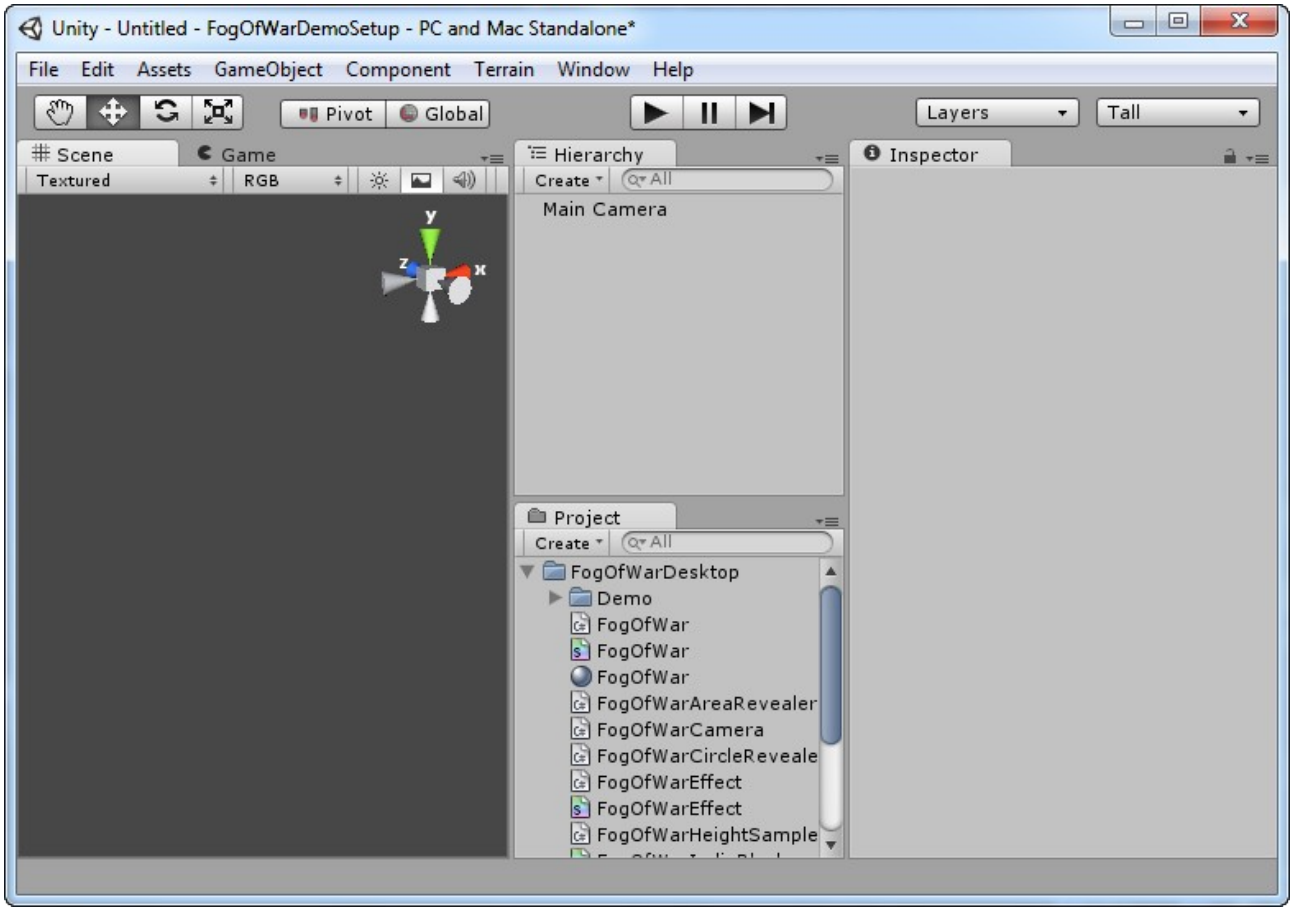
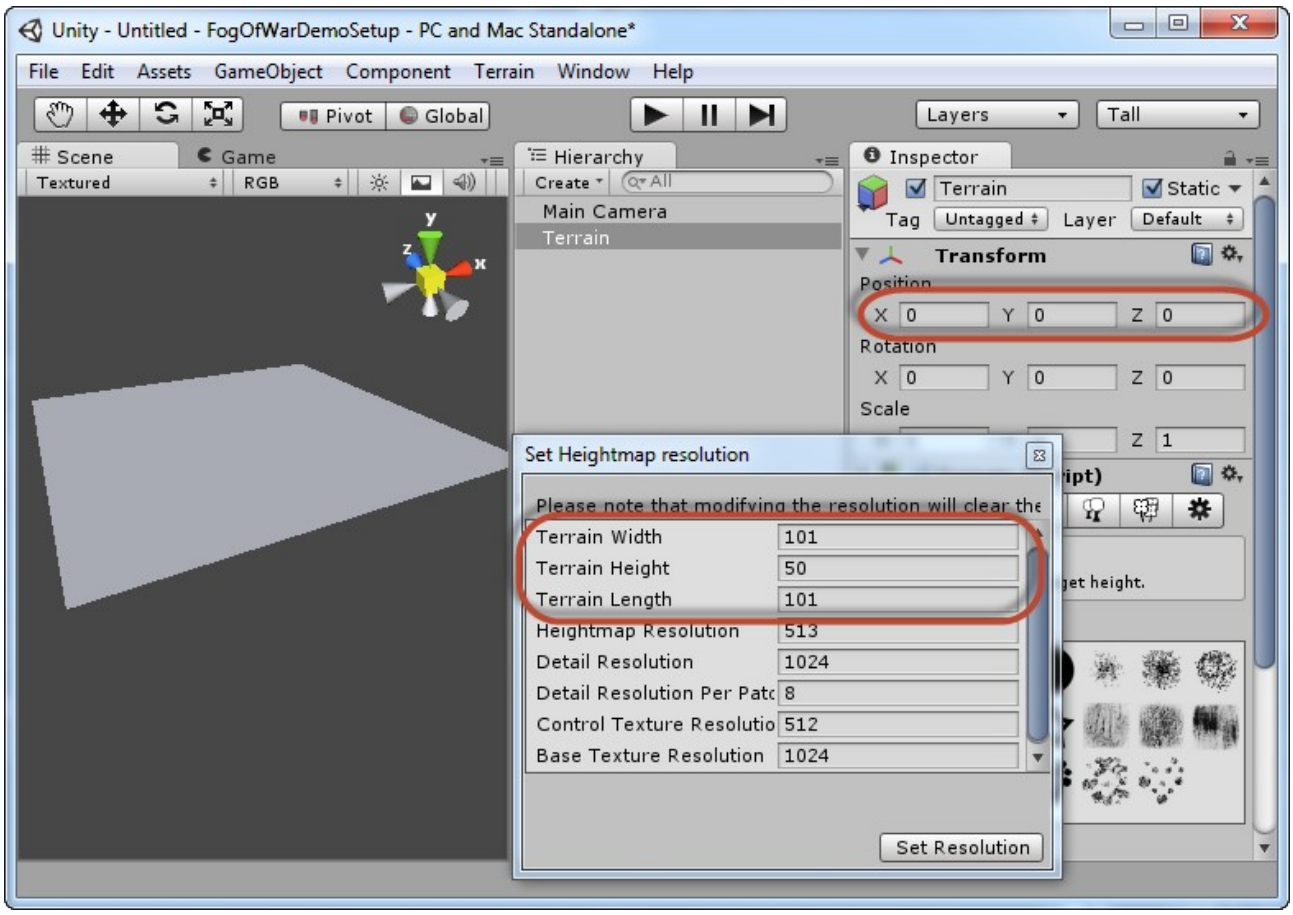
Fog of War (Desktop) – Setup Guide

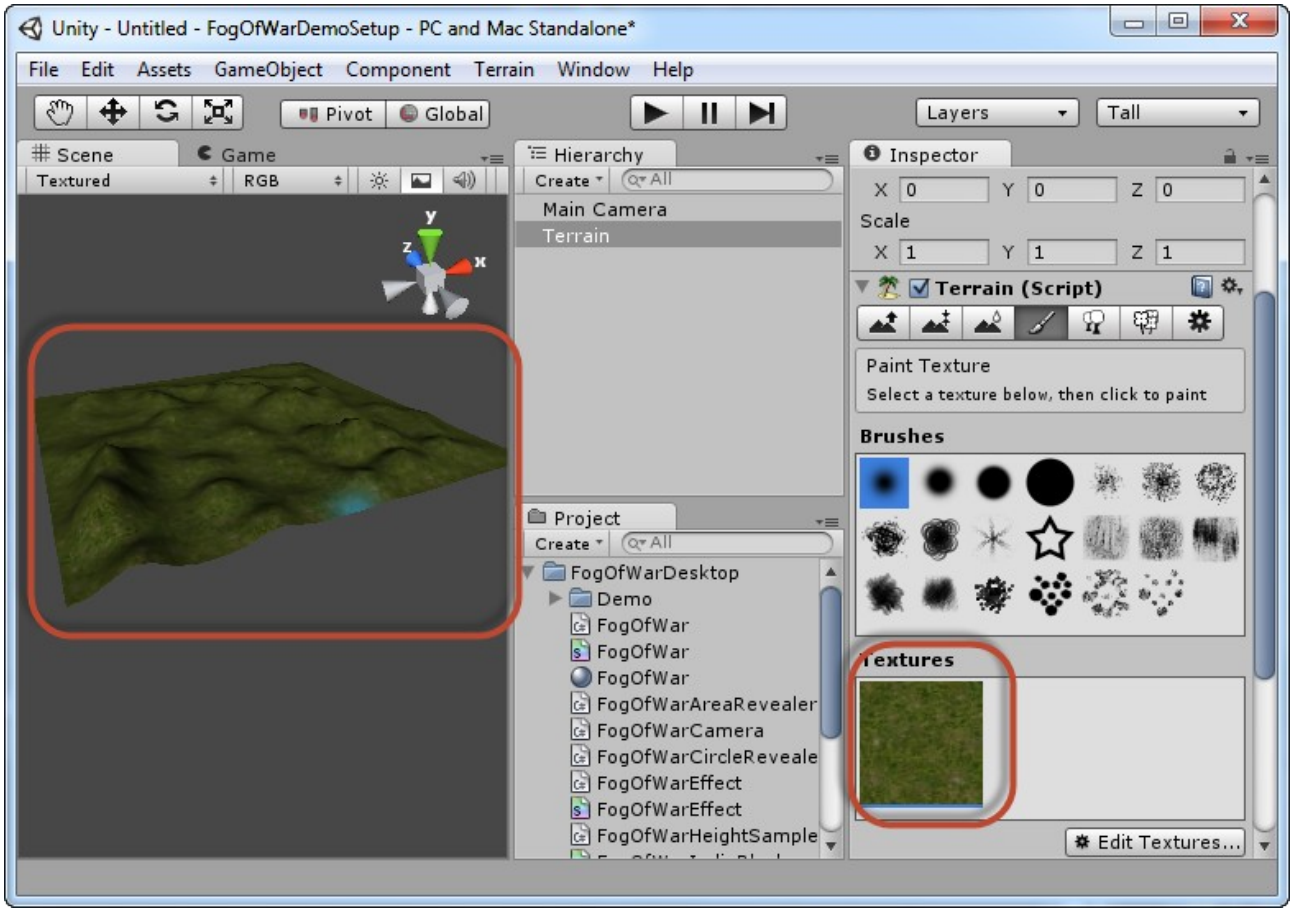
After you imported the package into an empty unity project, you will have something that looks like this:



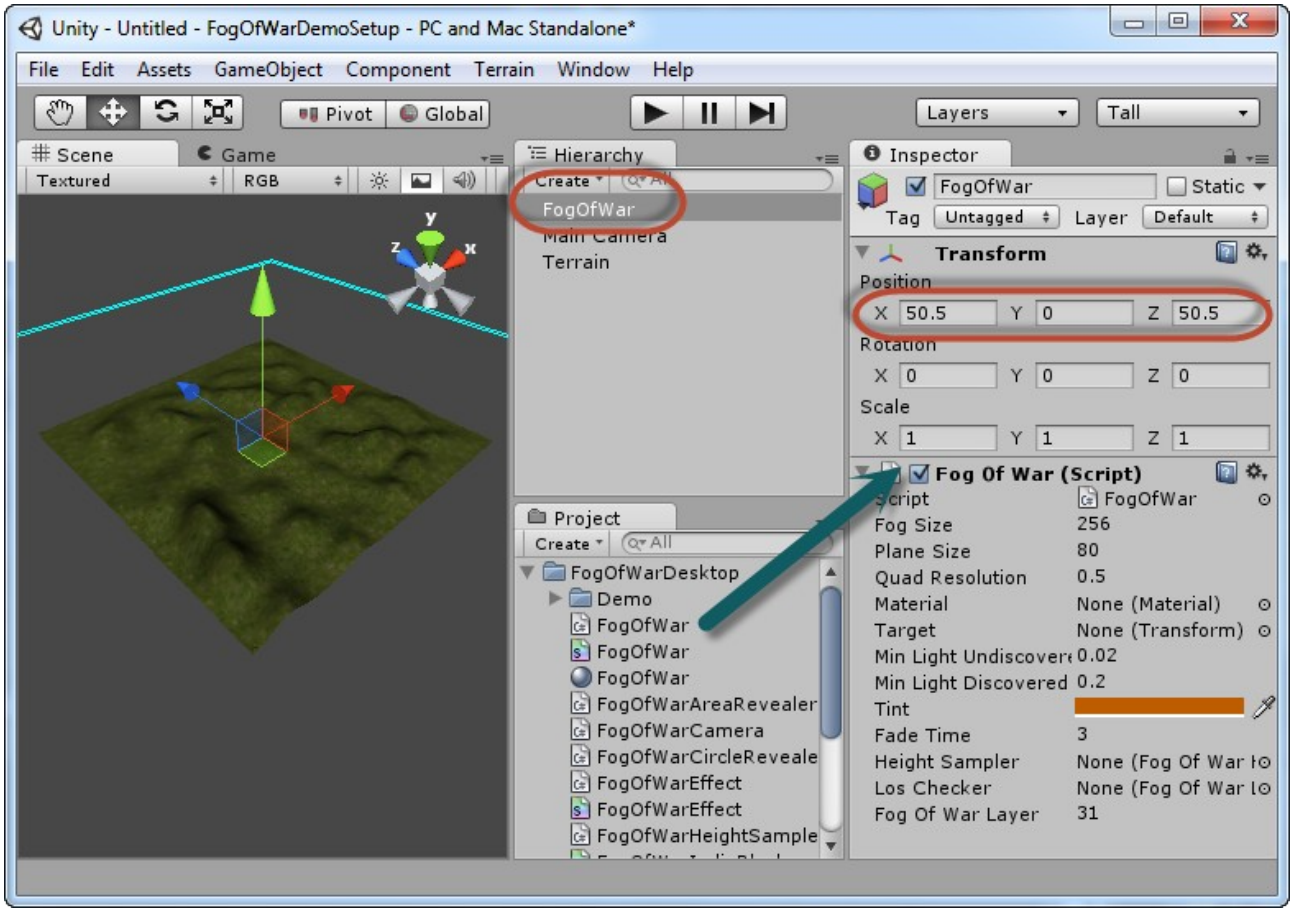
The first thing we're going to do is just create a terrain, position it at 0, 0, 0 and then set it's resolution to 101 x 50 x 101, it should look something like this:



Then paint a few different heights on it, and also select a texture (you can use one of the ones inside the Demo folder), it should end up looking like this:



The next step is to create a new, empty game object and call it ”FogOfWar” and also attach the ”FogOfWar.cs” script to this object, position the object at 50.5, 0, 50.5 (the middle of our terrain) it should end up looking like this:

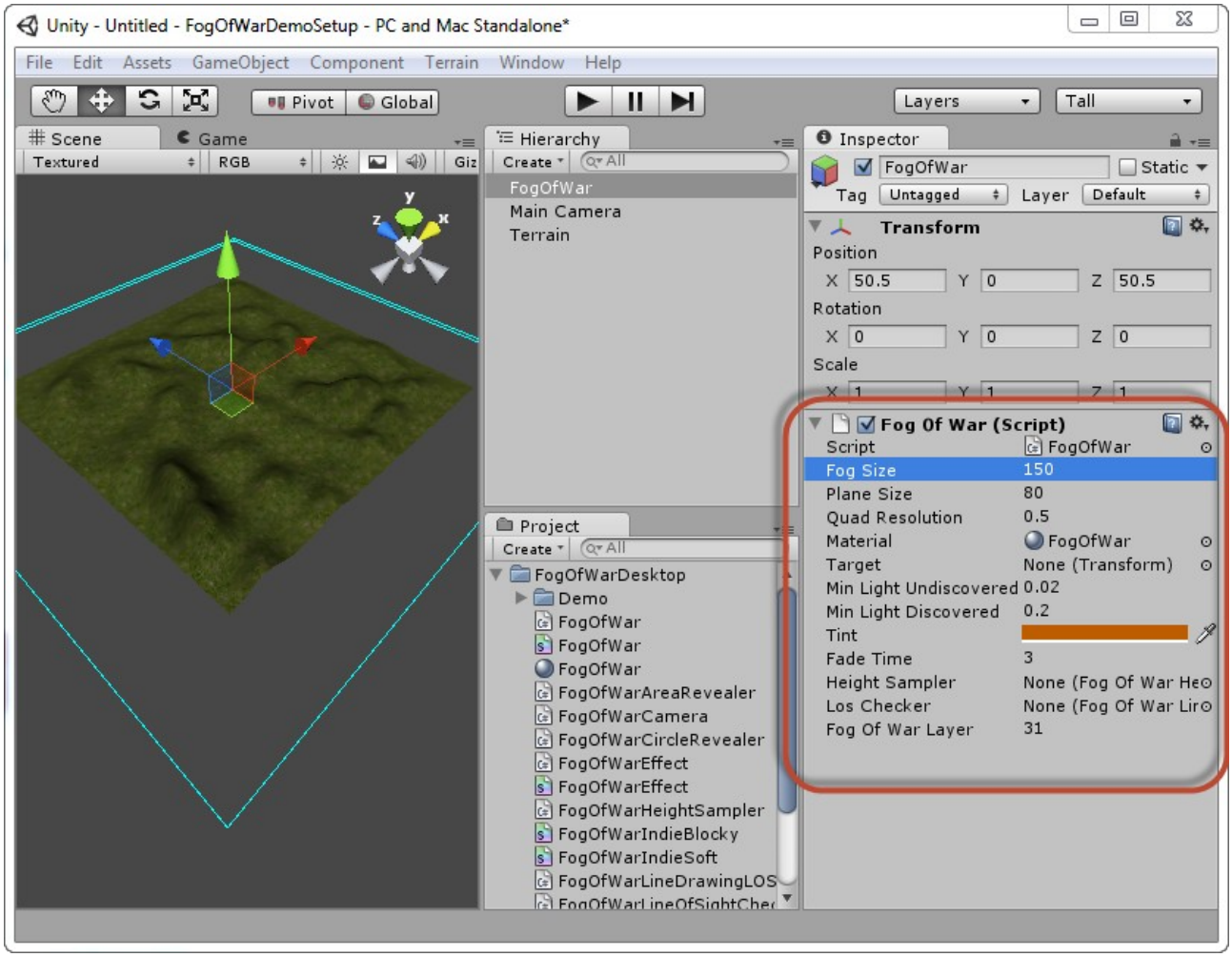


After that, it's time to configure the fog of war, here's a rundown of the settings

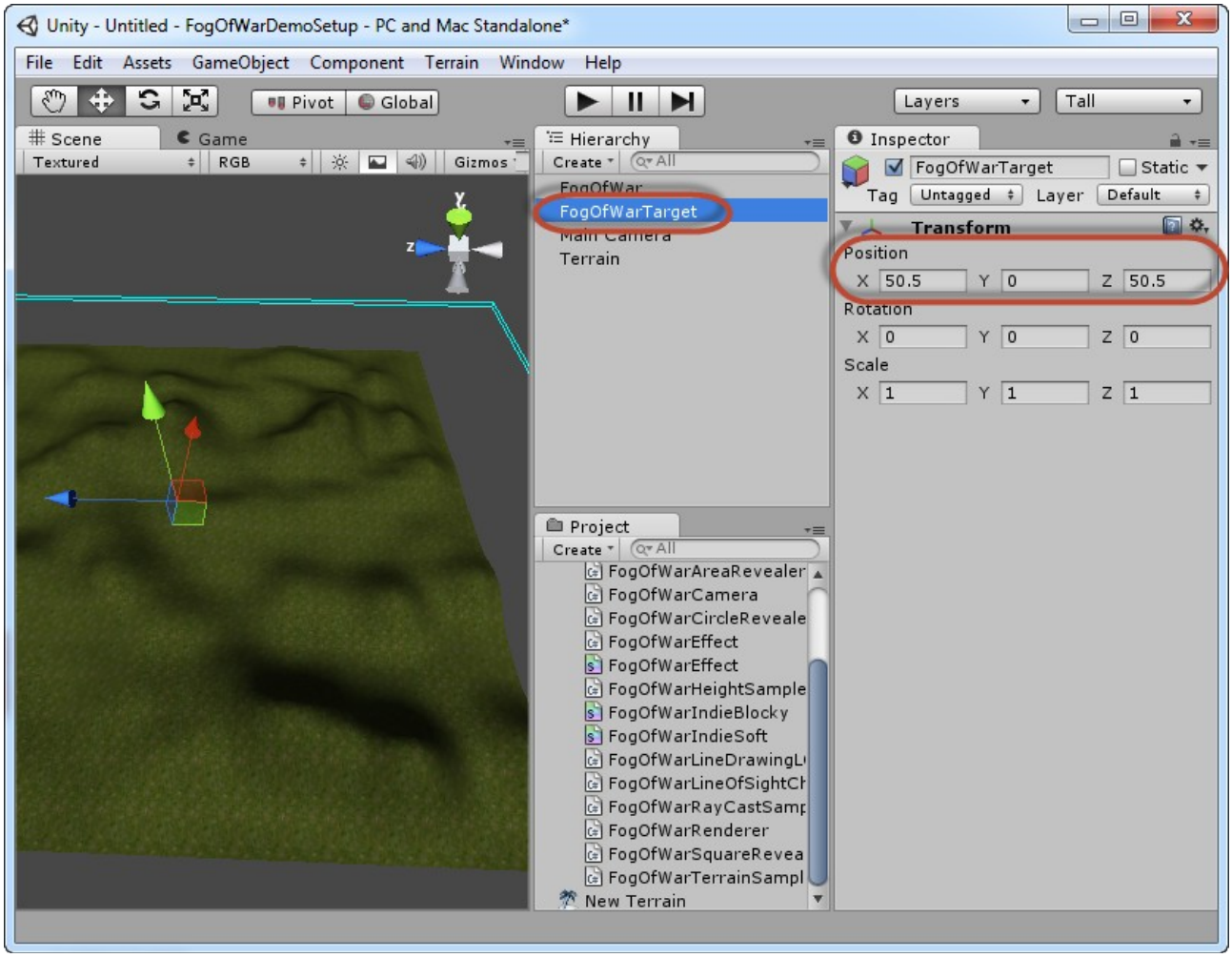
- **Fog Size** this is the size of the fog. It should be a little larger then the world. For this example I will use 150.
- **Plane Size** this is the size of the plain that will be infront of the camera, for this example I will leave it at 80.
- **Quad Resolution** is used to calculate the size of the quads, ”0.5” means that one quad will be 2x2 meters big in game (the resolution is half of one unit in Unity). I will leave this at 0.5 for the xample
- **Material** is the material that we will use to render the fog, draw the ”FogOfWar” material that comes in the package in here.
- **Target** this is the target the rendering plane will follow around, ignore this for now as we will set it up a bit later.
- **Min Light Undiscovered** decides how dark an area you have not visited will be, I'm going to leave this at 0.02
- **Min Light Discovered** decides how dark an area you have previously visisted, but are not currently in will be. I'm going to leave this at 0.2
- **Tint** sets the coloring of the fog, I'm going to leave this at the default orange-brown.
- **Fade Time** sets the time (in seconds) it takes for a currently visible area to fade to non-visible after you've left it.

- **Height Sampler** this is the height sampler used by the fog to decide the height of the underlying level/map/terrain, you can leave this empty for now.
- **Los Checker** this is the line of sight checker used to determine line of sight between nodes in the fog, you can leave this empty for now.
- **Fog Of War Layer** this is the layer the fog will be rendered in, this option is only used for culling when using the Blurred (Pro Only) fog. Leave this at 31 for now.

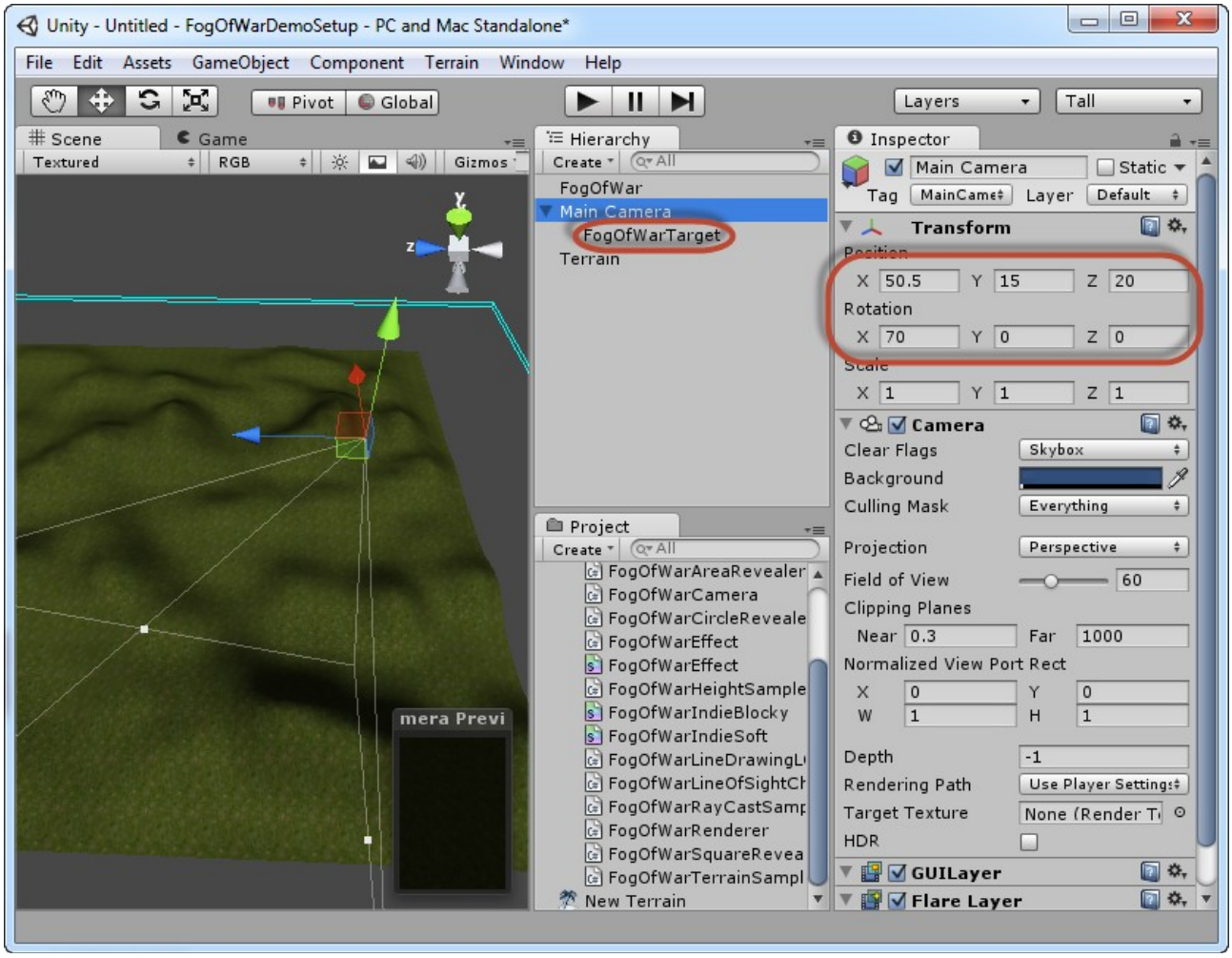
If you followed the instructions, the Fog OF War script should be setup like this:



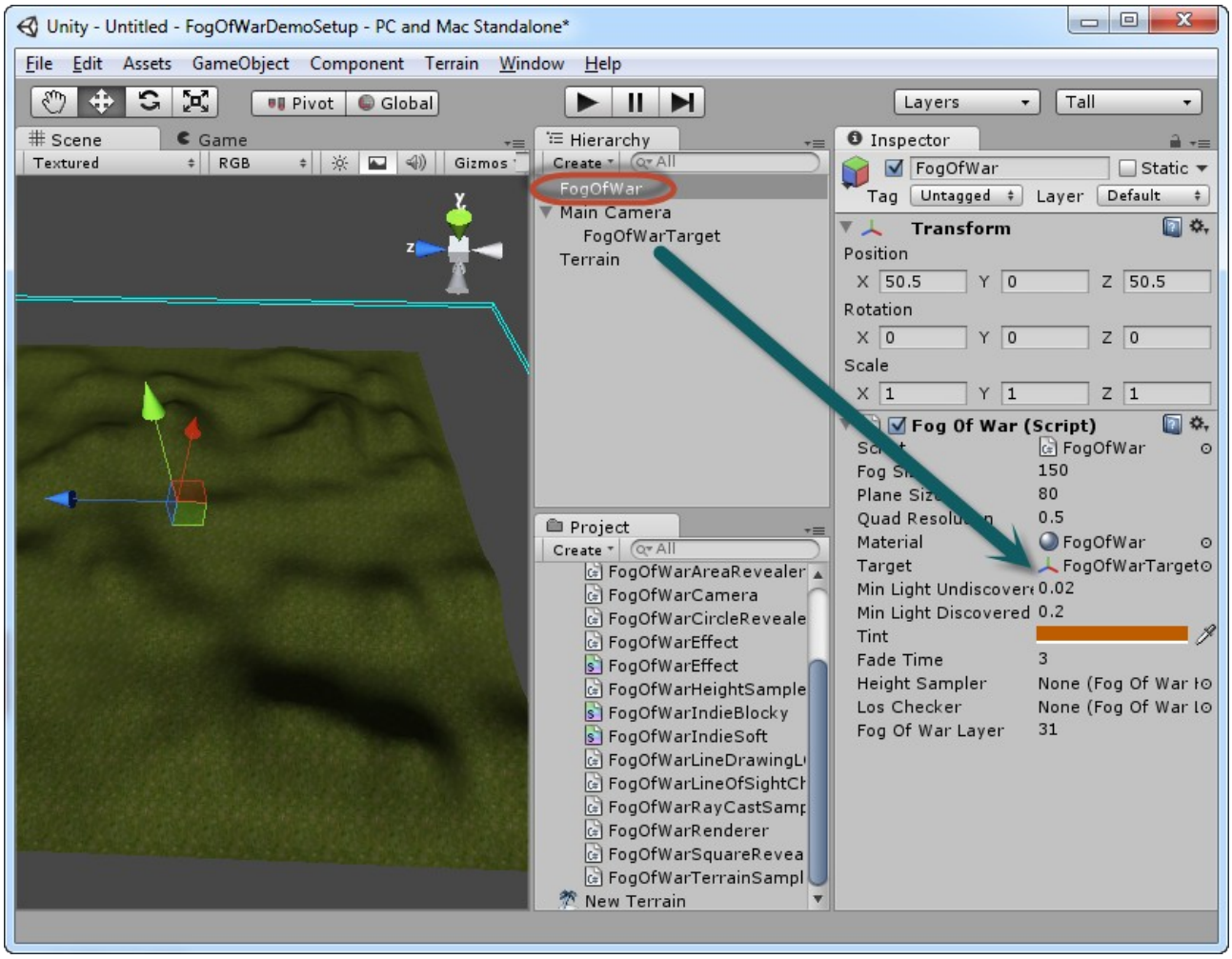
Now it's time to setup the camera and fog of war target, first create a new empty game object and position it at 50.5, 0, 50.5, like this:



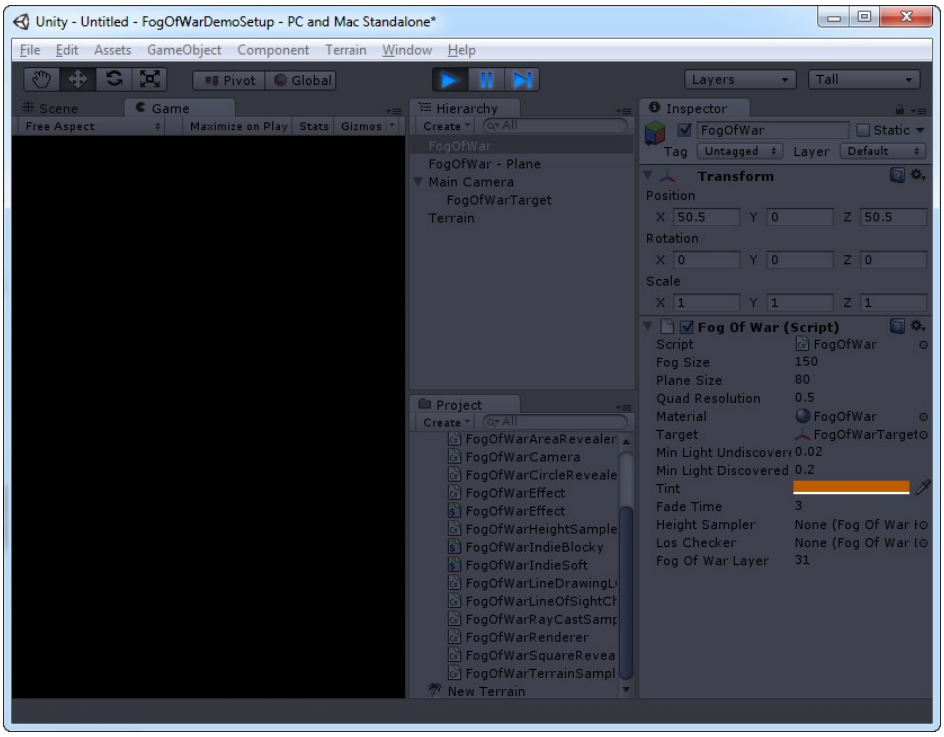
Then position the camera at 50.5, 15, 20 and put the X rotation at 70 degrees. After you've done this drag the ”FogOfWarTarget” object onto the camera to make it a child of the camera. Like this:



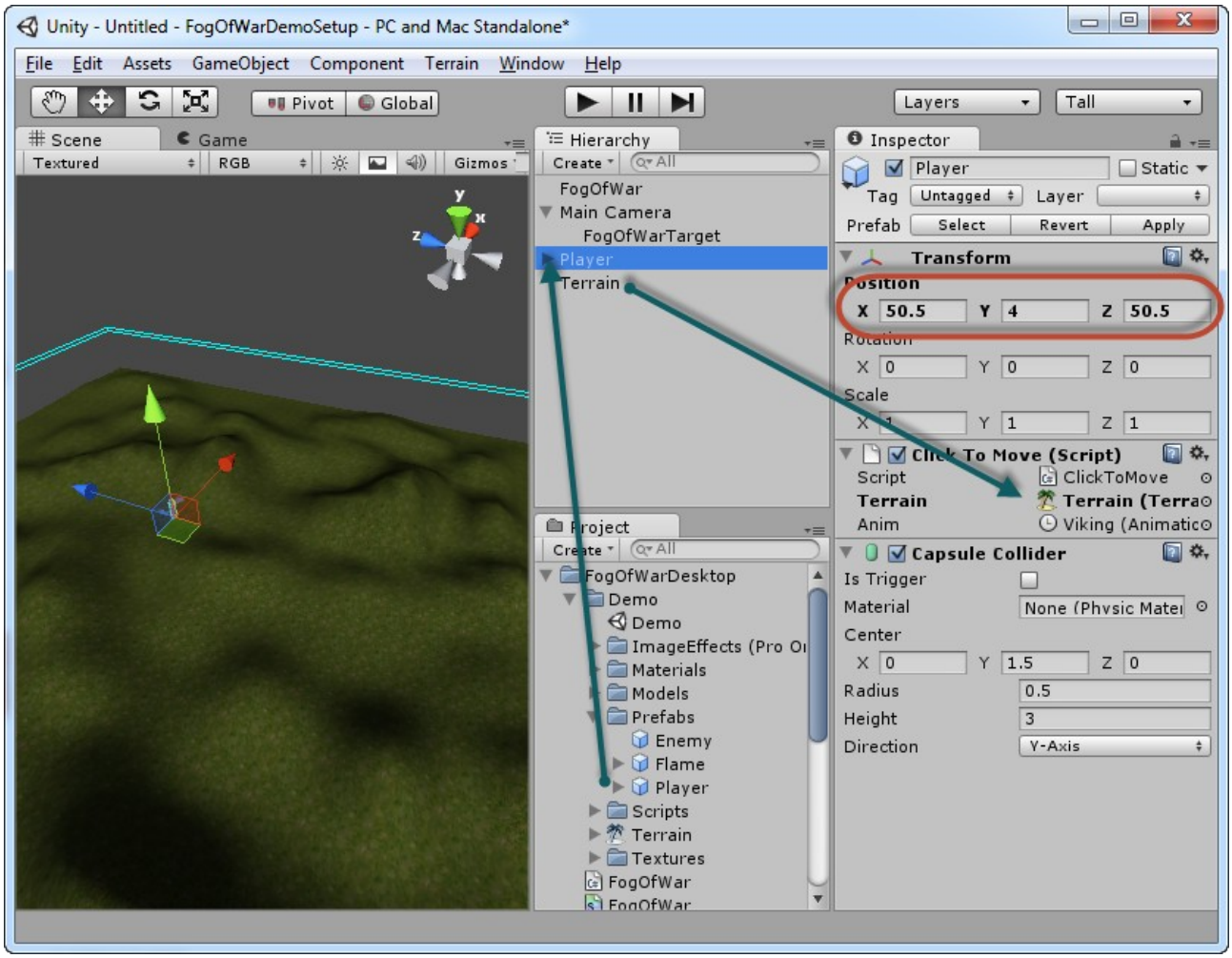
Then select the ”FogOfWar” object and drag the ”FogOfWarTarget” into it's Target property. This will make the rendering plane for the fog follow the camera around.



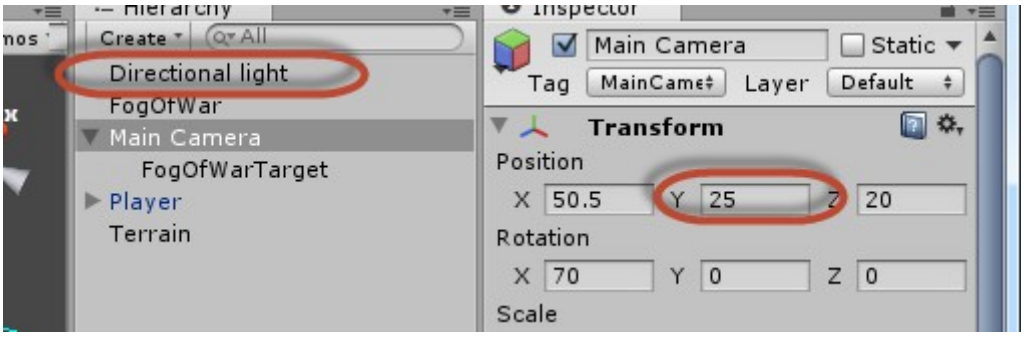
If you hit play right now you will see a completely black screen, this is because our fog is convering everything.



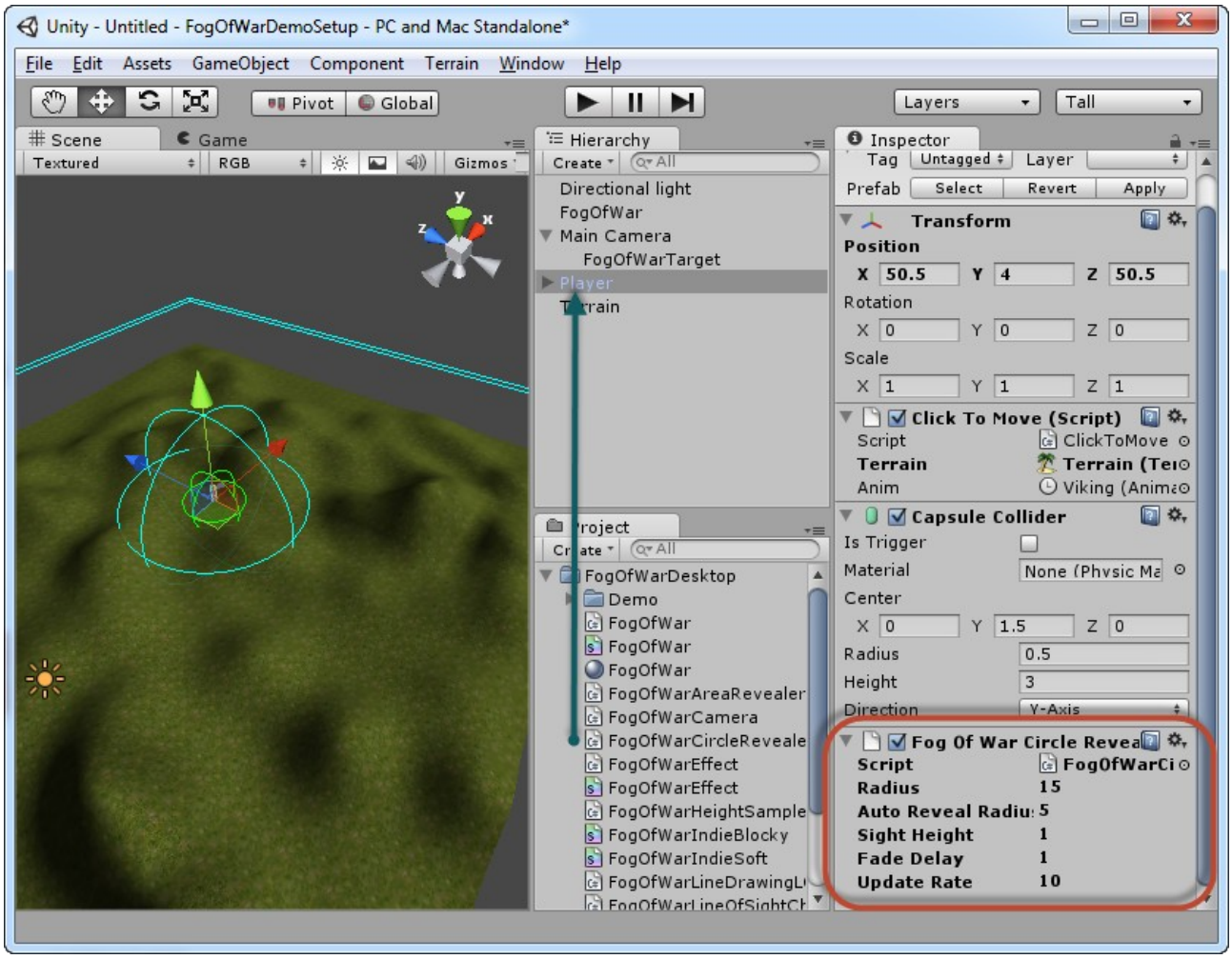
Let's put our player character into the scene, drag the player prefab from the Demo/Prefabs into the scene, position him at 50.5, 4, 50.5 and then drag the terrain we created earlier into the Terrain slot on the Click To Move script that is attached to the Player prefab, like this:



A few cosmetic changes: Raise the cameras Y position to 25 and also add a directional light so we can see what we're doing better.



Now, it's time to drag a FogOfWarCircleRevaler script onto our player, this is the script that will clear the fog around our viking character.

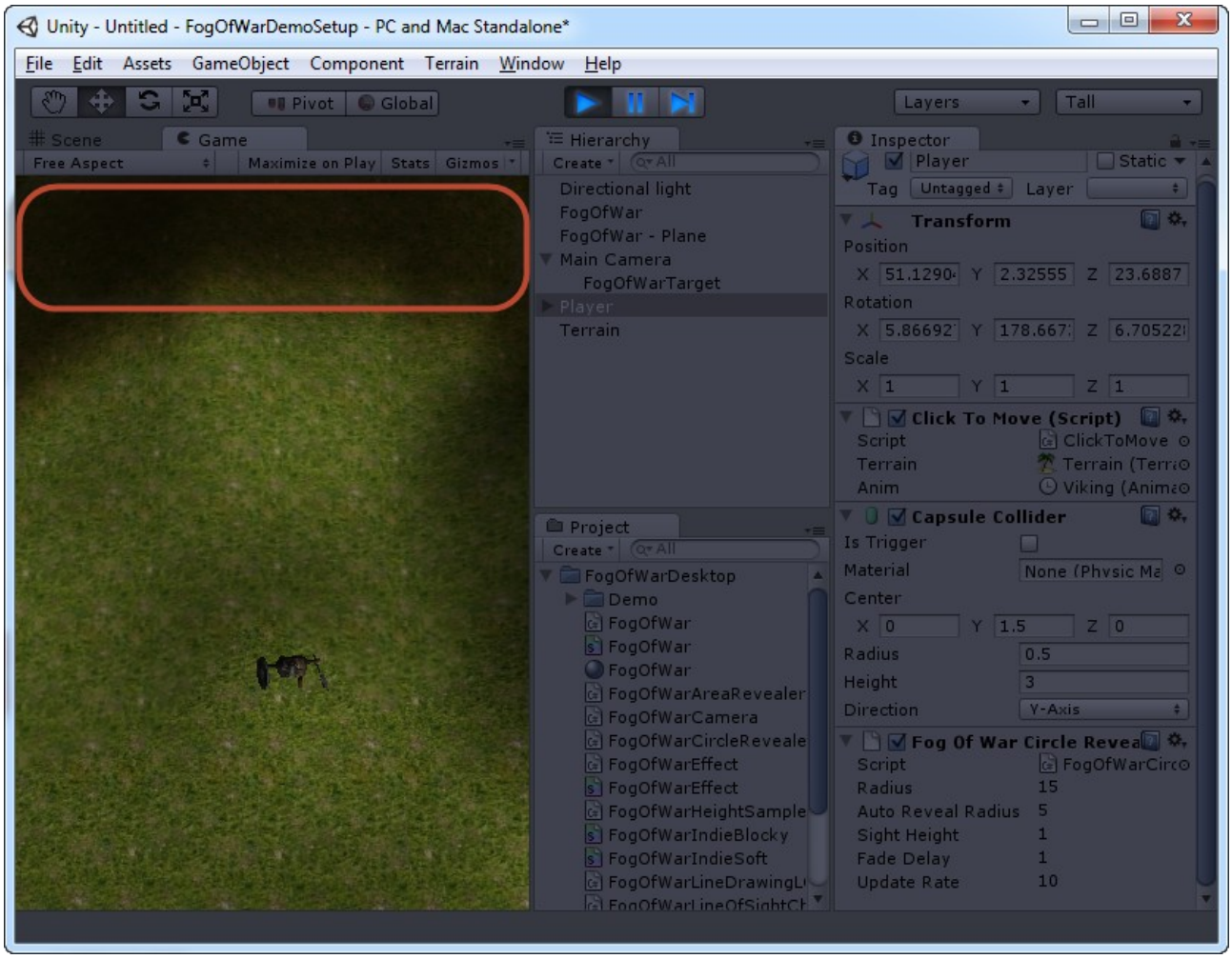


Before we hit play, let's take a look at the options available on the circle revaler:

- **Radius** – This is the max radius that the revealer will show
- **Auto Reveal Radius** – When using height and los checking (we will get to this later) you can set this to override any height or los check within this radius of the revaler.
- **Sight Height** – When using height (and possibly los-checking) this controls how high ground we can se over
- **Fade Delay** – This delays the the fade animation from starting for a set amount of seconds when leaving an area
- **Update Rate** – How often (in frames) that the revealer should update the fog.

I'm going to leave all these values at their defaults for this demo.

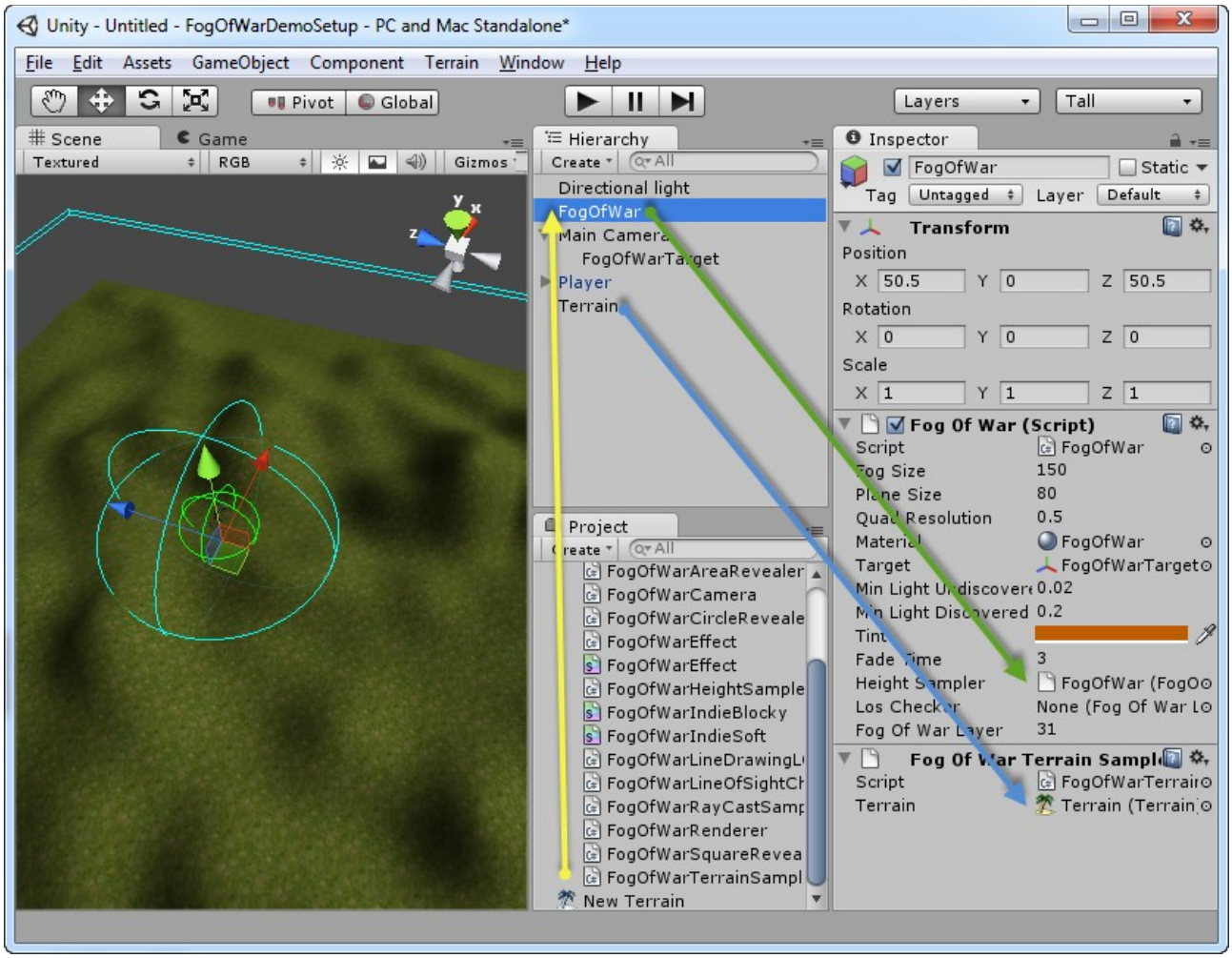
Time to hit play, you should see our character revealing a bit of fog in the top of the screen. If you click on the ground closer to us that is dark you will see him move here.



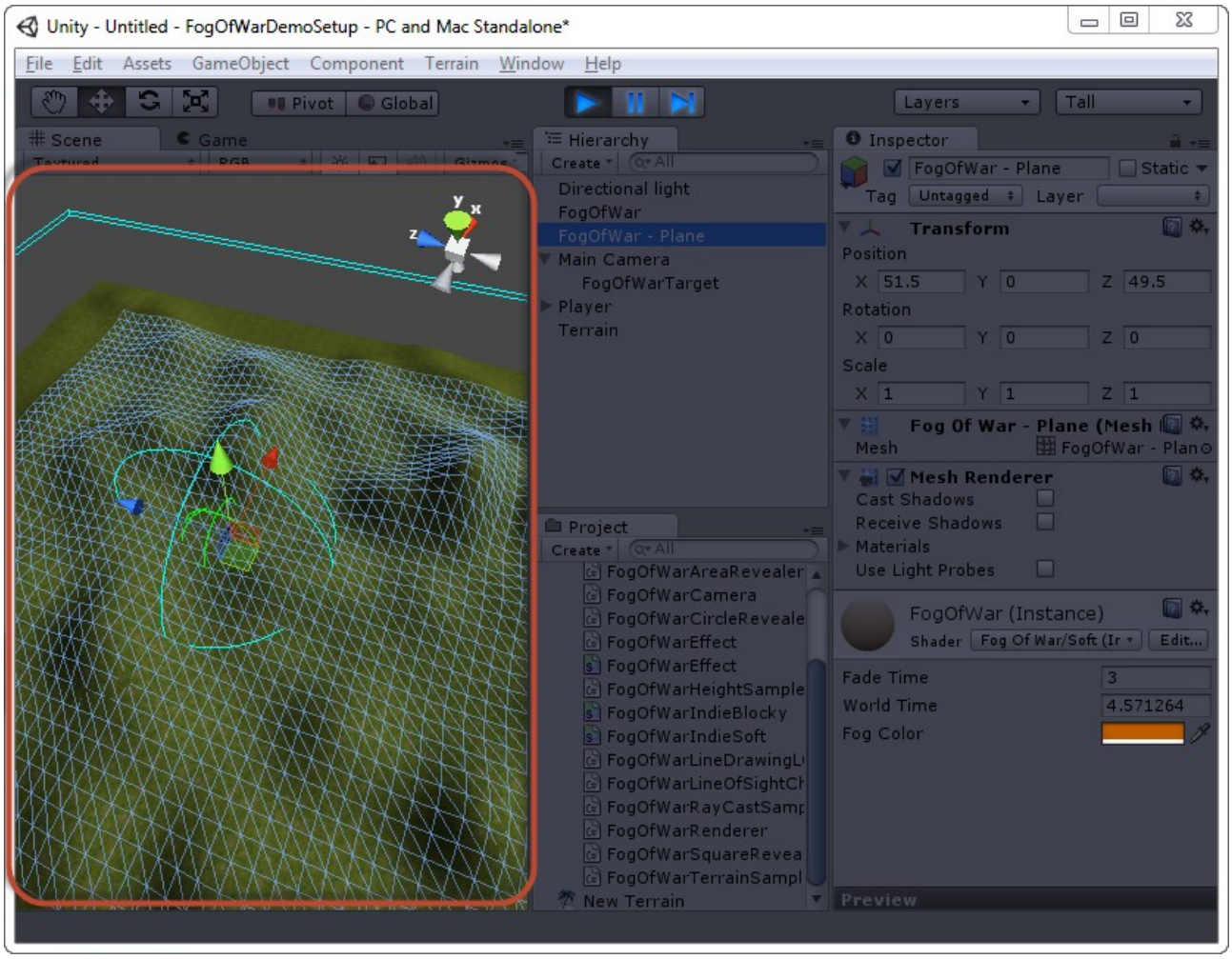
The red marking in the picture above shows the fog fading away as we leave the area behind.

Now it's time for setting up the last two options on the Fog Of War object: Height Sampler and Los Checker. Lets start with the Height Sampler. You can build your own height sampler by extending the FogOfWarHeightSampler class and overloading the SampleHeight function, but the pack comes with two pre-built ones. The first one is called FogOfWarTerrainSampler and will sample any Unity terrain for height data, this is also the one we're going to use. The other one is called FogOfWarRayCastSampler and uses raycasting for height sampling instead, which works for non-terrain scenes.

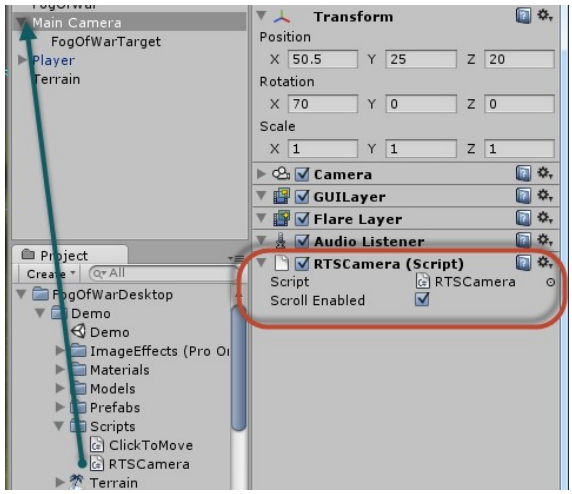
Grab the FogOfWarTerrainSampler script and drop it on or FogOfWar game object (yellow arrow), then drag the FogOfWar object itself into the Height Sampler propery on the FogOfWar.cs script attached to itself (green arrow), and then last drag the Terrain object into the Terrain property on the FogOfWarTerrainSampler script attached to the FogOfWar object (blue arrow):



Now if you hit play and switch to the scene view, you're going to see that if you select the ”FogOfWar- Plane” object it's height is fitted to the terrain:

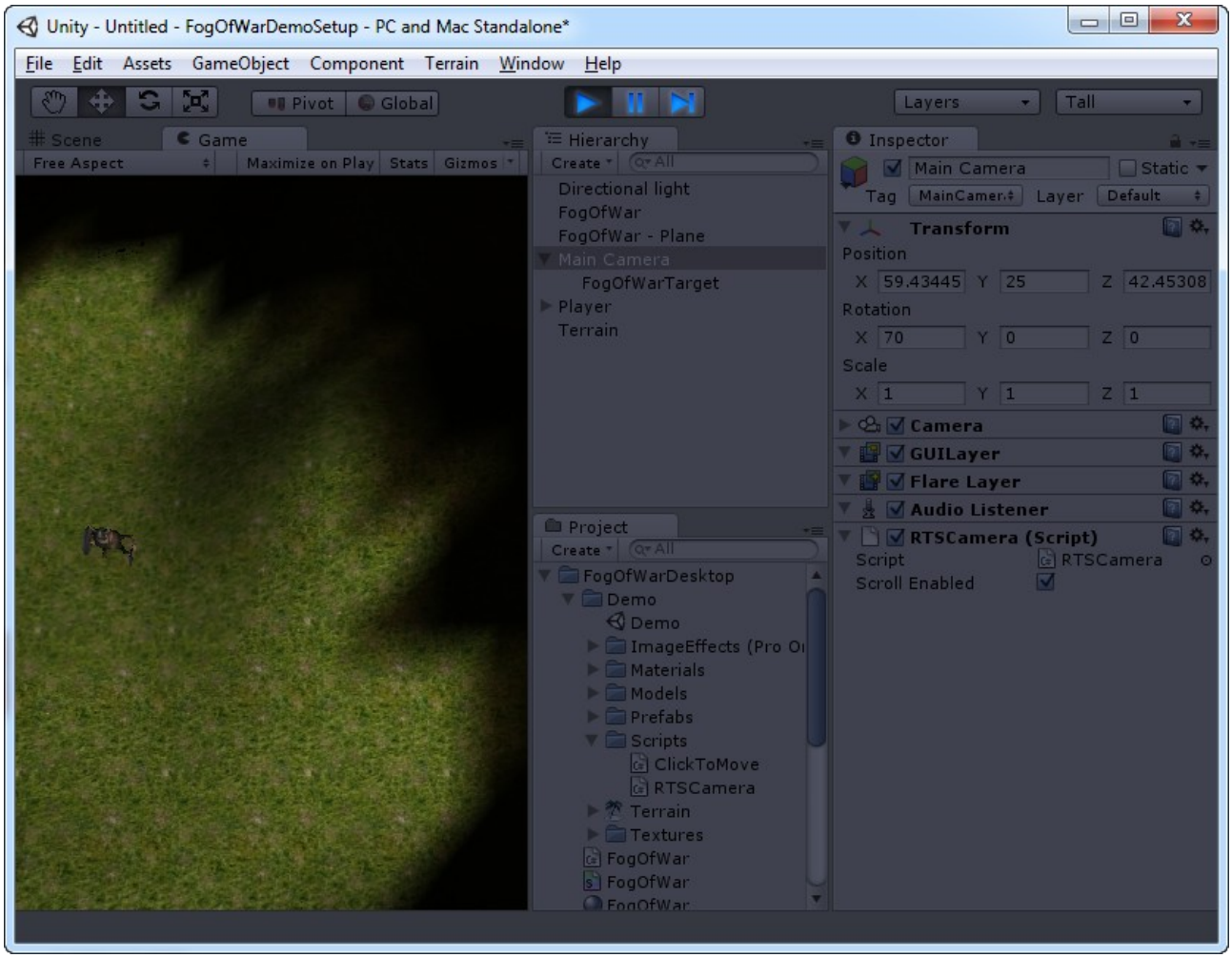


Now, let's make sure we can move our camera around so we can test the height sampler, from the Demo/Scripts folder drag the RTSCamera script ontop of the Main Camera object, like this:



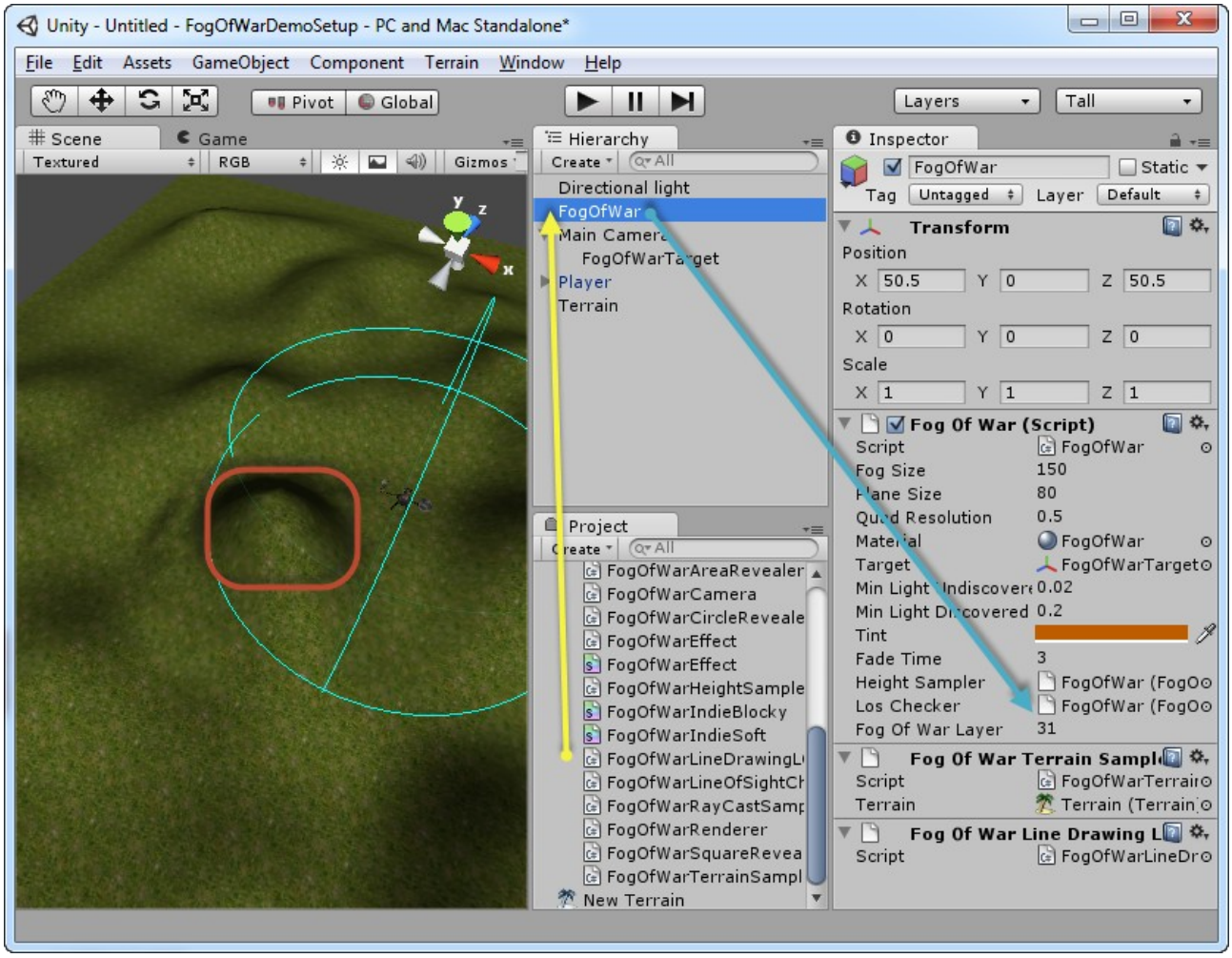
Also make sure that ”Scroll Enabled” is set to true, the scroll function can be toggled on/off at runtime by pressing S.

Now if you hit play and move our viking to the beginning of a slope to a hill somewhere, you will see that we can't see ontop of it, due to the height checking working. You might need to reduce the ”Auto Reveal Radius” on the player object if you're seeing on top of the hill anyway.

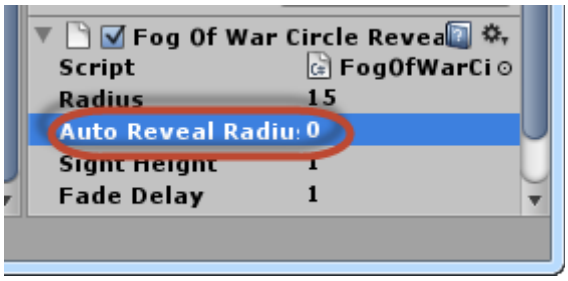


Time for the last part, line of sight checking. Line of sight checking depends on having a height sampler attached, but we already have one so we can add line of sight checking in a few easy steps.

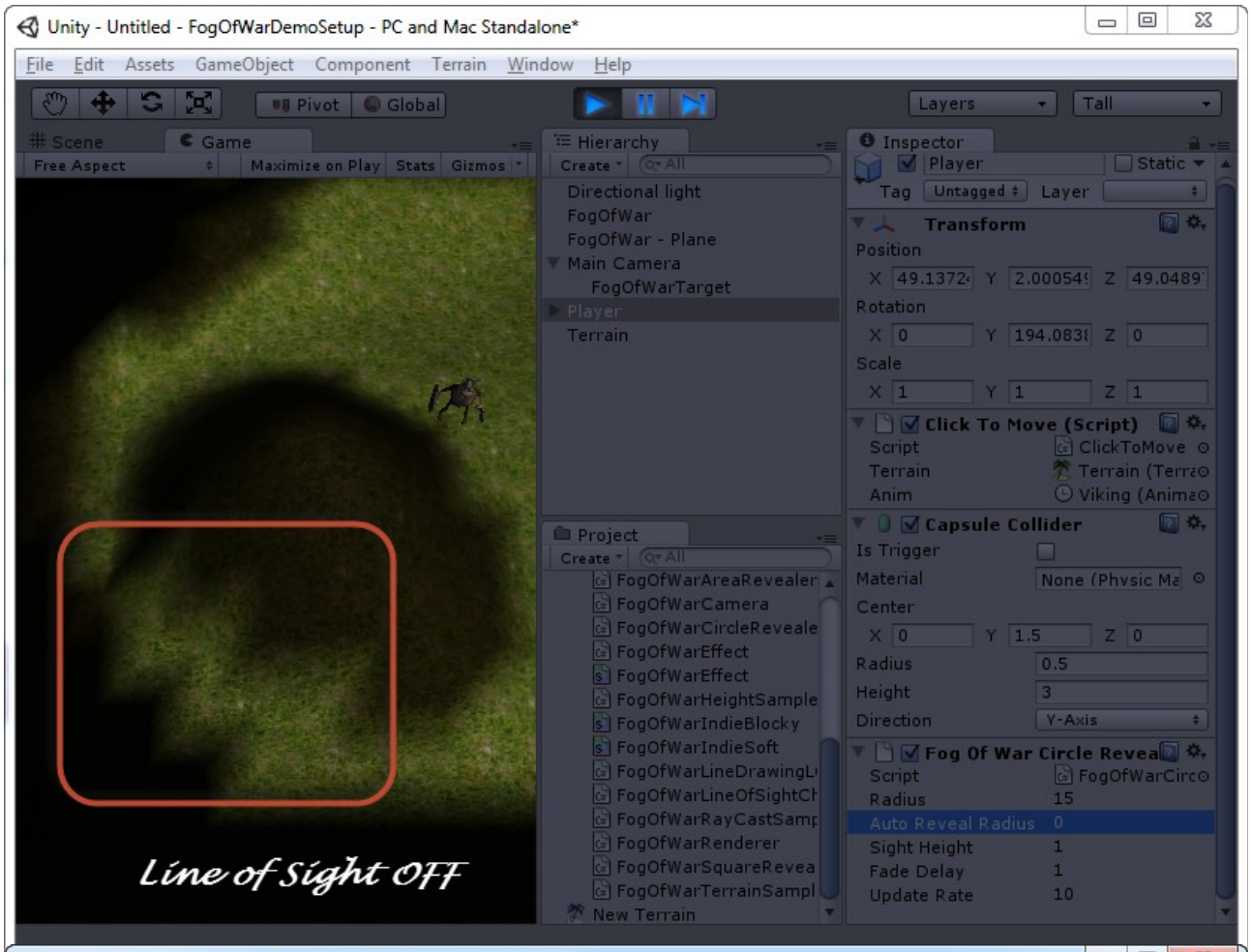
First height-paint a little hill on the terrain next to our viking somewhere (red square), so we have something to test the line of sight with. Second, drag and drop the FogOfWarLineDrawingLOS.cs script onto our FogOfWar object (yellow arrow), and then drag and drop the FogOfWar object onto the Los Checker property on the FogOfWar.cs script attached to itself (blue arrow):



Again, you might need to decrease the Auto Reveal Radius of the FogOfWarCircleRevealer script attached to the Player object, I set it at 0 for now to easily demonstrate the effect:



Now you will be able to see how it looks with line of sight checking off (you can see behind the hill even though the hill itself is occluded due to height) and on (you can't see behind the hill).


Unity - Untitled - FogOfWarDemoSetup - PC and Mac Standalone*
File Edit Assets GameObject Component Terrain Window Help
Pivot Global
Layers Tall
Scene Game
Free Aspect Maximize on Play Stats Gizmos
Hierarchy
Create All
Directional light
FogOfWar
FogOfWar - Plane
Main Camera
FogOfWarTarget
Player
Terrain
Inspector
Player Static
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Fade Delay 1
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FogOfWarHeightSample
FogOfWarIndieBlocky
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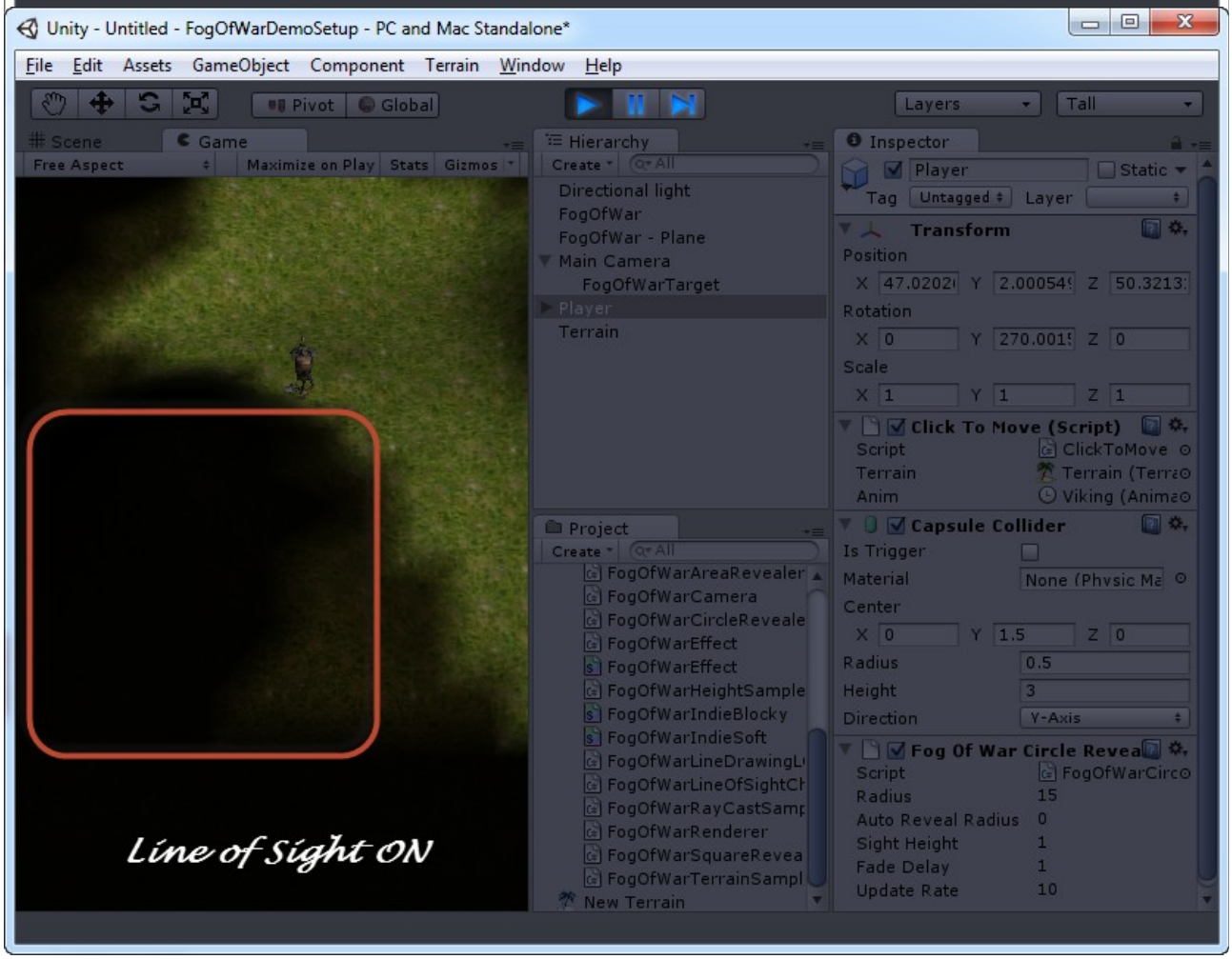
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FogOfWarRayCastSamp
FogOfWarRenderer
FogOfWarSquareRevea
FogOfWarTerrainSampl
New Terrain
Line of Sight ON

Thanks for reading through this guide! For a more in-depth walk through make sure to check out these three youtube videos which shows you how to setup the same fog of war that you can see in the demo:

http://www.youtube.com/watch?v=1Y626sDwGxU

http://www.youtube.com/watch?v=QKA_mSKStBs

http://www.youtube.com/watch?v=g5T_PIDXAZk