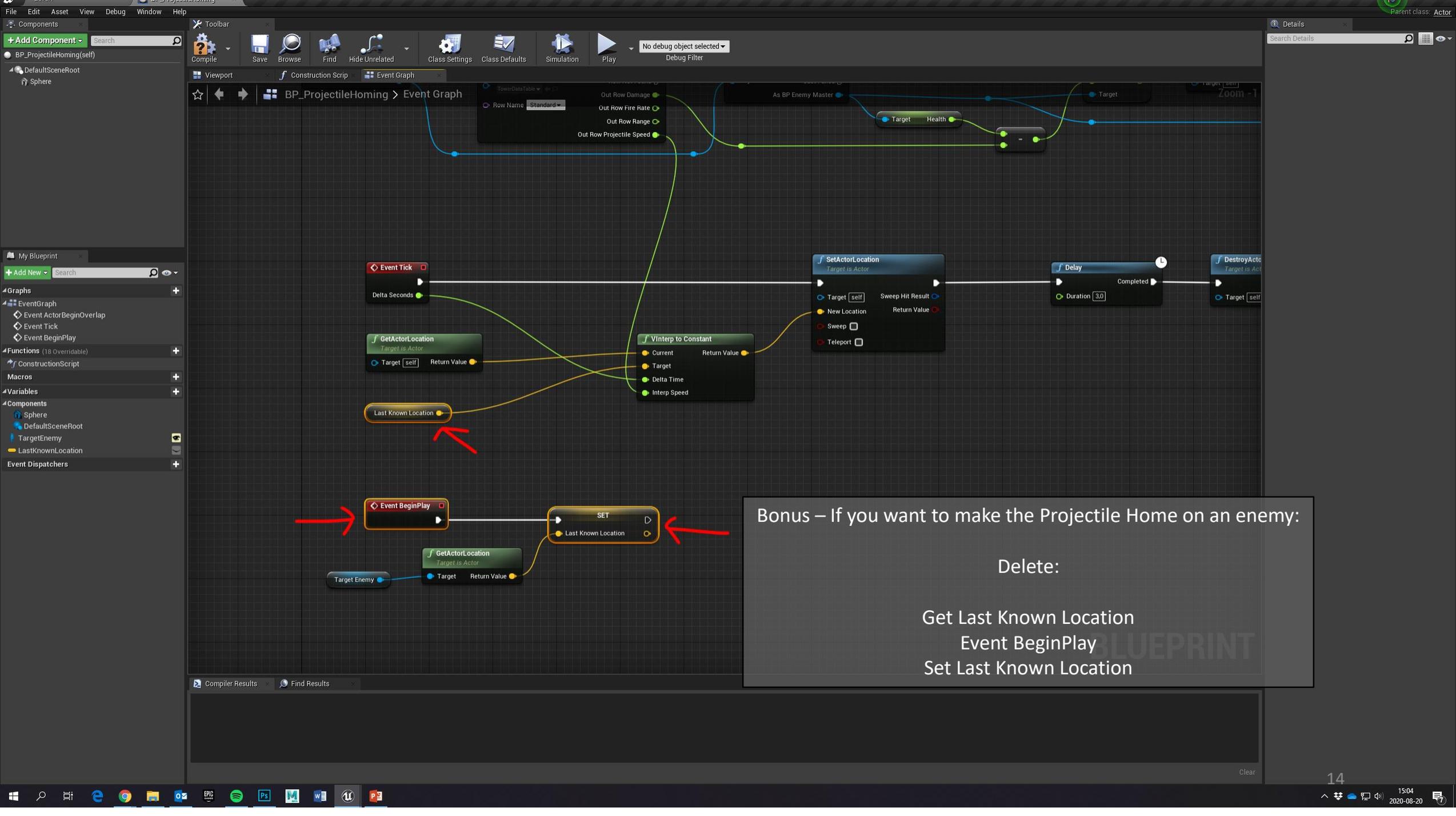Connect the Return Value to New Location of the SetActorLocation.

Drag and Get the LastKnownLocation Variable.
Connect it to the Target of the Vinterp to Constant.

Connect Delta Seconds from the Event Tick to Delta Time of the Vinterp.

Connect Out Row Projectile Speed of the Data Table to the Interp Speed of the Vinterp.

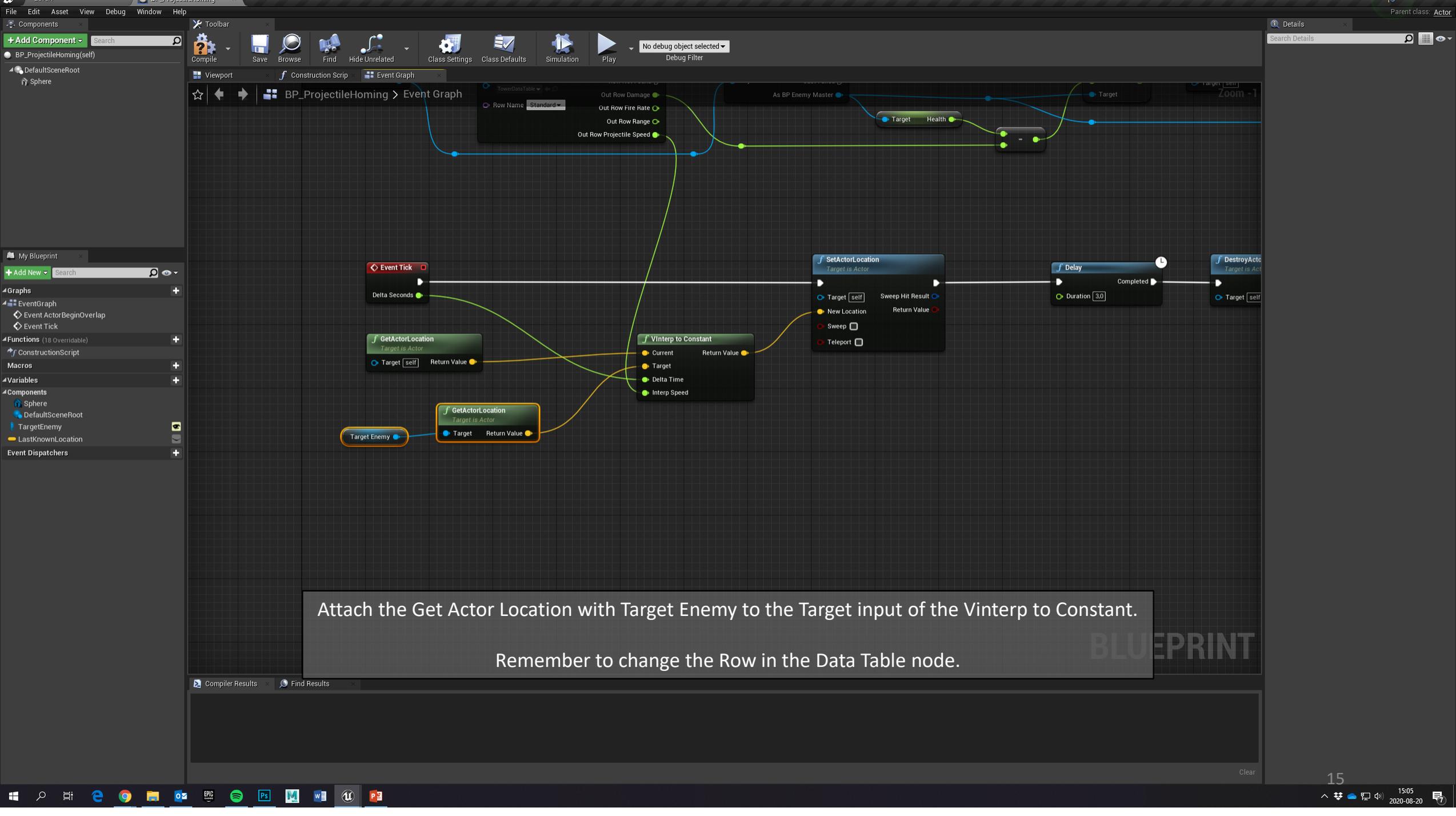Bonus – If you want to make the Projectile Home on an enemy:

Delete:

Get Last Known Location
Event BeginPlay
Set Last Known Location

Attach the Get Actor Location with Target Enemy to the Target input of the VInterp to Constant.

Remember to change the Row in the Data Table node.