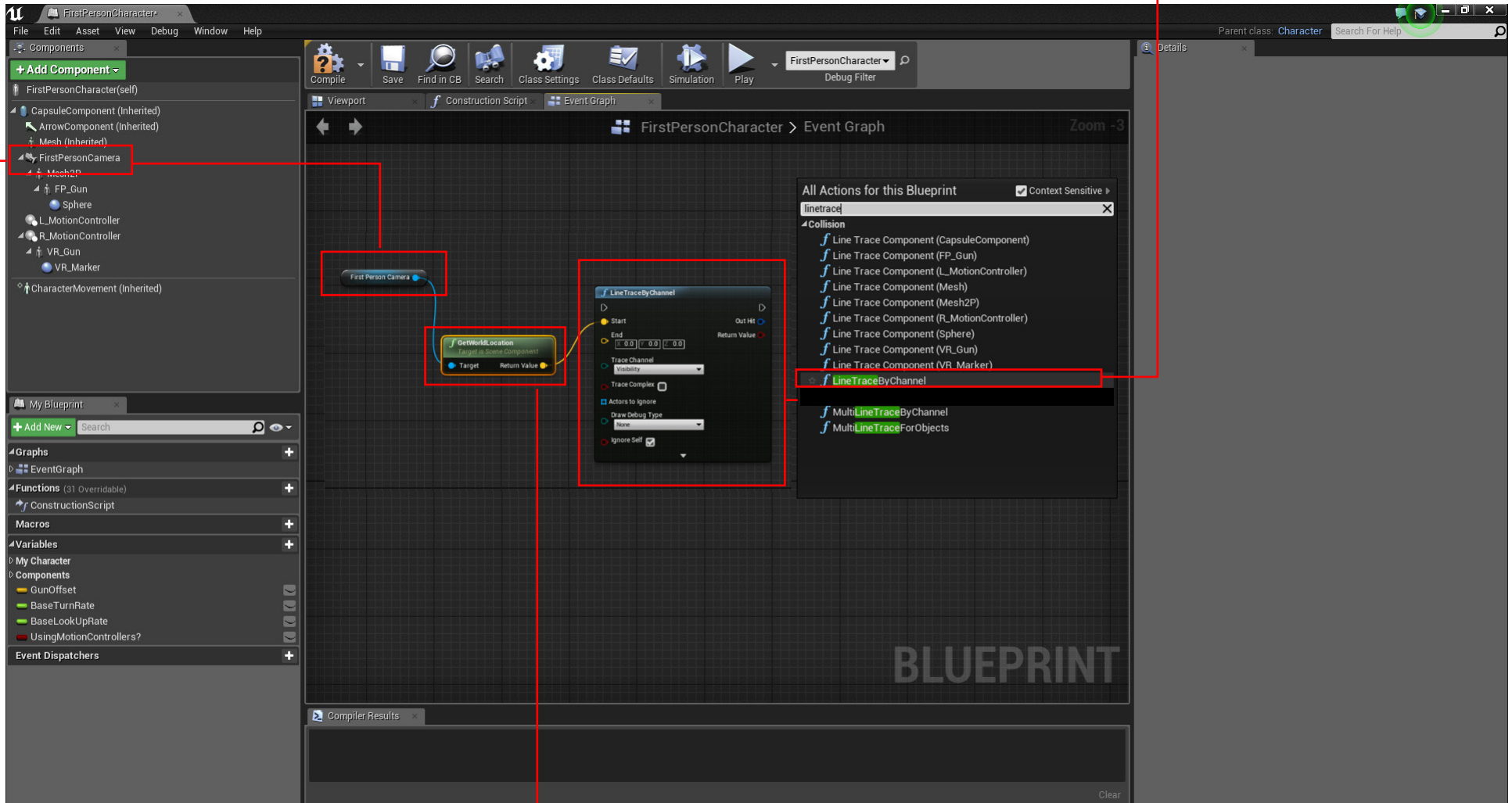


NOTE: This works for a First Person level.

Being able to pick up an object and move it is great way to hide secret doorways or passages in your level.

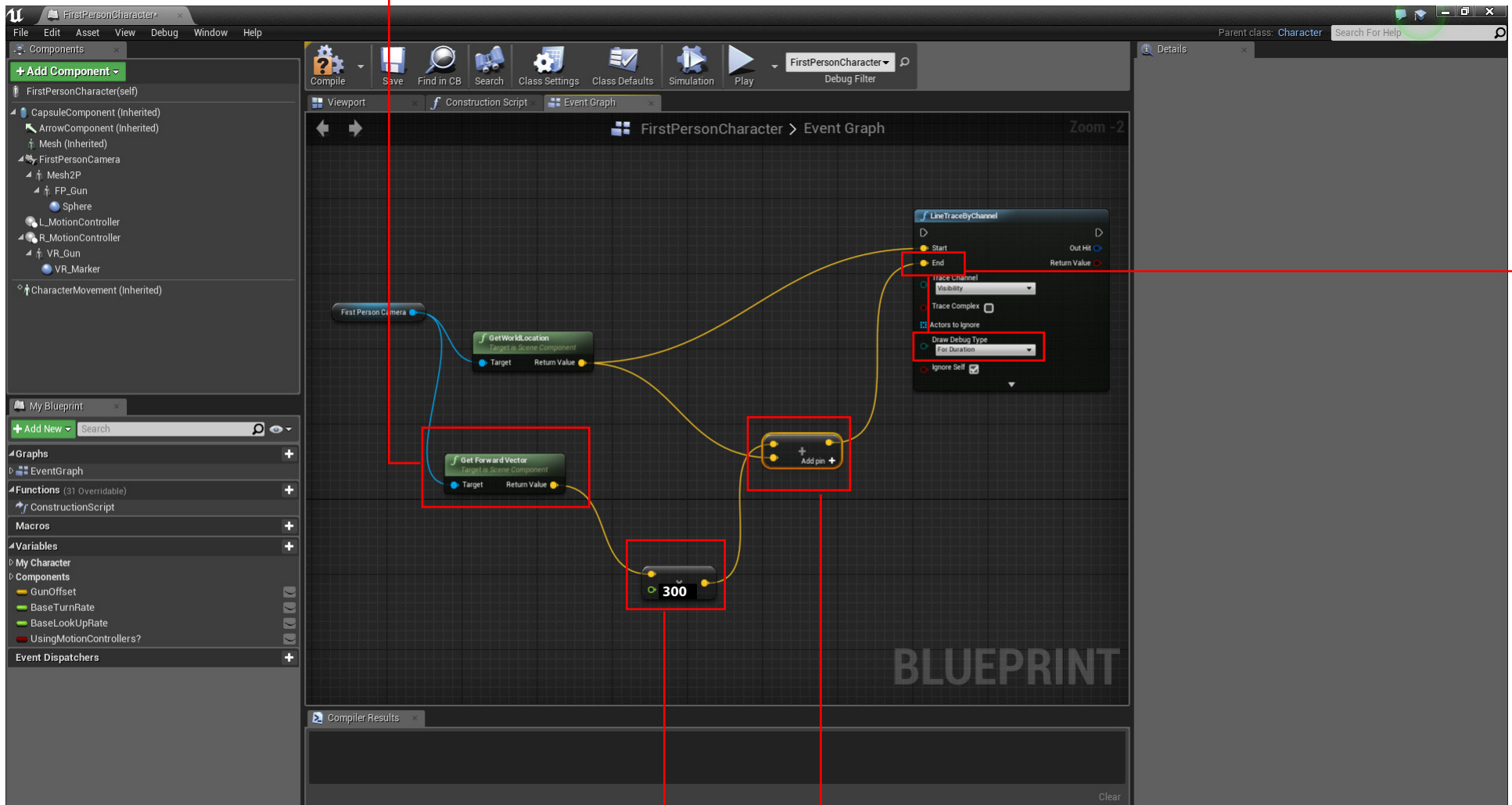
1. Open the First Person Blueprint and create a LineTraceForChannel



2. Drag the FirstPersonCamera into the Blueprint

3. From the Camera drag a WorldLocation and connect to the Start

4. Drag from the Camera a "Get Forward Vector".

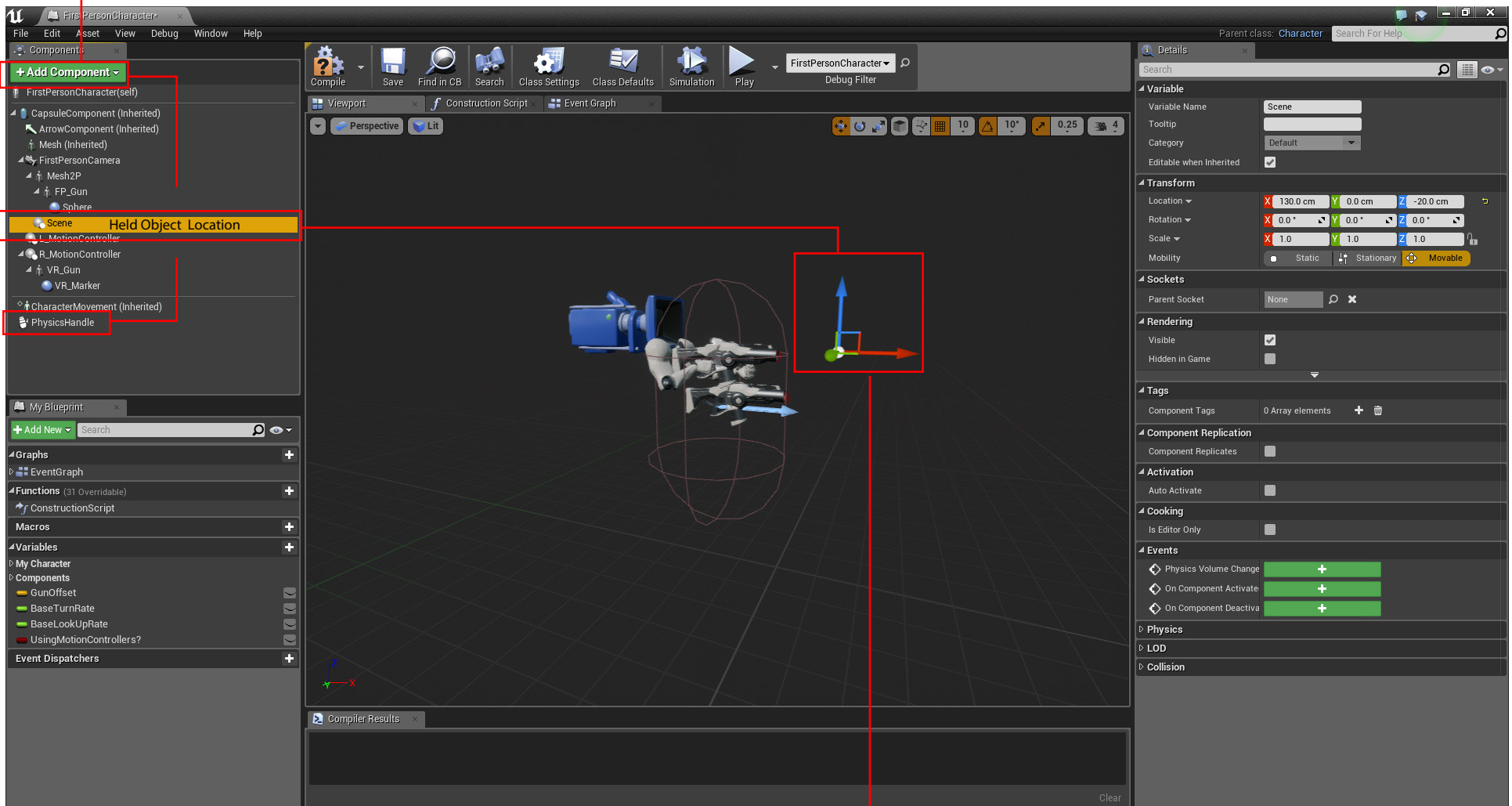


5. Drag Vector*Float
Set to 300

6. Drag Vector + Vector and connect to End
and set "For Duration"

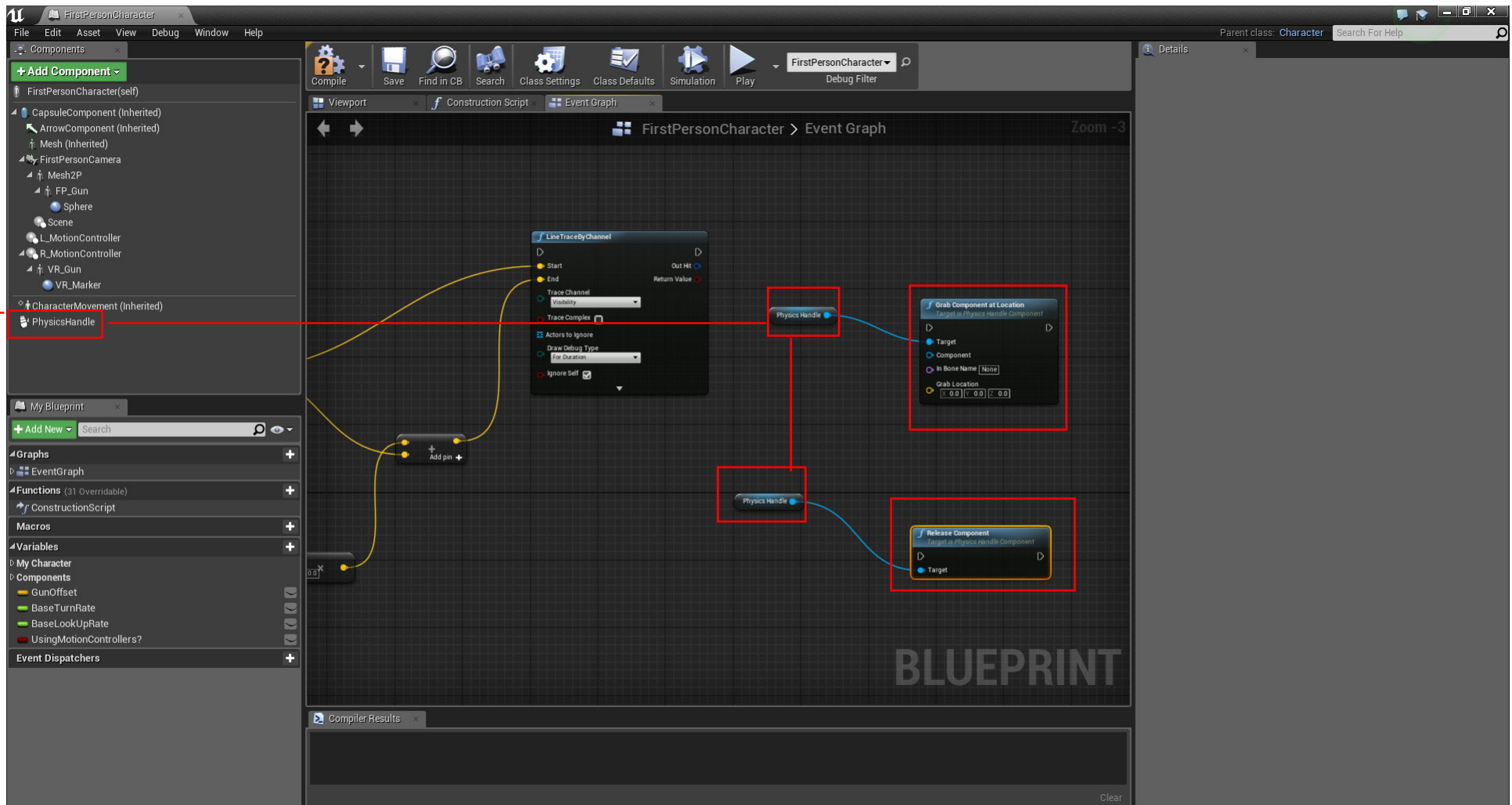
8. Click Add Component and create a "Scene Utility". Rename the Scene Utility to "Held Object Location"
Make sure the new component is child of the Camera (Drag the component on top of the Camera.)

7. Click Add Component and select "Physics Handle"



9. Move the Physics Handle in front of the camera so the player can see the thing being lifted.

10. Drag two copies of the Physics Handle into the Event Graph



11. Drag and select "Grab Component at Location" and "Release Component".

12. Drag a "Branch" from the Line Trace

13. Drag a "Break Hit Result"

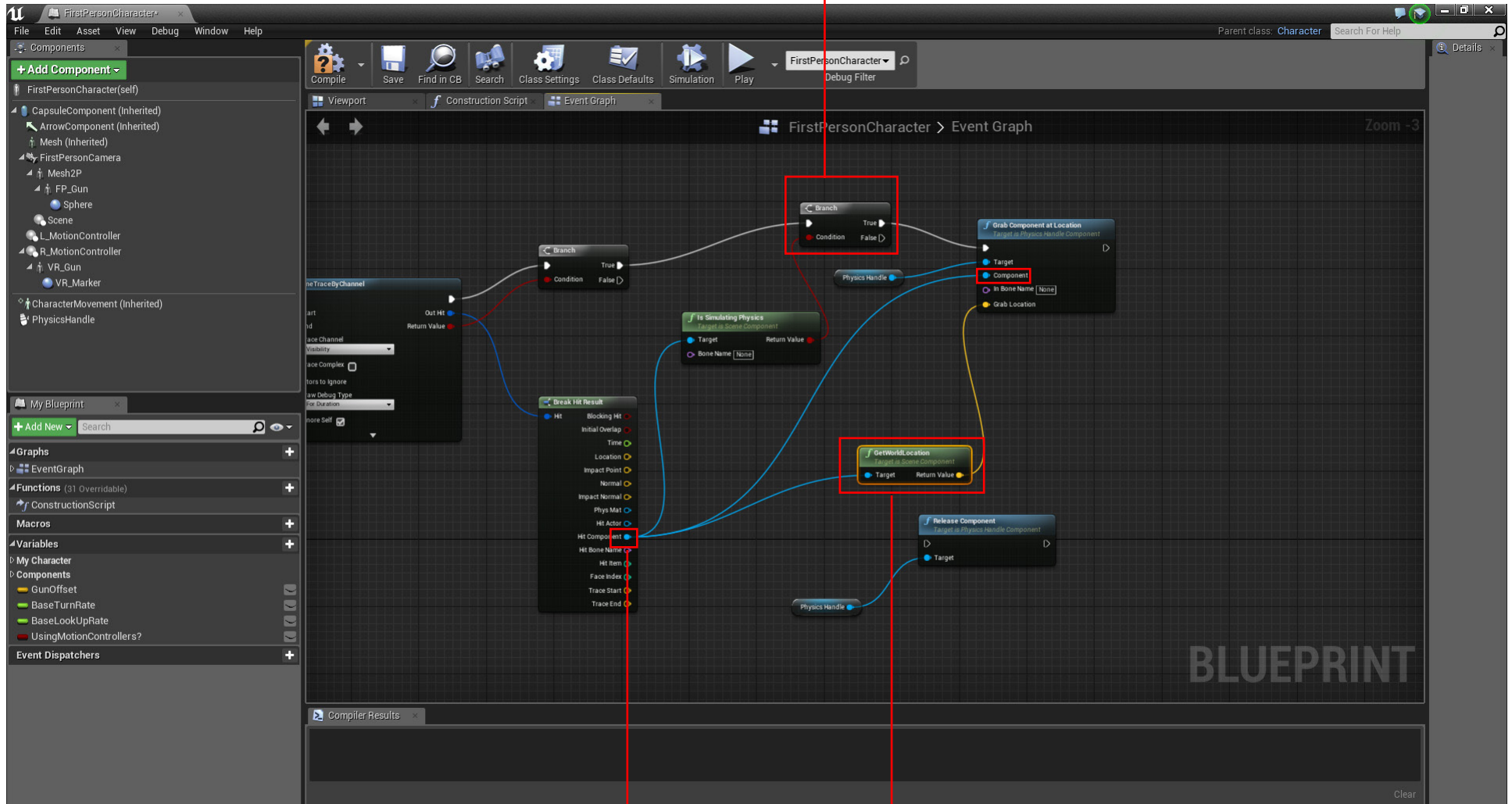
14. Drag a "Is Simulating Physics"

The screenshot displays the Unreal Engine Blueprint editor interface. The main workspace shows an Event Graph for the 'FirstPersonCharacter' class. The graph contains several nodes and connections:

- LineTraceByChannel**: A node with 'Start' and 'End' inputs, and 'Out Hit' and 'Return Value' outputs. It is connected to the 'Branch' node.
- Branch**: A node with 'True' and 'False' outputs. It is highlighted with a red box and a red line pointing to instruction 12.
- Break Hit Result**: A node with various inputs like 'Blocking Hit', 'Initial Overlap', 'Time', 'Location', 'Impact Point', 'Normal', 'Impact Normal', 'Phys Mat', 'Hit Actor', 'Hit Component', 'Hit Bone Name', 'Hit Item', 'Face Index', 'Trace Start', and 'Trace End'. It is highlighted with a red box and a red line pointing to instruction 13.
- Is Simulating Physics**: A node with 'Target' and 'Return Value' outputs. It is highlighted with a red box and a red line pointing to instruction 14.
- Grab Component at Location**: A node with 'Target', 'Component', 'In Bone Name', and 'Grab Location' outputs.
- Release Component**: A node with 'Target' output.
- Physics Handle**: A node that is connected to the 'Grab Component at Location' and 'Release Component' nodes.

The left sidebar shows the 'Components' panel with a tree view of the character's components, including 'CapsuleComponent', 'ArrowComponent', 'Mesh', 'FirstPersonCamera', 'Mesh2P', 'FP_Gun', 'Sphere', 'Scene', 'L_MotionController', 'R_MotionController', 'VR_Marker', 'CharacterMovement', and 'PhysicsHandle'. The bottom of the screen shows the 'Compiler Results' panel.

15 Drag another Branch and connect as shown.



16. Link to "Component".

17. Drag and select "Get World Location" and link to Component

18. Right click in the panel and type "Keyboard Events" and select "F"

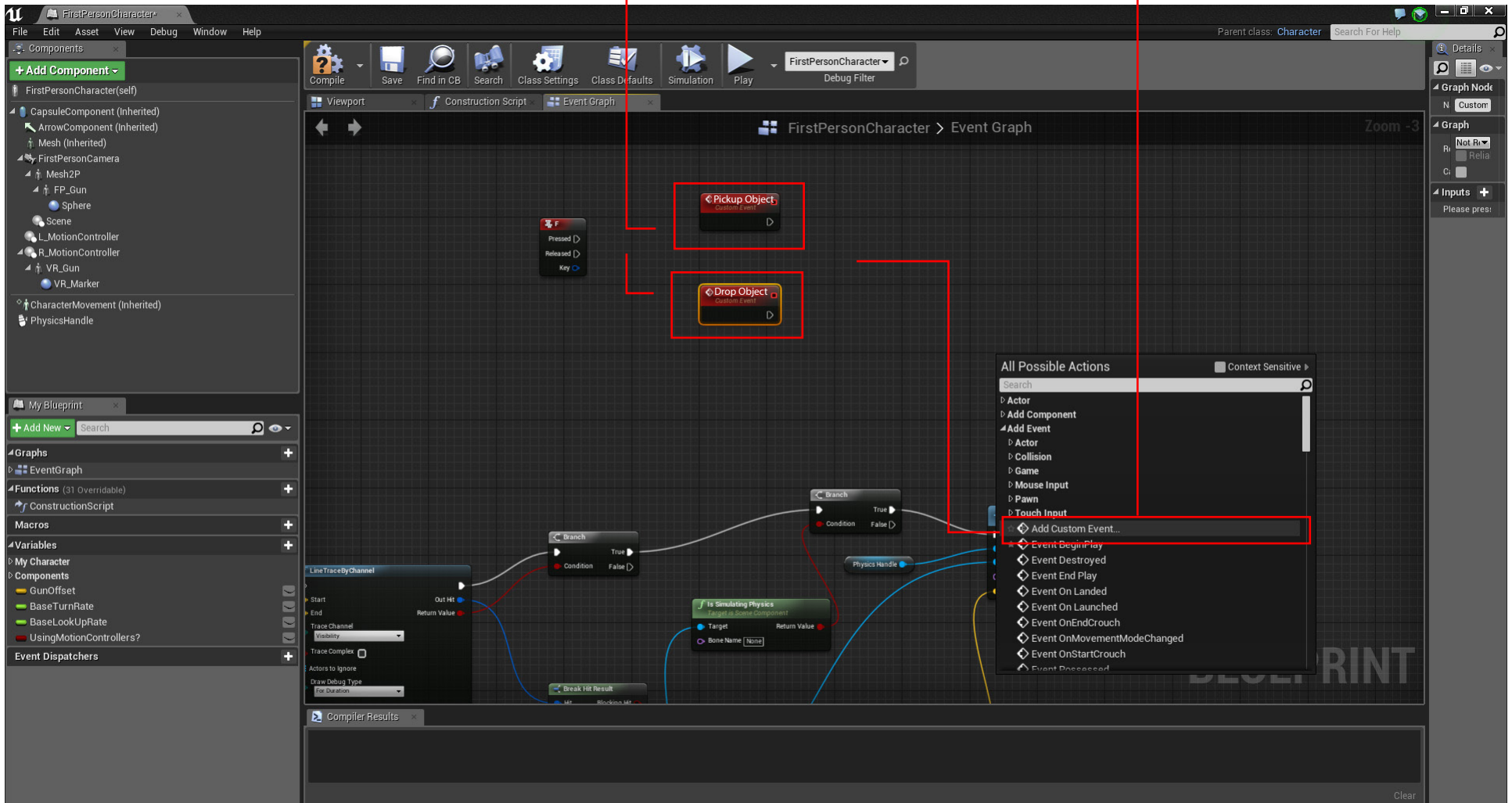
The screenshot displays the Unreal Engine 4 interface for editing a Blueprint. The main window shows the Event Graph for the 'FirstPersonCharacter' class. A red box highlights the 'F' key event in the 'All Possible Actions' list. A tooltip points to the 'F' key with the text 'Events for when the F key is pressed or released.'

The interface includes the following elements:

- Components Panel:** Lists components for 'FirstPersonCharacter(self)', including CapsuleComponent, ArrowComponent, Mesh, FirstPersonCamera, Mesh2P, FP_Gun, Sphere, Scene, L_MotionController, R_MotionController, VR_Gun, VR_Marker, CharacterMovement, and PhysicsHandle.
- My Blueprint Panel:** Shows 'Add New' and 'Search' options, along with sections for Graphs, Functions (31 Overridable), Macros, and Variables.
- Event Graph:** The main workspace showing a 'Branch' node with 'True' and 'False' outputs, a 'LineTraceByChannel' node, and a 'Break Hit Result' node. A red box highlights the 'F' key event in the 'All Possible Actions' list.
- Details Panel:** Shows 'Input' and 'Modifier' settings.
- Compiler Results Panel:** Located at the bottom of the interface.

18. Right click and add two "Custom Events"

19. Rename them- Pckup Object amd Drop Object



20. Link the two new custom events as shown.

The screenshot displays the Unreal Engine 4 interface for editing an Event Graph for the `FirstPersonCharacter` class. The graph is set up to handle a pickup event. It starts with a `PickupObject` custom event node (highlighted with a red box). This event triggers a `LineTraceByChannel` node, which checks for overlapping objects. The `LineTraceByChannel` node's `Out Hit` output is connected to a `Branch` node. The `Branch` node's `True` path leads to an `Is Simulating Physics` node, which checks if physics are active for the target. The `Is Simulating Physics` node's `Return Value` is connected to a `Break Hit Result` node. The `Break Hit Result` node's `Hit` output is connected to a `DropObject` custom event node (also highlighted with a red box). The `DropObject` node is connected to a `Release Component` node, which releases the component from the physics handle. The graph also includes a `GetWorldLocation` node for the target's location and a `Get Forward Vector` node for the direction of the trace. The `DropObject` node is also connected to a `Physics Handle` node, which is used to manage the physics handle for the component being dropped.

21. Locate the "F" Keyboard Event.

20. Make a new Variable and name "Is Holding Object". Make sure it is a red "Boolean"

The screenshot displays the Unreal Engine 4 interface for editing a blueprint. The main window shows the Event Graph for the 'FirstPersonCharacter' blueprint. A red box highlights the 'F' key event node, which is connected to a 'Branch' node. The 'Branch' node has two paths: 'True' leading to a 'Drop Object' action and 'False' leading to a 'Pickup Object' action. A variable named 'Is Holding Object' is shown in the Details panel on the right, with its type set to 'Boolean'. The variable is also shown in the Event Graph as a red node. The 'My Blueprint' panel on the left shows the 'Variables' section with 'Is Holding Object' listed. The 'Components' section shows various components like 'CapsuleComponent', 'ArrowComponent', and 'FirstPersonCamera'.

22 . Drag two "Is Holding Object" variables into the Event Graph and "Set" and link as shown.

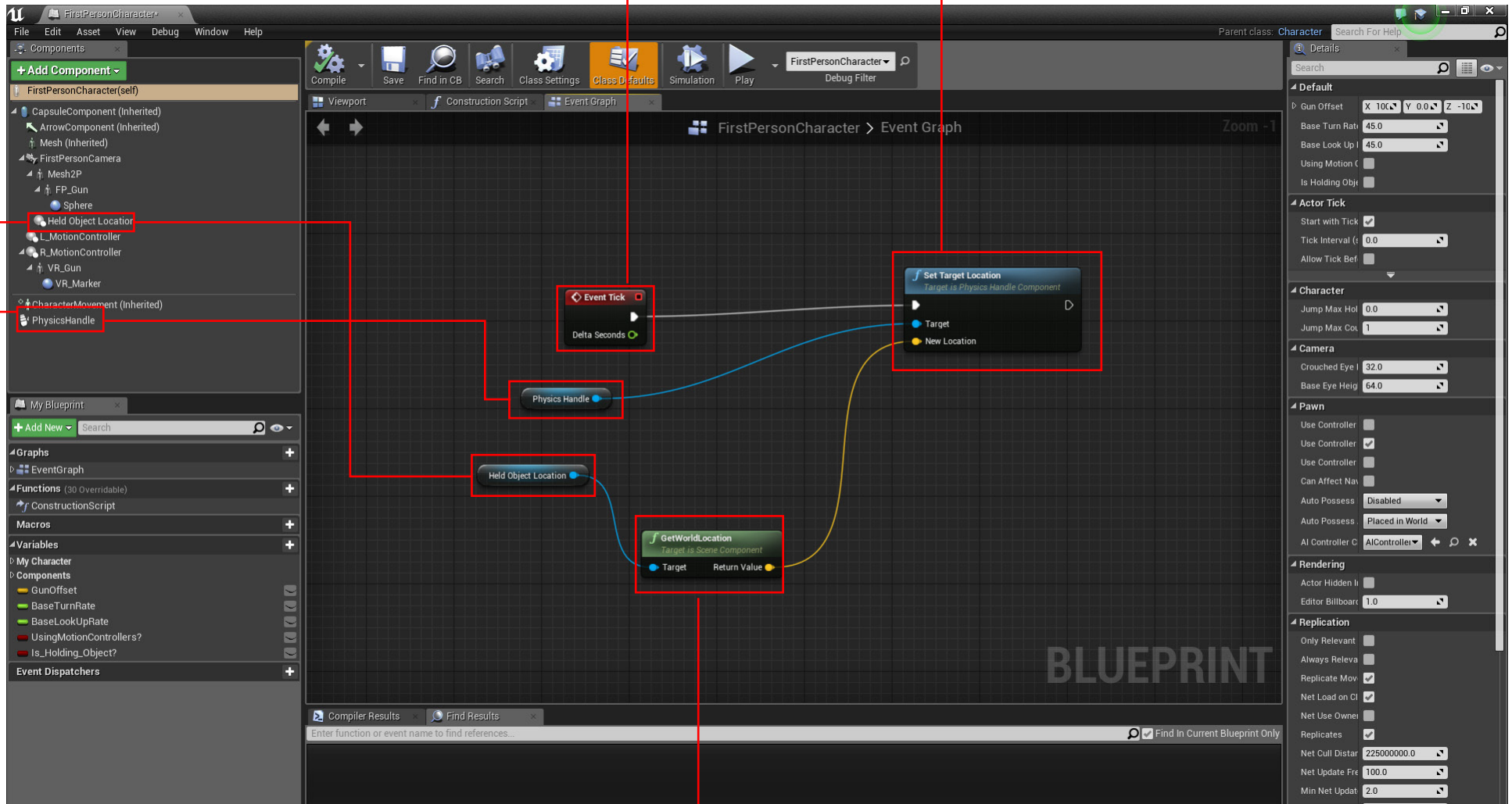
23. Check box

The screenshot displays the Unreal Engine 4 interface for editing a blueprint. The main area is the Event Graph for the 'FirstPersonCharacter' blueprint. The graph contains several nodes: a 'Branch' node, a 'Grab Component at Location' node, a 'Drop Object' node, and a 'Release Component' node. Each of these nodes is connected to a 'SET' node for the 'Is Holding Object' variable. Two 'Is Holding Object' variables are also placed in the graph. A red box highlights the 'Is Holding Object' variable in the 'SET' node of the 'Drop Object' node, with a red arrow pointing to the '23. Check box' instruction. Another red box highlights the 'Is Holding Object' variable in the 'SET' node of the 'Grab Component at Location' node. The left sidebar shows the 'Variables' section with 'Is Holding Object' highlighted in yellow. The right sidebar shows the 'Details' panel for the 'Is Holding Object' variable, with the 'Variable Type' set to 'Boolean' and the 'Is Holding Object' checkbox checked.

26. Pull out your "Physics Handle" & "Held Object Location" from the Viewport

24. Add a new Event Tick

25. Drag a "Set Target Location".



27. Drag out "Get World Location" and connect as shown.

COMPILE AND SAVE!!!!!!!!!!!!!!!!!!!!