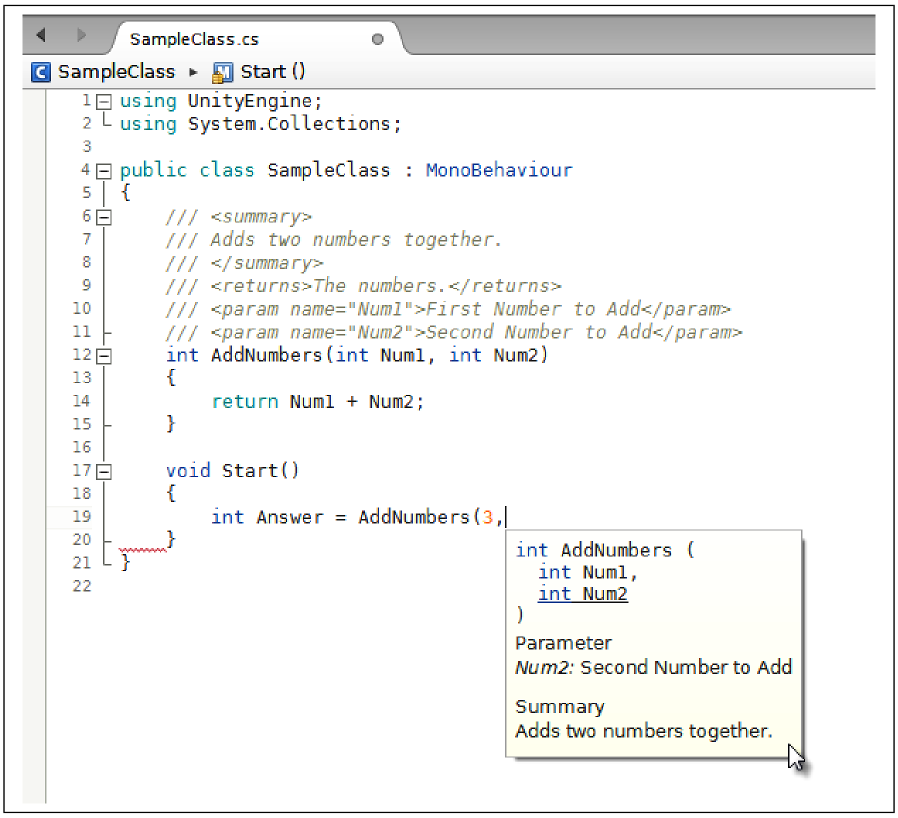
Chapter 1: Unity C# Refresher

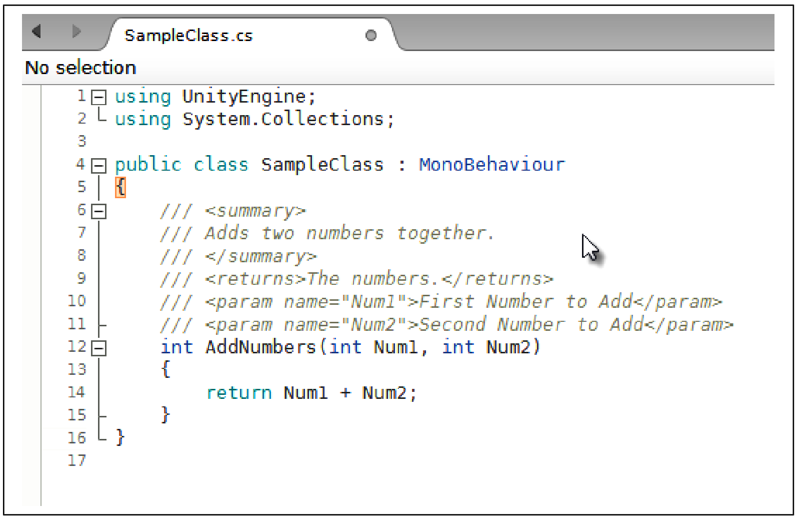


```
using UnityEngine;
using System.Collections;

public class SampleClass : MonoBehaviour
{
    /// <summary>
    /// Adds two numbers together.
    /// </summary>
    /// <returns>The numbers.</returns>
    /// <param name="Num1">First Number to Add</param>
    /// <param name="Num2">Second Number to Add</param>
    int AddNumbers(int Num1, int Num2)
    {
        return Num1 + Num2;
    }

    void Start()
    {
        int Answer = AddNumbers(3,
    }
}
```

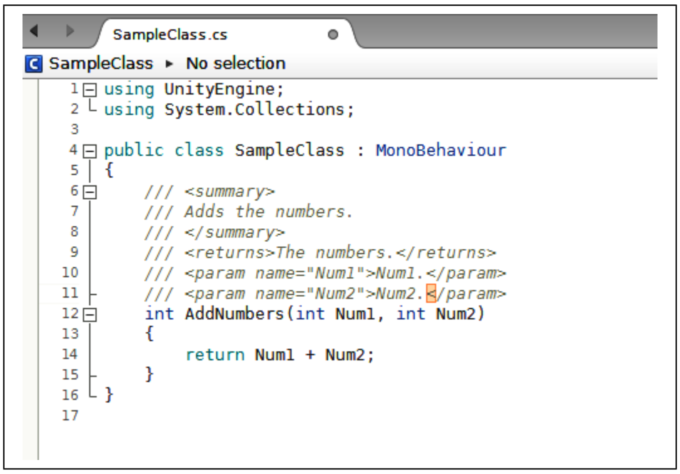
```
int AddNumbers (
  int Num1,
  int Num2
)
```

Parameter
Num2: Second Number to Add

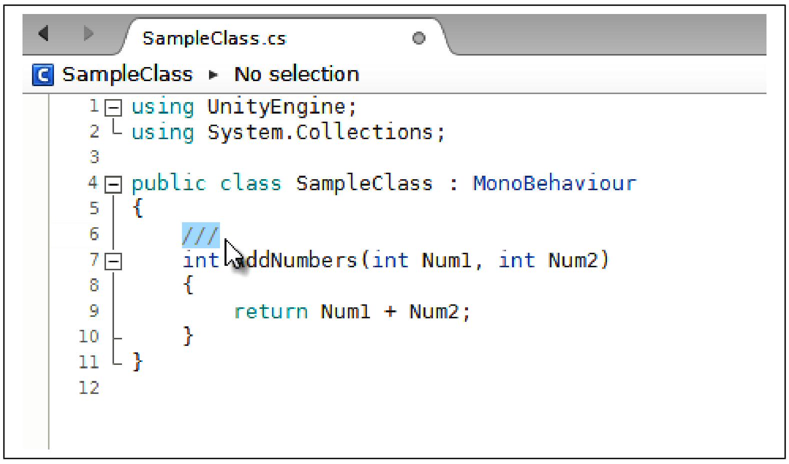
Summary
Adds two numbers together.



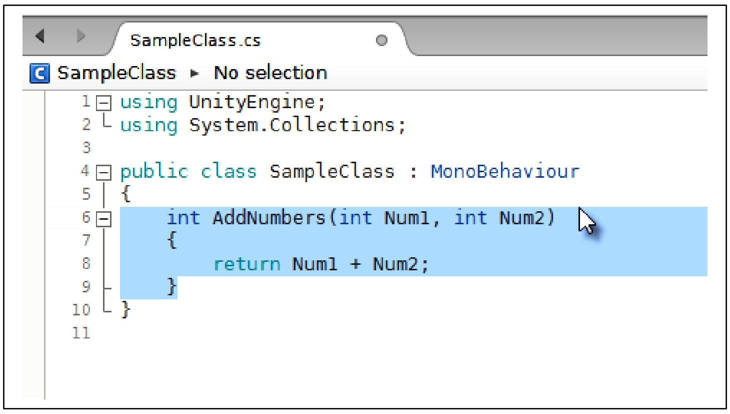
```
using UnityEngine;
using System.Collections;

public class SampleClass : MonoBehaviour
{
    /// <summary>
    /// Adds two numbers together.
    /// </summary>
    /// <returns>The numbers.</returns>
    /// <param name="Num1">First Number to Add</param>
    /// <param name="Num2">Second Number to Add</param>
    int AddNumbers(int Num1, int Num2)
    {
        return Num1 + Num2;
    }
}
```



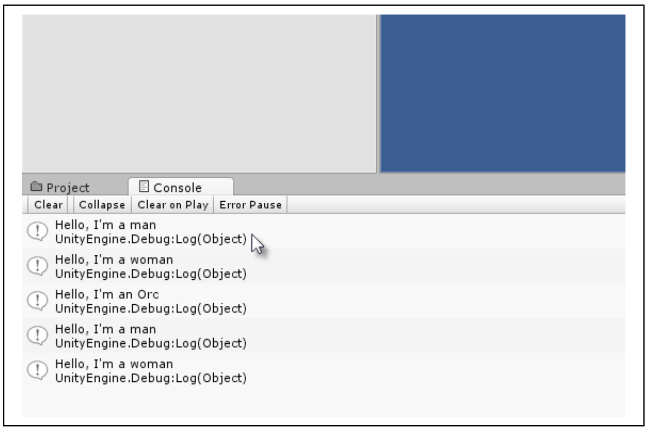
```
using UnityEngine;
using System.Collections;

public class SampleClass : MonoBehaviour
{
    /// <summary>
    /// Adds the numbers.
    /// </summary>
    /// <returns>The numbers.</returns>
    /// <param name="Num1">Num1.</param>
    /// <param name="Num2">Num2.</param>
    int AddNumbers(int Num1, int Num2)
    {
        return Num1 + Num2;
    }
}
```



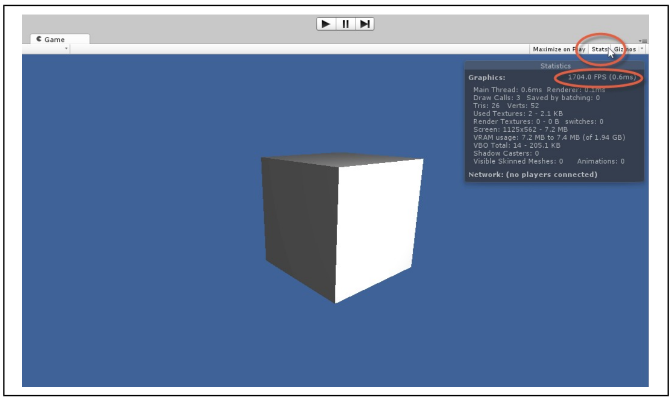
```
using UnityEngine;
using System.Collections;

public class SampleClass : MonoBehaviour
{
    ///
    int AddNumbers(int Num1, int Num2)
    {
        return Num1 + Num2;
    }
}
```



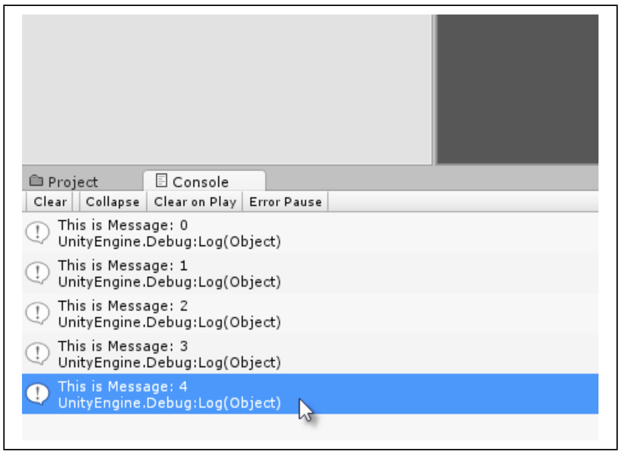
```
using UnityEngine;
using System.Collections;

public class SampleClass : MonoBehaviour
{
    int AddNumbers(int Num1, int Num2)
    {
        return Num1 + Num2;
    }
}
```



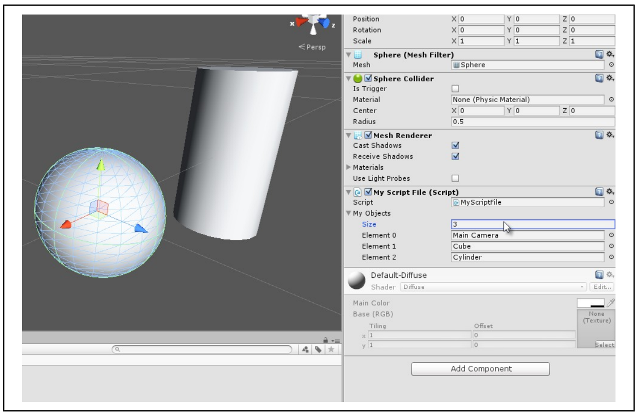
```
Hello, I'm a man
UnityEngine.Debug:Log(Object)
Hello, I'm a woman
UnityEngine.Debug:Log(Object)
Hello, I'm an Orc
UnityEngine.Debug:Log(Object)
Hello, I'm a man
UnityEngine.Debug:Log(Object)
Hello, I'm a woman
UnityEngine.Debug:Log(Object)
```



```
Graphics:                 1704.0 FPS (0.6ms)
  Main Thread: 0.6ms  Renderer: 0.1ms
  Draw Calls: 3   Saved by batching: 0
  Tris: 26   Verts: 52
  Used Textures: 2 - 2.1 KB
  Render Textures: 0 - 0 B  switches: 0
  Screen: 1125x562 - 7.2 MB
  VRAM usage: 7.2 MB to 7.4 MB (of 1.94 GB)
  VBO Total: 14 - 205.1 KB
  Shadow Casters: 0
  Visible Skinned Meshes: 0     Animations: 0
Network: (no players connected)
```



```
This is Message: 0
UnityEngine.Debug:Log(Object)
This is Message: 1
UnityEngine.Debug:Log(Object)
This is Message: 2
UnityEngine.Debug:Log(Object)
This is Message: 3
UnityEngine.Debug:Log(Object)
This is Message: 4
UnityEngine.Debug:Log(Object)
```



Position X 0 Y 0 Z 0
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1

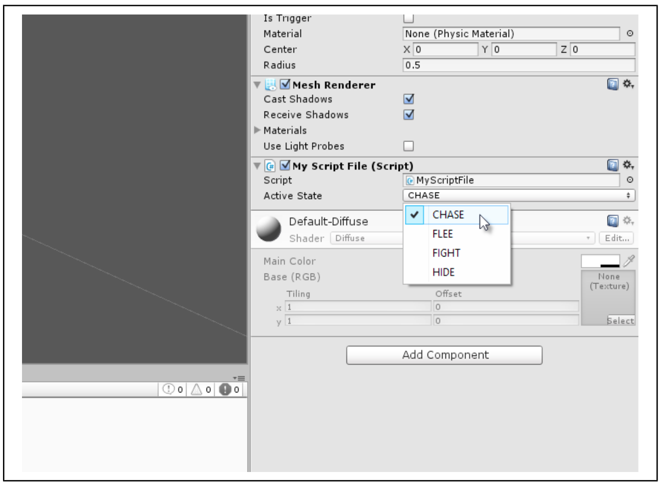
Sphere (Mesh Filter)
Mesh: Sphere

☑ Sphere Collider
Is Trigger □
Material: None (Physic Material)
Center X 0 Y 0 Z 0
Radius 0.5

☑ Mesh Renderer
Cast Shadows ☑
Receive Shadows ☑
Materials
Use Light Probes □

☑ My Script File (Script)
Script: MyScriptFile
My Objects
Size 3
Element 0: Main Camera
Element 1: Cube
Element 2: Cylinder

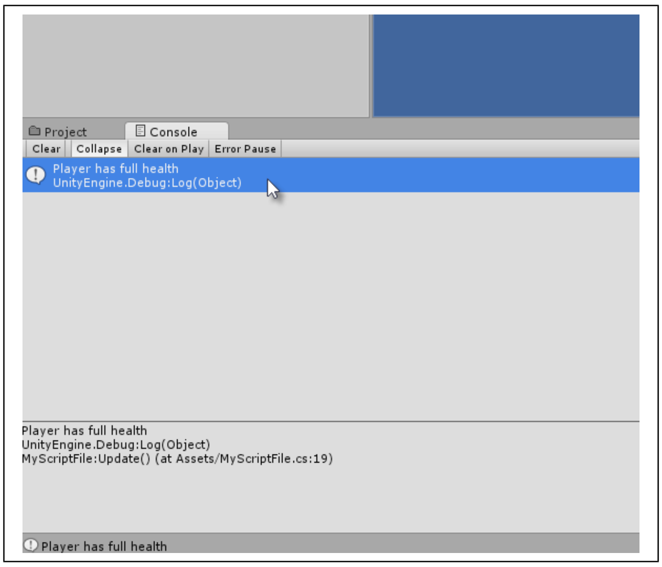
Default-Diffuse
Shader: Diffuse



Is Trigger □
Material: None (Physic Material)
Center X 0 Y 0 Z 0
Radius 0.5

☑ Mesh Renderer
Cast Shadows ☑
Receive Shadows ☑
Materials
Use Light Probes □

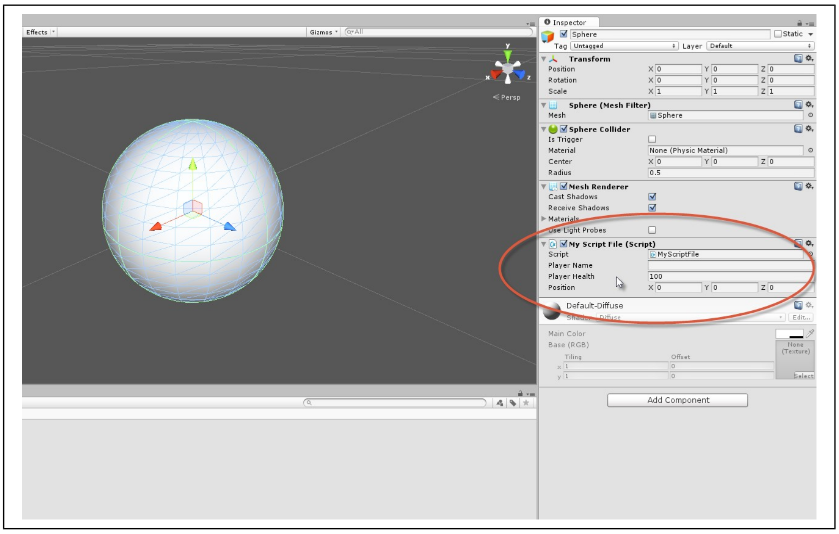
☑ My Script File (Script)
Script: MyScriptFile
Active State: CHASE



```
Player has full health
UnityEngine.Debug:Log(Object)
```

```
Player has full health
UnityEngine.Debug:Log(Object)
MyScriptFile:Update() (at Assets/MyScriptFile.cs:19)
```

```
Player has full health
```



☑ Sphere ☐ Static

Tag Untagged Layer Default

Transform

Position X 0 Y 0 Z 0

Rotation X 0 Y 0 Z 0

Scale X 1 Y 1 Z 1

Sphere (Mesh Filter)

Mesh Sphere

☑ **Sphere Collider**

Is Trigger ☐

Material None (Physic Material)

Center X 0 Y 0 Z 0

Radius 0.5

☑ **Mesh Renderer**

Cast Shadows ☑

Receive Shadows ☑

Materials

Use Light Probes ☐

☑ **My Script File (Script)**

Script MyScriptFile

Player Name

Player Health 100

Position X 0 Y 0 Z 0

Default-Diffuse

Shader Diffuse

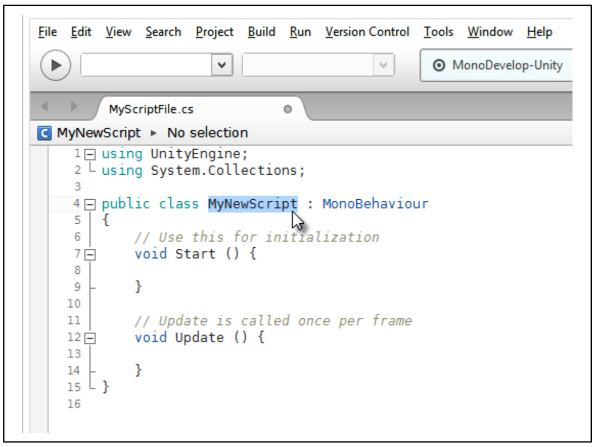
Main Color

Base (RGB)

Tiling x 1 y 1

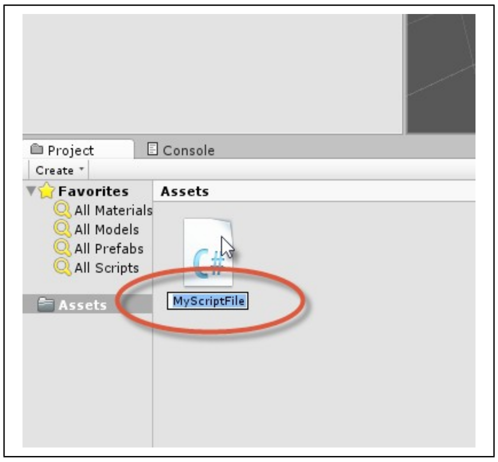
Offset x 0 y 0

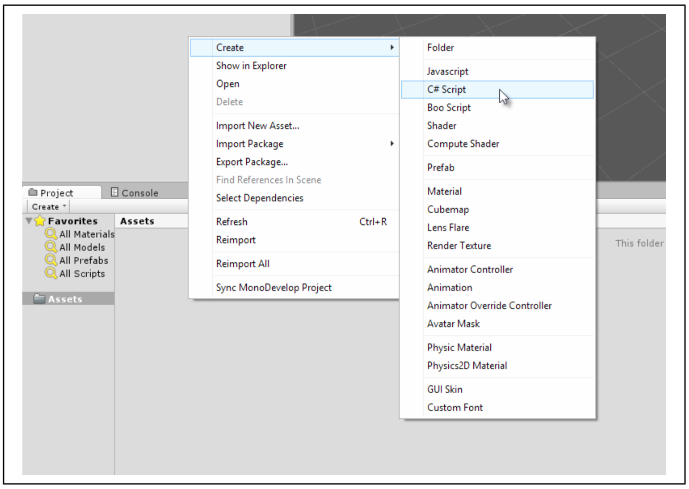
None (Texture)

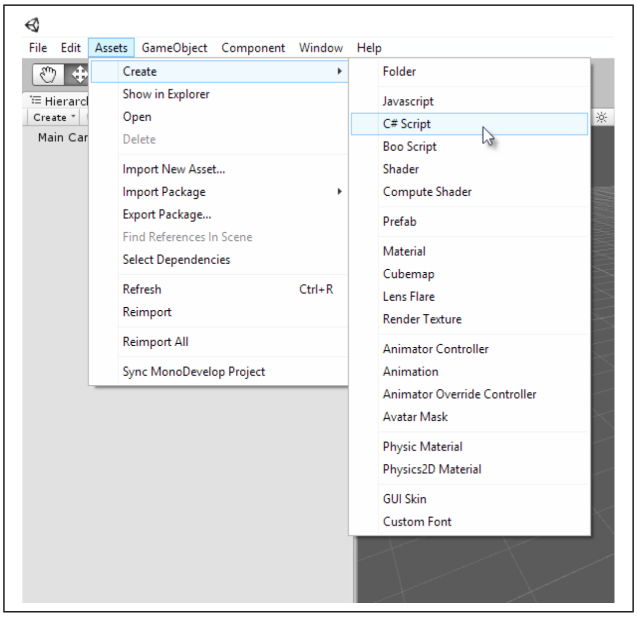


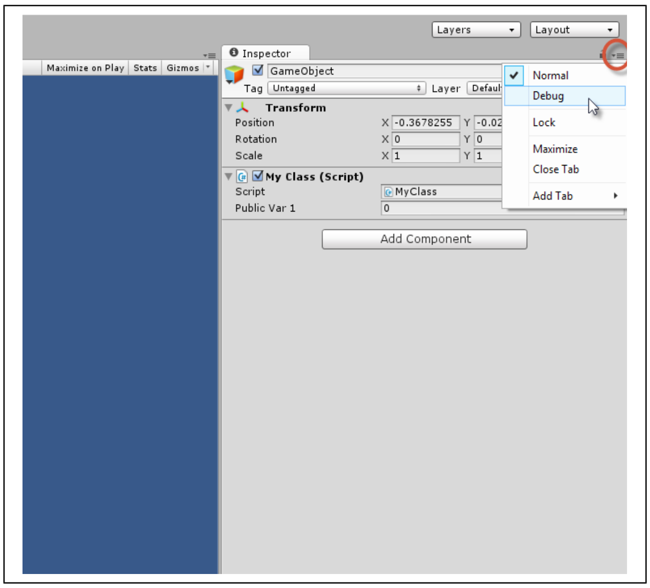
File Edit View Search Project Build Run Version Control Tools Window Help
MonoDevelop-Unity
MyScriptFile.cs
MyNewScript ▸ No selection

```
using UnityEngine;
using System.Collections;

public class MyNewScript : MonoBehaviour
{
    // Use this for initialization
    void Start () {

    }

    // Update is called once per frame
    void Update () {

    }
}

```









☑ GameObject

Tag Untagged Layer Defaul

Transform

Position X -0.3678255 Y -0.02

Rotation X 0 Y 0

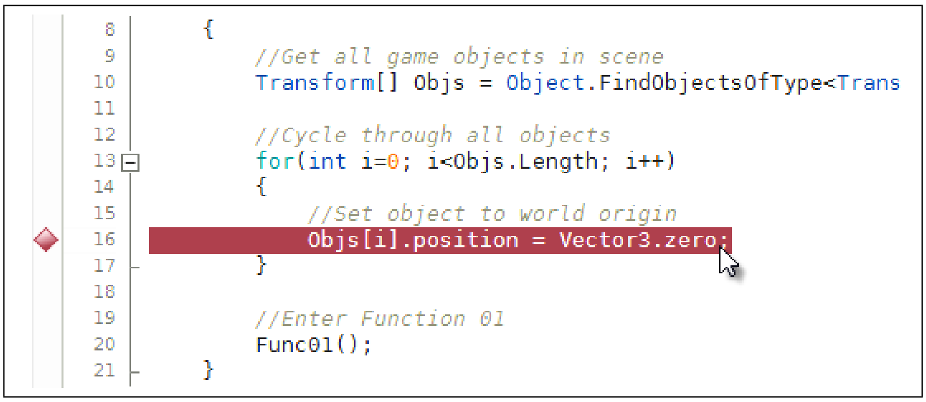
Scale X 1 Y 1

☑ My Class (Script)

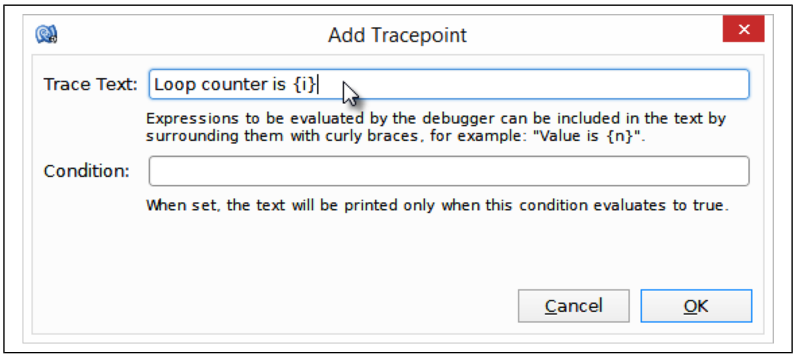
Script MyClass

Public Var 1 0

Chapter 2: Debugging



```
    {
        //Get all game objects in scene
        Transform[] Objs = Object.FindObjectsOfType<Trans

        //Cycle through all objects
        for(int i=0; i<Objs.Length; i++)
        {
            //Set object to world origin
            Objs[i].position = Vector3.zero;
        }

        //Enter Function 01
        Func01();
    }
```

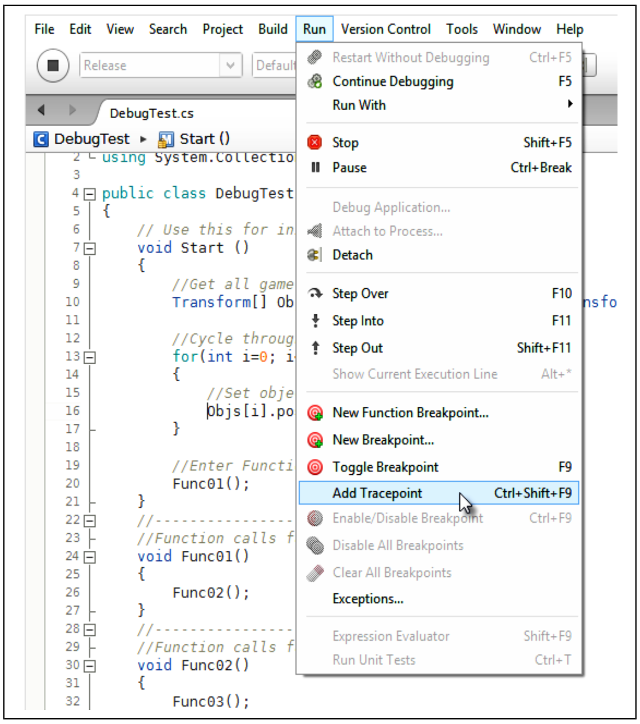


Trace Text: Loop counter is {i}

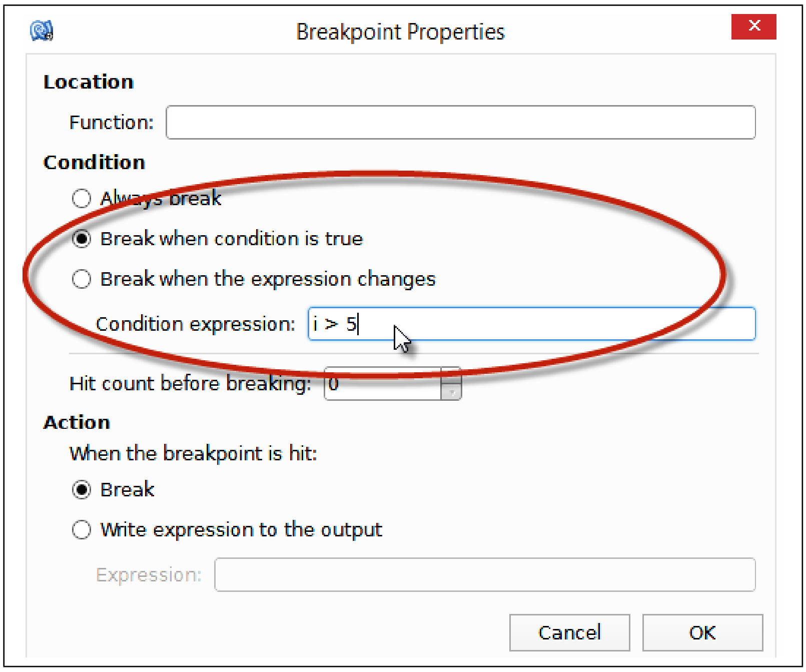
Expressions to be evaluated by the debugger can be included in the text by surrounding them with curly braces, for example: "Value is {n}".

Condition:

When set, the text will be printed only when this condition evaluates to true.



```
using System.Collectio

public class DebugTest
{
    // Use this for in
    void Start ()
    {
        //Get all game
        Transform[] Ob                                  nsfo

        //Cycle throug
        for(int i=0; i
        {
            //Set obje
            Objs[i].po
        }

        //Enter Functi
        Func01();
    }
    //----------------
    //Function calls f
    void Func01()
    {
        Func02();
    }
    //----------------
    //Function calls f
    void Func02()
    {
        Func03();
```



Breakpoint Properties

Location

Function:

Condition

○ Always break

● Break when condition is true

○ Break when the expression changes

Condition expression: i > 5

Hit count before breaking: 0

Action

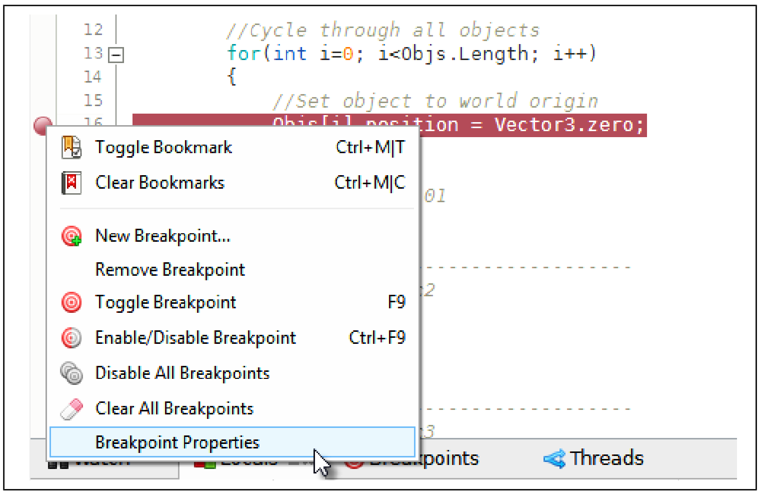
When the breakpoint is hit:

● Break

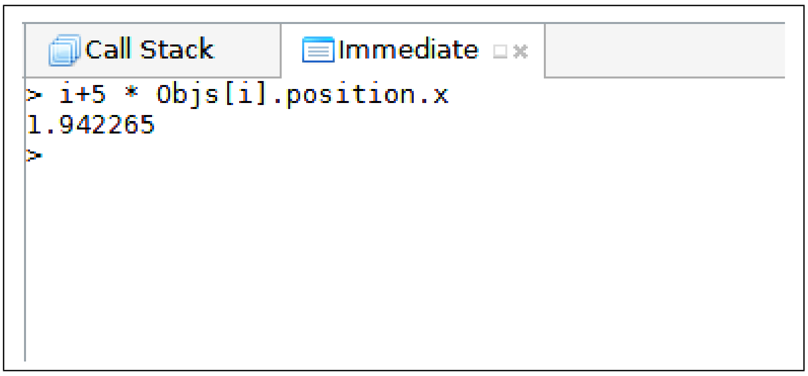
○ Write expression to the output

Expression:

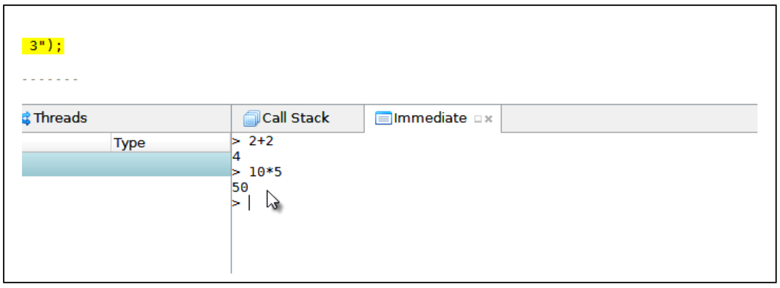
Cancel OK



```
        //Cycle through all objects
        for(int i=0; i<Objs.Length; i++)
        {
            //Set object to world origin
            Objs[i].position = Vector3.zero;
```

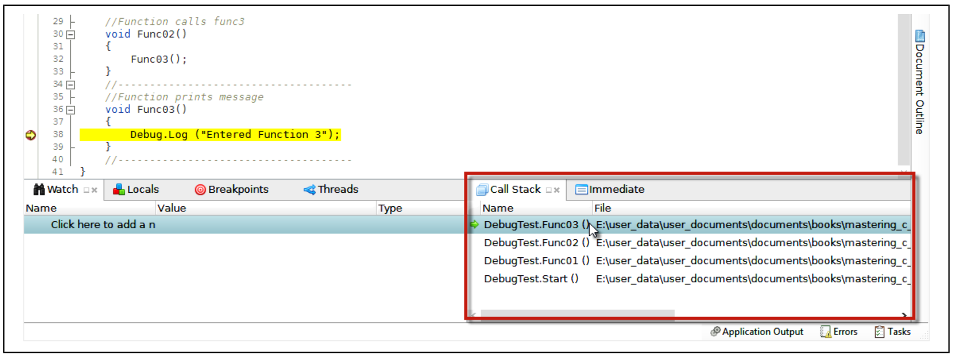


```
> i+5 * Objs[i].position.x
1.942265
>
```



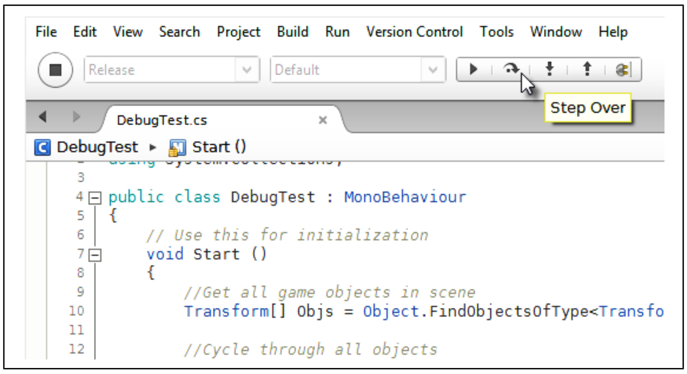
```
3");
-------
```

```
> 2+2
4
> 10*5
50
> |
```

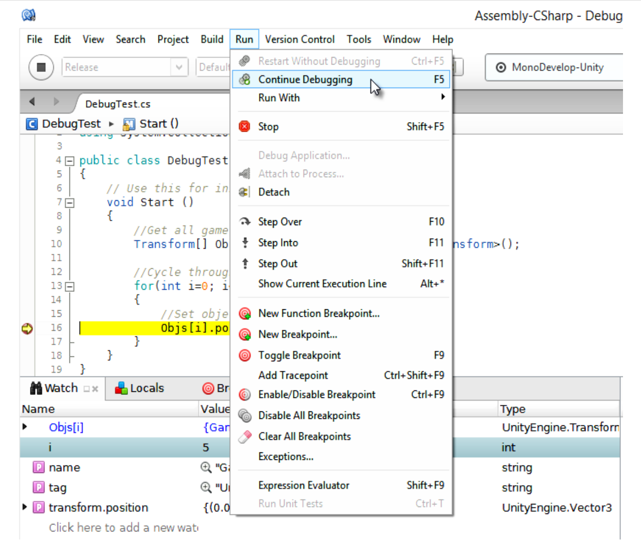


```
    //Function calls func3
    void Func02()
    {
        Func03();
    }
    //-----------------------------------
    //Function prints message
    void Func03()
    {
        Debug.Log ("Entered Function 3");
    }
    //-----------------------------------
}
```

Name	File
DebugTest.Func03 ()	E:\user_data\user_documents\documents\books\mastering_c_
DebugTest.Func02 ()	E:\user_data\user_documents\documents\books\mastering_c_
DebugTest.Func01 ()	E:\user_data\user_documents\documents\books\mastering_c_
DebugTest.Start ()	E:\user_data\user_documents\documents\books\mastering_c_

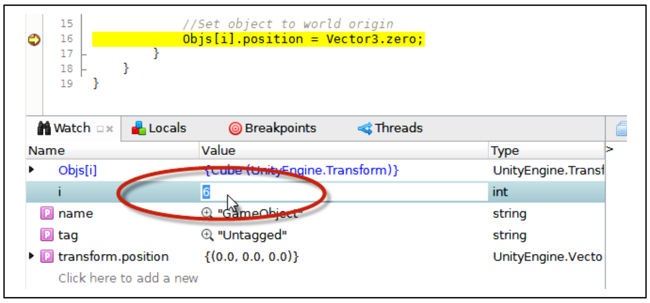


```
using System.Collections;

public class DebugTest : MonoBehaviour
{
    // Use this for initialization
    void Start ()
    {
        //Get all game objects in scene
        Transform[] Objs = Object.FindObjectsOfType<Transfo

        //Cycle through all objects
```



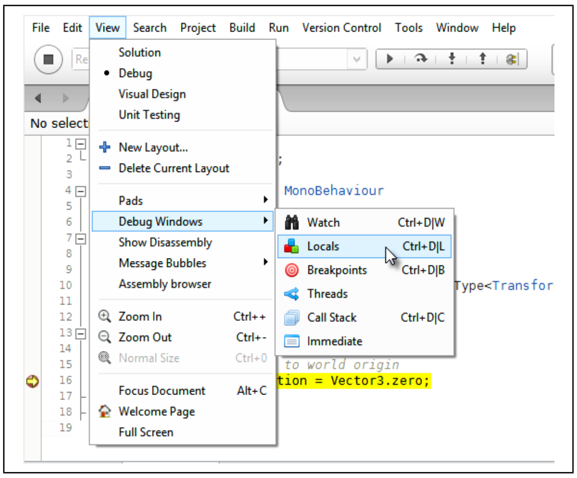
```
using System.Collectio

public class DebugTest
{
    // Use this for in
    void Start ()
    {
        //Get all game
        Transform[] Ob                                  nsform>();

        //Cycle throug
        for(int i=0; i
        {
            //Set obje
            Objs[i].po
        }
    }
}
```

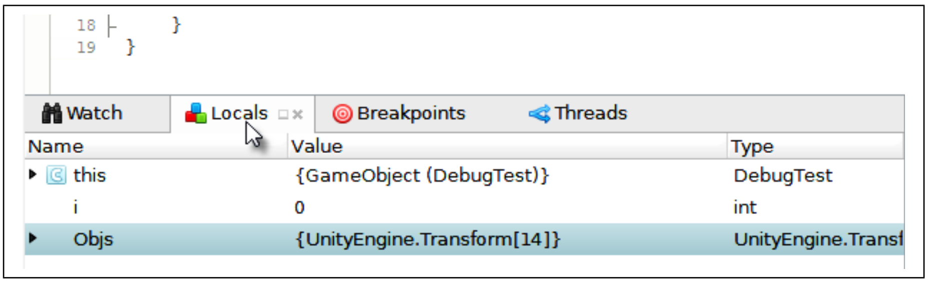
Name	Value	Type
Objs[i]	{Gar	UnityEngine.Transforn
i	5	int
name	"G:	string
tag	"U	string
transform.position	{(0.0	UnityEngine.Vector3
Click here to add a new wat		



```
            //Set object to world origin
            Objs[i].position = Vector3.zero;
        }
    }
}
```

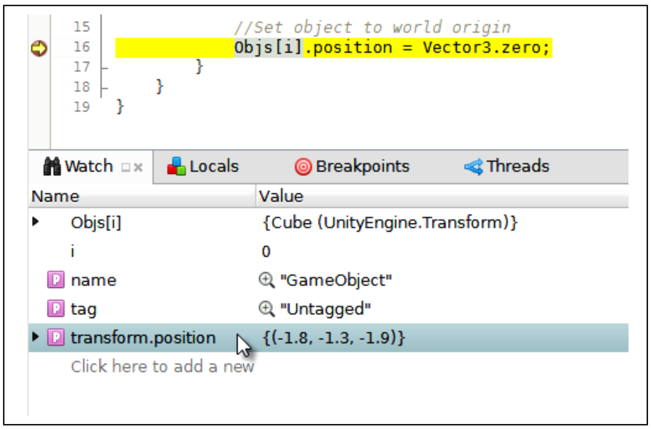
Name	Value	Type
Objs[i]	{Cube (UnityEngine.Transform)}	UnityEngine.Transf
i	6	int
name	"GameObject"	string
tag	"Untagged"	string
transform.position	{(0.0, 0.0, 0.0)}	UnityEngine.Vecto
Click here to add a new		





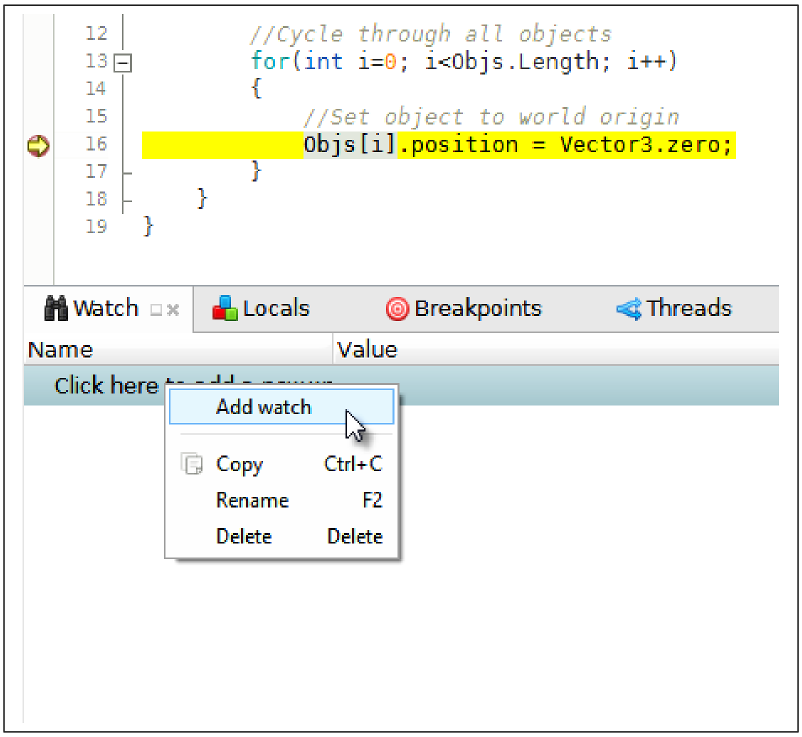
```
        }
}
```

Name	Value	Type
this	{GameObject (DebugTest)}	DebugTest
i	0	int
Objs	{UnityEngine.Transform[14]}	UnityEngine.Transf

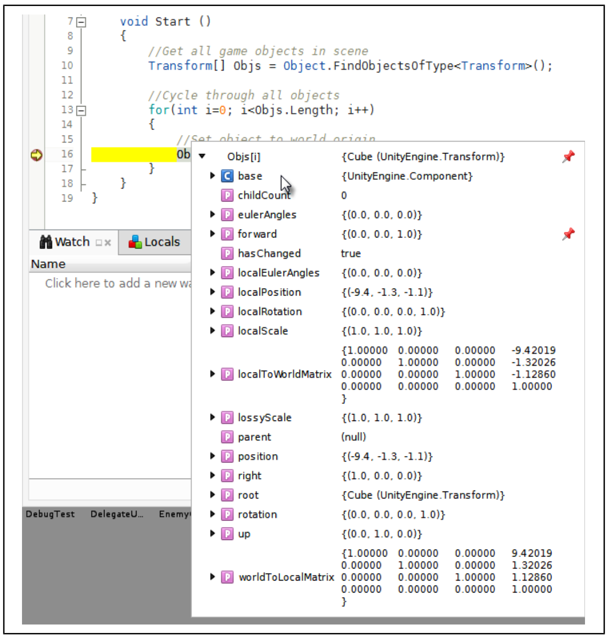


```
            //Set object to world origin
            Objs[i].position = Vector3.zero;
        }
    }
}
```

Name	Value
Objs[i]	{Cube (UnityEngine.Transform)}
i	0
name	"GameObject"
tag	"Untagged"
transform.position	{(-1.8, -1.3, -1.9)}
Click here to add a new	

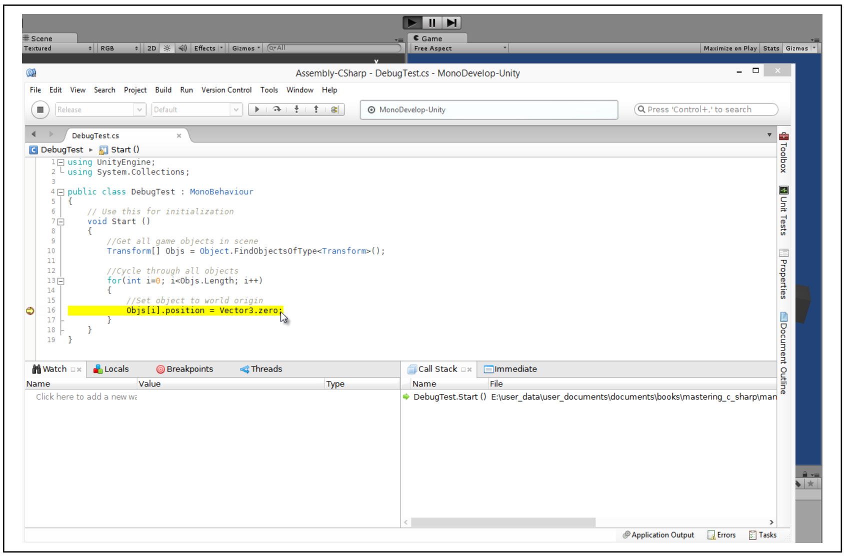


```
        //Cycle through all objects
        for(int i=0; i<Objs.Length; i++)
        {
            //Set object to world origin
            Objs[i].position = Vector3.zero;
        }
    }
}
```



```
    void Start ()
    {
        //Get all game objects in scene
        Transform[] Objs = Object.FindObjectsOfType<Transform>();

        //Cycle through all objects
        for(int i=0; i<Objs.Length; i++)
        {
            //Set object to world origin
            Ob
        }
    }
}
```

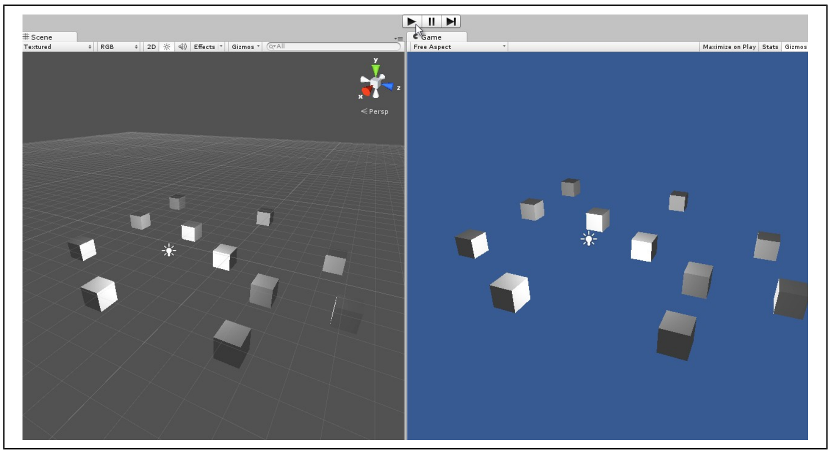
```
Objs[i]              {Cube (UnityEngine.Transform)}
  base               {UnityEngine.Component}
  childCount         0
  eulerAngles        {(0.0, 0.0, 0.0)}
  forward            {(0.0, 0.0, 1.0)}
  hasChanged         true
  localEulerAngles   {(0.0, 0.0, 0.0)}
  localPosition      {(-9.4, -1.3, -1.1)}
  localRotation      {(0.0, 0.0, 0.0, 1.0)}
  localScale         {(1.0, 1.0, 1.0)}
                     {1.00000  0.00000  0.00000  -9.42019
                     0.00000   1.00000  0.00000  -1.32026
  localToWorldMatrix 0.00000   0.00000  1.00000  -1.12860
                     0.00000   0.00000  0.00000  1.00000
                     }
  lossyScale         {(1.0, 1.0, 1.0)}
  parent             (null)
  position           {(-9.4, -1.3, -1.1)}
  right              {(1.0, 0.0, 0.0)}
  root               {Cube (UnityEngine.Transform)}
  rotation           {(0.0, 0.0, 0.0, 1.0)}
  up                 {(0.0, 1.0, 0.0)}
                     {1.00000  0.00000  0.00000  9.42019
                     0.00000   1.00000  0.00000  1.32026
  worldToLocalMatrix 0.00000   0.00000  1.00000  1.12860
                     0.00000   0.00000  0.00000  1.00000
                     }
```

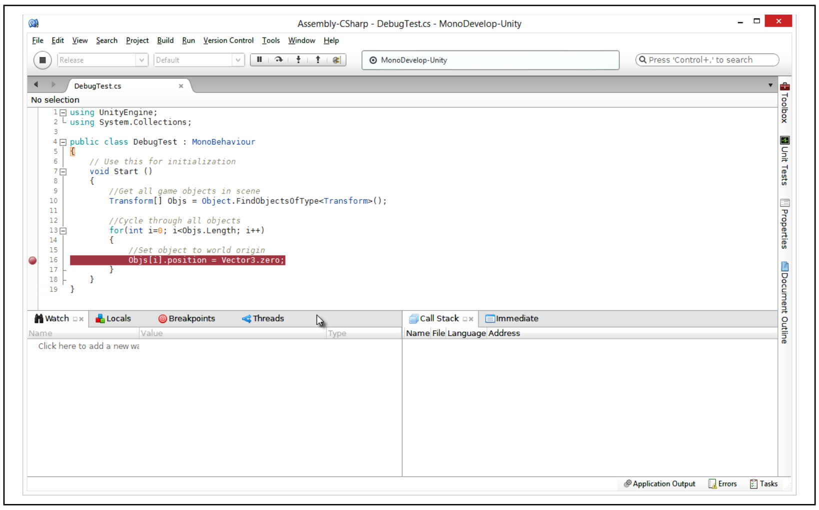


```
using UnityEngine;
using System.Collections;

public class DebugTest : MonoBehaviour
{
    // Use this for initialization
    void Start ()
    {
        //Get all game objects in scene
        Transform[] Objs = Object.FindObjectsOfType<Transform>();

        //Cycle through all objects
        for(int i=0; i<Objs.Length; i++)
        {
            //Set object to world origin
            Objs[i].position = Vector3.zero;
        }
    }
}
```

Name	Value	Type
Click here to add a new wa		

Name	File
DebugTest.Start ()	E:\user_data\user_documents\documents\books\mastering_c_sharp\man





```
using UnityEngine;
using System.Collections;

public class DebugTest : MonoBehaviour
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    // Use this for initialization
    void Start ()
    {
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        Transform[] Objs = Object.FindObjectsOfType<Transform>();

        //Cycle through all objects
        for(int i=0; i<Objs.Length; i++)
        {
            //Set object to world origin
            Objs[i].position = Vector3.zero;
        }
    }
}
```
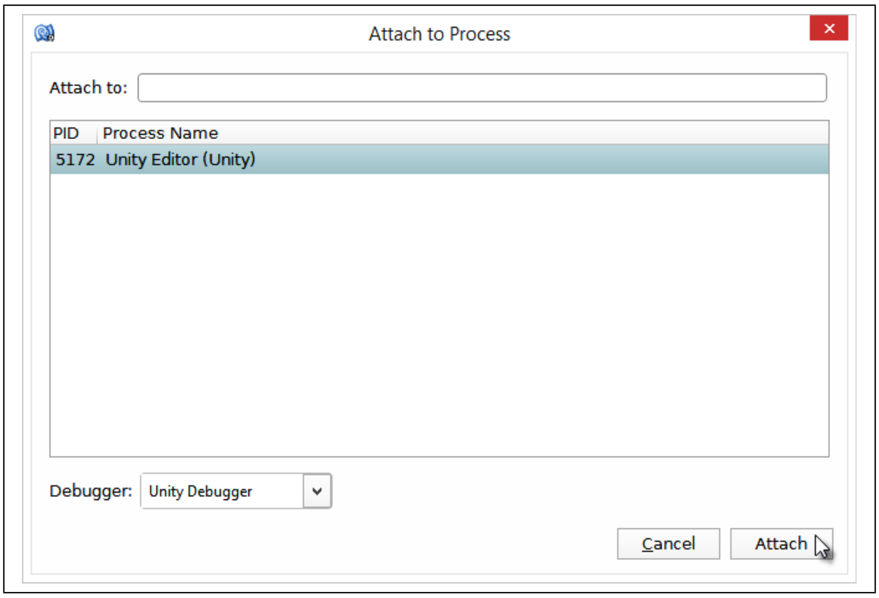

Name	Value	Type
Click here to add a new wa		

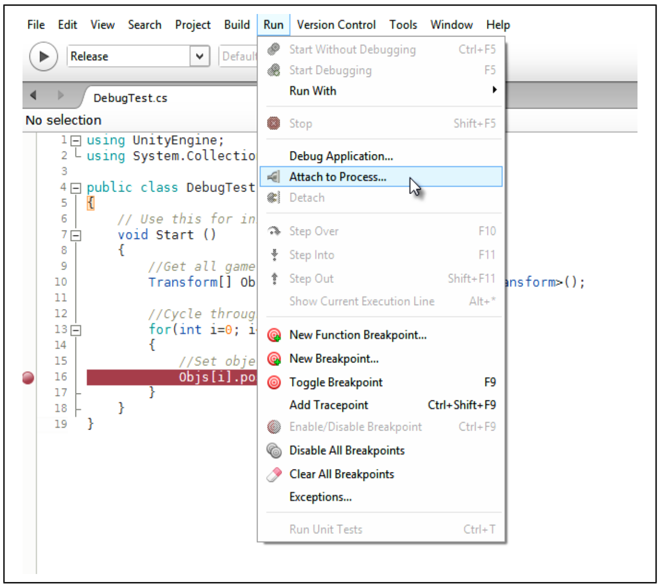
Name File Language Address



Attach to:

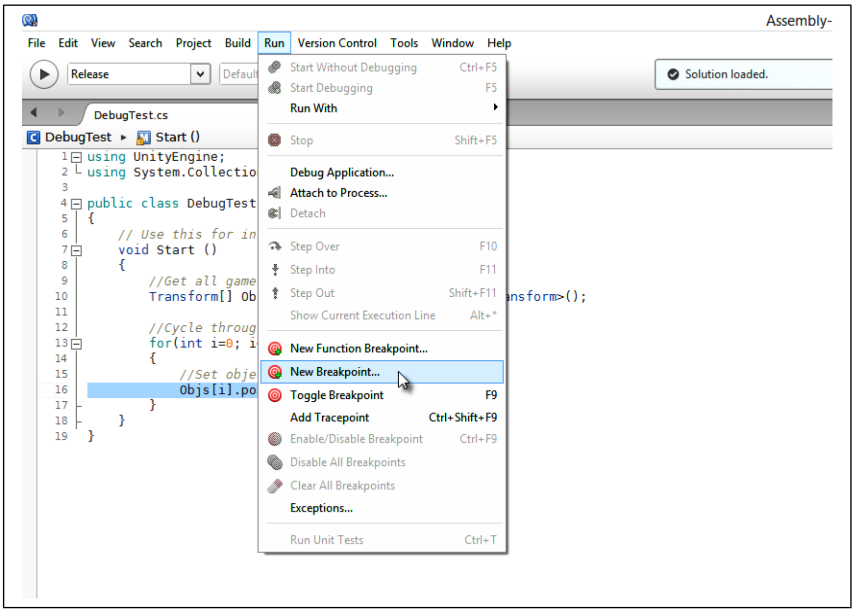
PID	Process Name
5172	Unity Editor (Unity)

Debugger: Unity Debugger

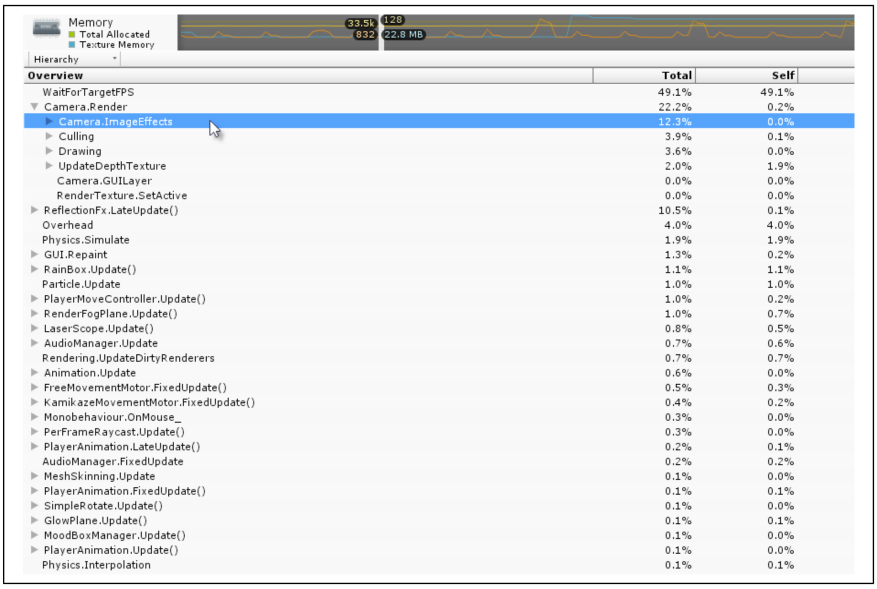


No selection

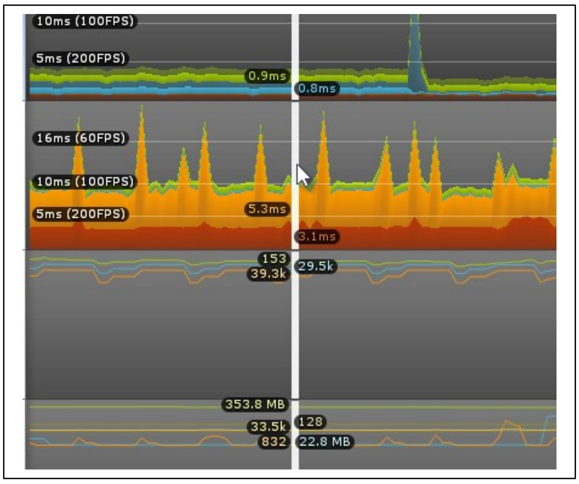
```
using UnityEngine;
using System.Collectio

public class DebugTest
{
    // Use this for in
    void Start ()
    {
        //Get all game
        Transform[] Ob                                  ansform>();

        //Cycle throug
        for(int i=0; i
        {
            //Set obje
            Objs[i].po
        }
    }
}
```

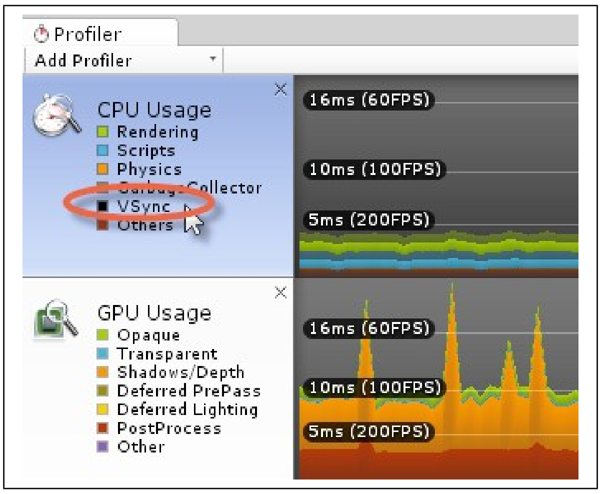


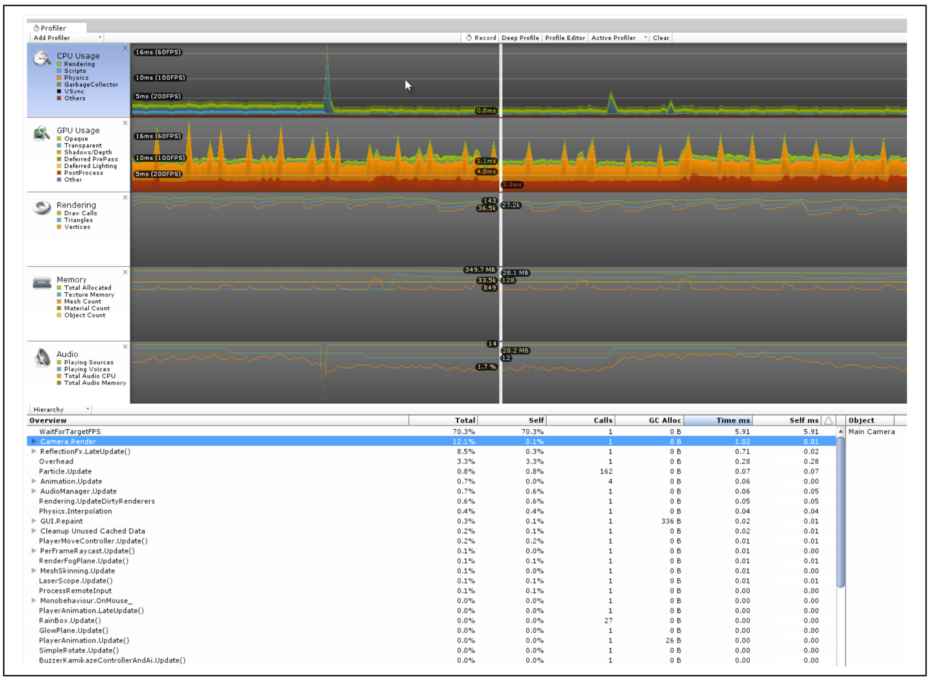
```
using UnityEngine;
using System.Collectio

public class DebugTest
{
    // Use this for in
    void Start ()
    {
        //Get all game
        Transform[] Ob                              nsform>();

        //Cycle throug
        for(int i=0; i
        {
            //Set obje
            Objs[i].po
        }
    }
}
```



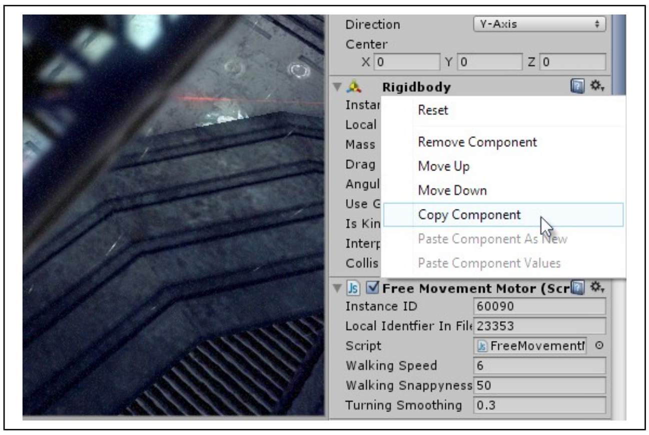
Overview	Total	Self
WaitForTargetFPS	49.1%	49.1%
▼ Camera.Render	22.2%	0.2%
▶ Camera.ImageEffects	12.3%	0.0%
▶ Culling	3.9%	0.1%
▶ Drawing	3.6%	0.0%
▶ UpdateDepthTexture	2.0%	1.9%
Camera.GUILayer	0.0%	0.0%
RenderTexture.SetActive	0.0%	0.0%
▶ ReflectionFx.LateUpdate()	10.5%	0.1%
Overhead	4.0%	4.0%
Physics.Simulate	1.9%	1.9%
▶ GUI.Repaint	1.3%	0.2%
▶ RainBox.Update()	1.1%	1.1%
Particle.Update	1.0%	1.0%
▶ PlayerMoveController.Update()	1.0%	0.2%
▶ RenderFogPlane.Update()	1.0%	0.7%
▶ LaserScope.Update()	0.8%	0.5%
▶ AudioManager.Update	0.7%	0.6%
Rendering.UpdateDirtyRenderers	0.7%	0.7%
▶ Animation.Update	0.6%	0.0%
▶ FreeMovementMotor.FixedUpdate()	0.5%	0.3%
▶ KamikazeMovementMotor.FixedUpdate()	0.4%	0.2%
▶ Monobehaviour.OnMouse_	0.3%	0.0%
▶ PerFrameRaycast.Update()	0.3%	0.0%
▶ PlayerAnimation.LateUpdate()	0.2%	0.1%
AudioManager.FixedUpdate	0.2%	0.2%
▶ MeshSkinning.Update	0.1%	0.0%
▶ PlayerAnimation.FixedUpdate()	0.1%	0.1%
▶ SimpleRotate.Update()	0.1%	0.0%
▶ GlowPlane.Update()	0.1%	0.1%
▶ MoodBoxManager.Update()	0.1%	0.0%
▶ PlayerAnimation.Update()	0.1%	0.0%
Physics.Interpolation	0.1%	0.1%





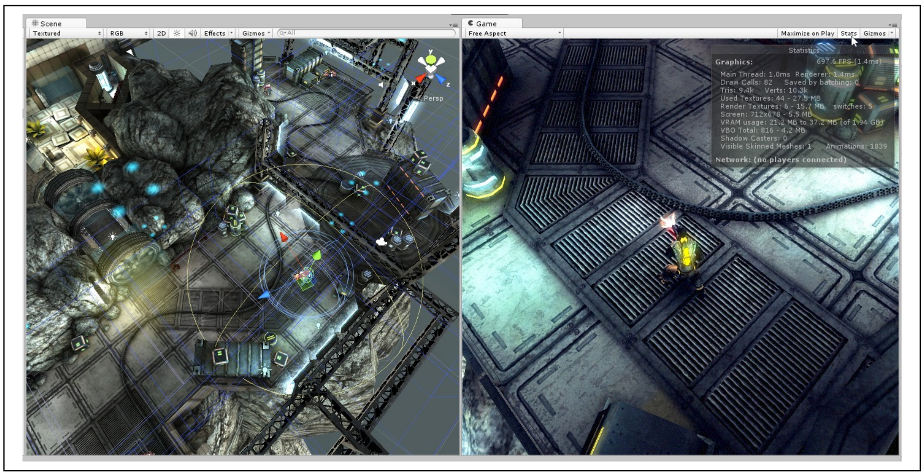


Overview	Total	Self	Calls	GC Alloc	Time ms	Self ms	Object
WaitForTargetFPS	70.3%	70.3%	1	0 B	5.91	5.91	Main Camera
▶ Camera.Render	12.1%	0.1%	1	0 B	1.02	0.01	
▶ ReflectionFx.LateUpdate()	8.5%	0.3%	1	0 B	0.71	0.02	
Overhead	3.3%	3.3%	1	0 B	0.28	0.28	
Particle.Update	0.8%	0.8%	162	0 B	0.07	0.07	
▶ Animation.Update	0.7%	0.0%	4	0 B	0.06	0.00	
▶ AudioManager.Update	0.7%	0.6%	1	0 B	0.06	0.05	
Rendering.UpdateDirtyRenderers	0.6%	0.6%	1	0 B	0.05	0.05	
Physics.Interpolation	0.4%	0.4%	1	0 B	0.04	0.04	
▶ GUI.Repaint	0.3%	0.1%	1	336 B	0.02	0.01	
▶ Cleanup Unused Cached Data	0.2%	0.1%	1	0 B	0.02	0.01	
PlayerMoveController.Update()	0.2%	0.2%	1	0 B	0.01	0.01	
▶ PerFrameRaycast.Update()	0.1%	0.0%	1	0 B	0.01	0.00	
RenderFogPlane.Update()	0.1%	0.1%	1	0 B	0.01	0.01	
▶ MeshSkinning.Update	0.1%	0.0%	1	0 B	0.01	0.00	
LaserScope.Update()	0.1%	0.1%	1	0 B	0.01	0.01	
ProcessRemoteInput	0.1%	0.1%	1	0 B	0.00	0.00	
▶ Monobehaviour.OnMouse_	0.0%	0.0%	1	0 B	0.00	0.00	
PlayerAnimation.LateUpdate()	0.0%	0.0%	1	0 B	0.00	0.00	
RainBox.Update()	0.0%	0.0%	27	0 B	0.00	0.00	
GlowPlane.Update()	0.0%	0.0%	1	0 B	0.00	0.00	
PlayerAnimation.Update()	0.0%	0.0%	1	26 B	0.00	0.00	
SimpleRotate.Update()	0.0%	0.0%	1	0 B	0.00	0.00	
BuzzerKamikazeControllerAndAi.Update()	0.0%	0.0%	1	0 B	0.00	0.00	

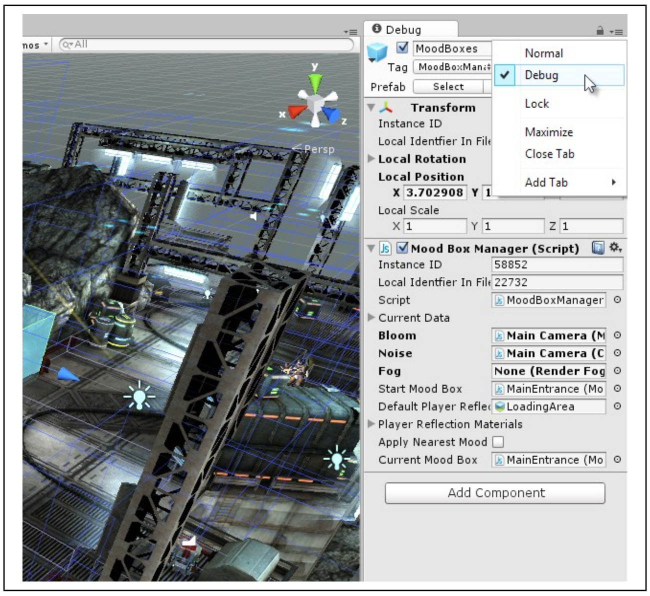


Direction: Y-Axis
Center
X 0 Y 0 Z 0

Instance ID: 60090
Local Identfier In File: 23353
Script: FreeMovementI
Walking Speed: 6
Walking Snappyness: 50
Turning Smoothing: 0.3



```
Statistics
Graphics:                       697.6 FPS (1.4ms)
  Main Thread: 1.0ms  Renderer: 1.4ms
  Draw Calls: 82     Saved by batching: 0
  Tris: 9.4k    Verts: 10.3k
  Used Textures: 44 - 27.5 MB
  Render Textures: 6 - 15.7 MB    switches: 5
  Screen: 712x678 - 5.5 MB
  VRAM usage: 21.2 MB to 37.2 MB (of 1.94 GB)
  VBO Total: 816 - 4.2 MB
  Shadow Casters: 0
  Visible Skinned Meshes: 1      Animations: 1839

Network: (no players connected)
```



☑ MoodBoxes

Tag MoodBoxMan

Prefab

Transform

Instance ID

Local Identfier In File

Local Rotation

Local Position

X 3.702908 Y 1

Local Scale

X 1 Y 1 Z 1

☑ Mood Box Manager (Script)

Instance ID 58852

Local Identfier In File 22732

Script MoodBoxManager

Current Data

Bloom Main Camera (M

Noise Main Camera (C

Fog None (Render Fog

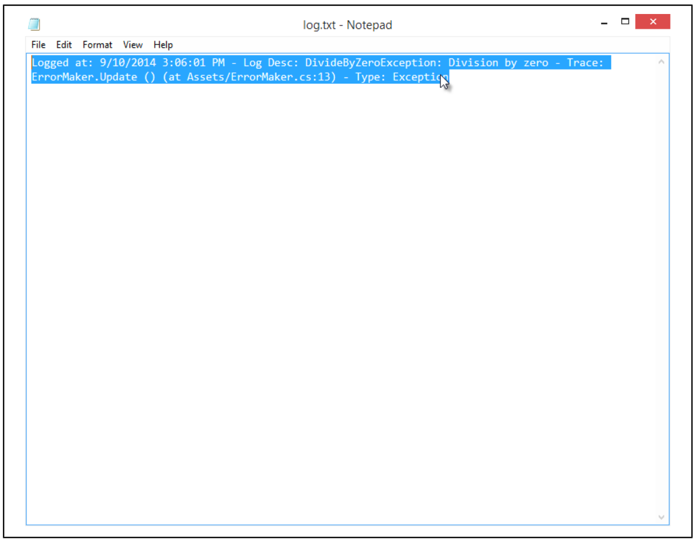
Start Mood Box MainEntrance (Mo

Default Player Reflec LoadingArea

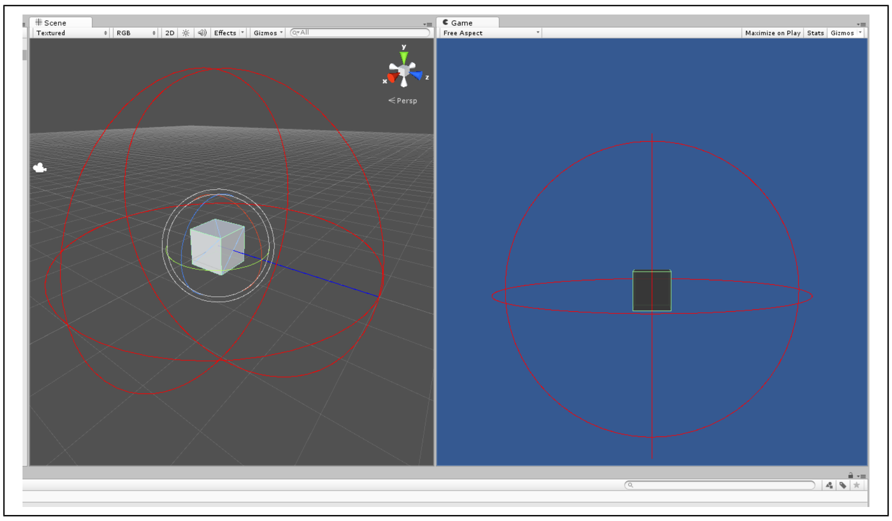
Player Reflection Materials

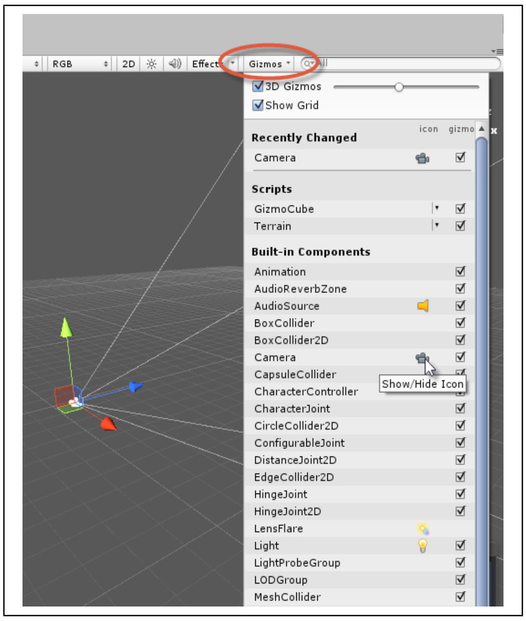
Apply Nearest Mood □

Current Mood Box MainEntrance (Mo



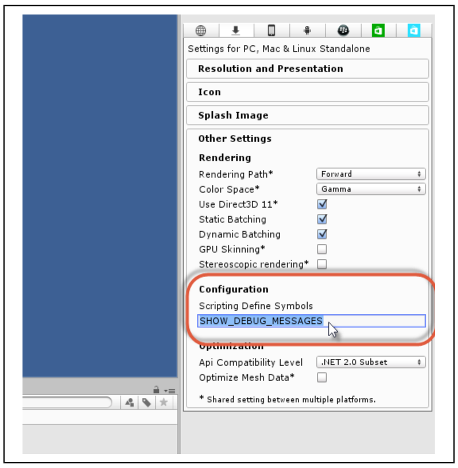
```
Logged at: 9/10/2014 3:06:01 PM - Log Desc: DivideByZeroException: Division by zero - Trace:
ErrorMaker.Update () (at Assets/ErrorMaker.cs:13) - Type: Exception
```





☑ 3D Gizmos
☑ Show Grid

	icon	gizmo
Recently Changed		
Camera		☑
Scripts		
GizmoCube		☑
Terrain		☑
Built-in Components		
Animation		☑
AudioReverbZone		☑
AudioSource		☑
BoxCollider		☑
BoxCollider2D		☑
Camera		☑
CapsuleCollider		☑
CharacterController		
CharacterJoint		☑
CircleCollider2D		☑
ConfigurableJoint		☑
DistanceJoint2D		☑
EdgeCollider2D		☑
HingeJoint		☑
HingeJoint2D		☑
LensFlare		
Light		☑
LightProbeGroup		☑
LODGroup		☑
MeshCollider		☑



Settings for PC, Mac & Linux Standalone

Resolution and Presentation

Icon

Splash Image

Other Settings

Rendering

Rendering Path*	Forward
Color Space*	Gamma
Use Direct3D 11*	☑
Static Batching	☑
Dynamic Batching	☑
GPU Skinning*	□
Stereoscopic rendering*	□

Configuration

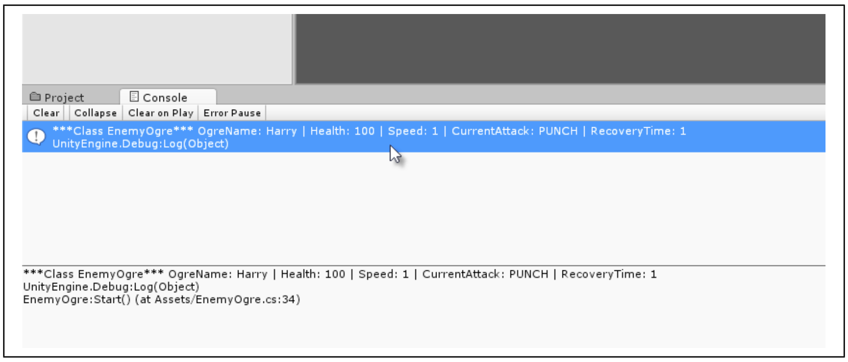
Scripting Define Symbols

SHOW_DEBUG_MESSAGES

Optimization

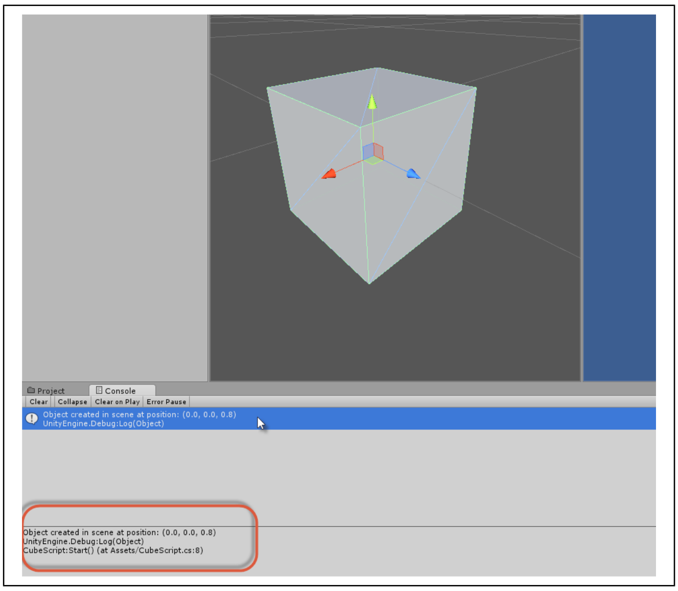
Api Compatibility Level	.NET 2.0 Subset
Optimize Mesh Data*	□

* Shared setting between multiple platforms.



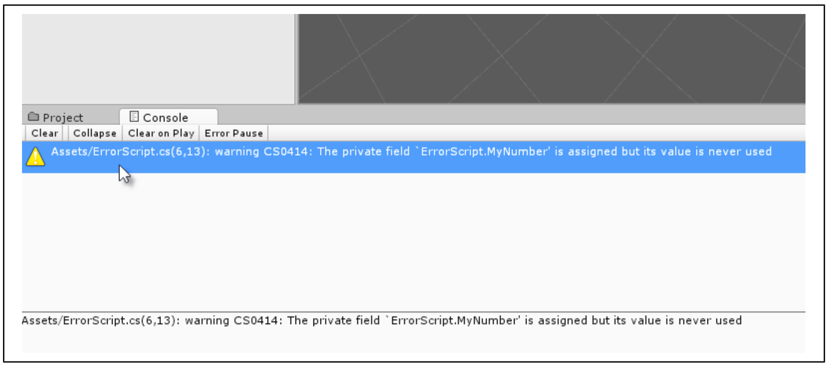
```
***Class EnemyOgre*** OgreName: Harry | Health: 100 | Speed: 1 | CurrentAttack: PUNCH | RecoveryTime: 1
UnityEngine.Debug:Log(Object)
```

```
***Class EnemyOgre*** OgreName: Harry | Health: 100 | Speed: 1 | CurrentAttack: PUNCH | RecoveryTime: 1
UnityEngine.Debug:Log(Object)
EnemyOgre:Start() (at Assets/EnemyOgre.cs:34)
```



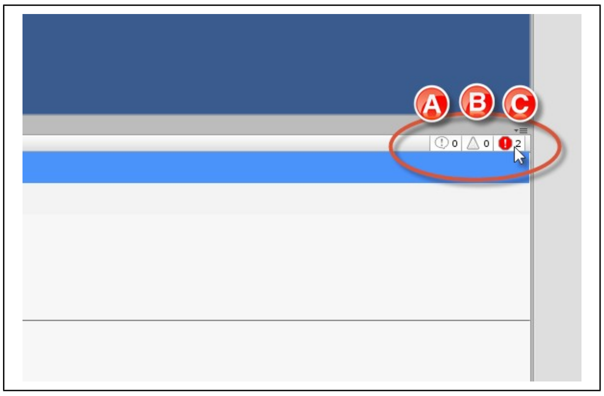
```
Object created in scene at position: (0.0, 0.0, 0.8)
UnityEngine.Debug:Log(Object)
```

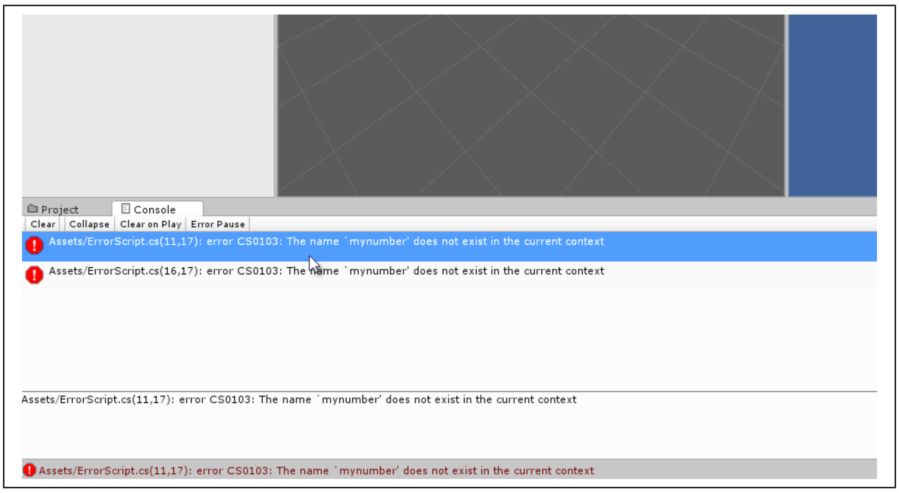
```
Object created in scene at position: (0.0, 0.0, 0.8)
UnityEngine.Debug:Log(Object)
CubeScript:Start() (at Assets/CubeScript.cs:8)
```



```
Assets/ErrorScript.cs(6,13): warning CS0414: The private field `ErrorScript.MyNumber' is assigned but its value is never used
```

```
Assets/ErrorScript.cs(6,13): warning CS0414: The private field `ErrorScript.MyNumber' is assigned but its value is never used
```

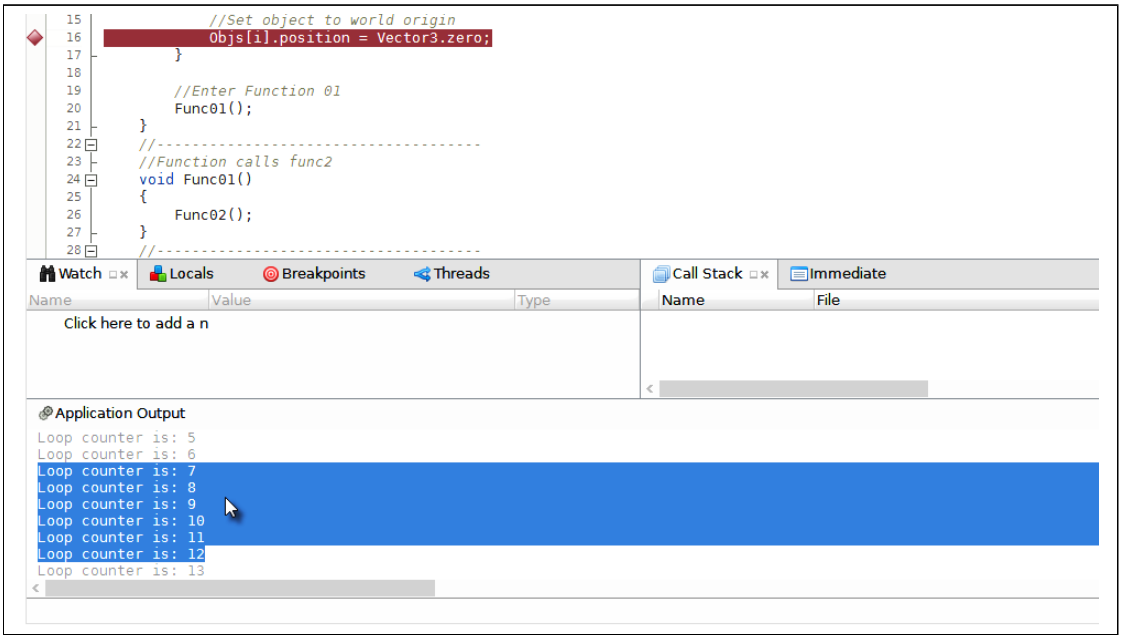




```
Assets/ErrorScript.cs(11,17): error CS0103: The name `mynumber' does not exist in the current context
Assets/ErrorScript.cs(16,17): error CS0103: The name `mynumber' does not exist in the current context
```

```
Assets/ErrorScript.cs(11,17): error CS0103: The name `mynumber' does not exist in the current context
```

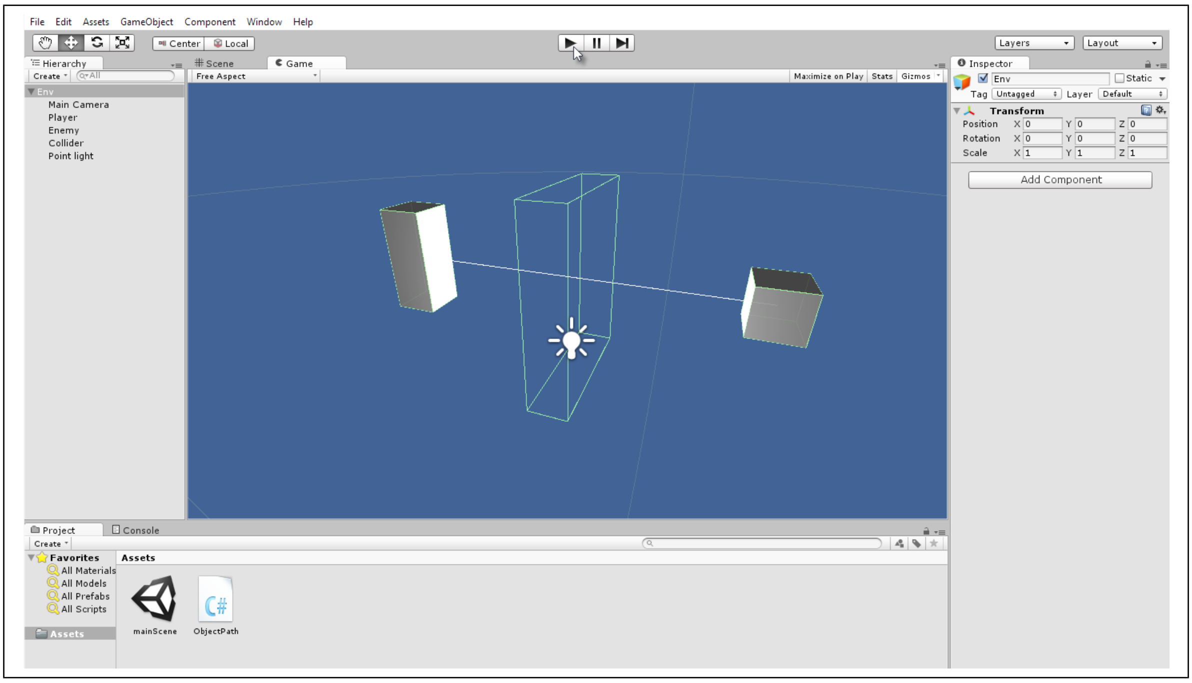
```
Assets/ErrorScript.cs(11,17): error CS0103: The name `mynumber' does not exist in the current context
```



```
                //Set object to world origin
                Objs[i].position = Vector3.zero;
            }

            //Enter Function 01
            Func01();
        }
        //-------------------------------------
        //Function calls func2
        void Func01()
        {
            Func02();
        }
        //-------------------------------------
```

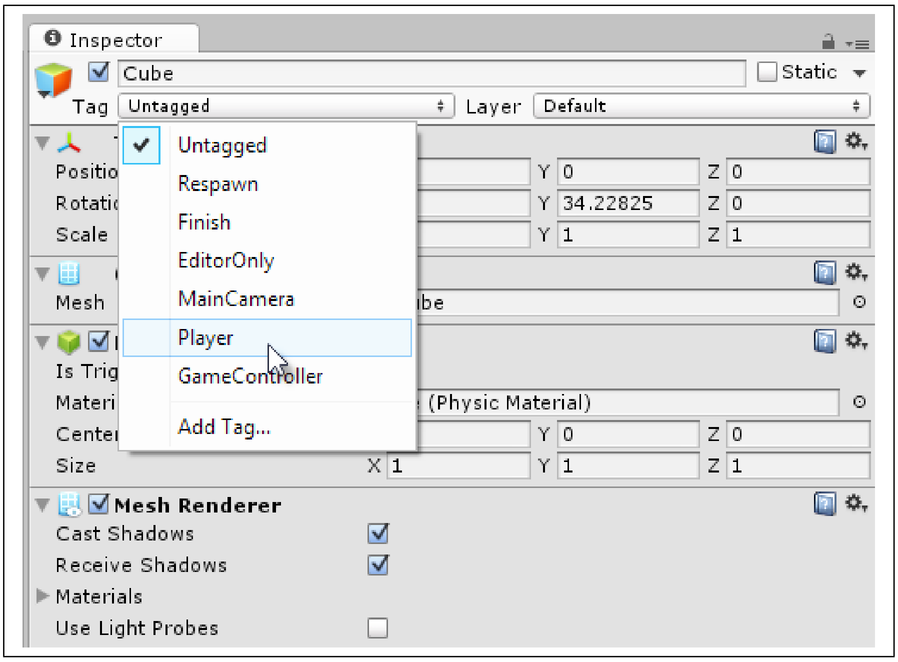
```
Loop counter is: 5
Loop counter is: 6
Loop counter is: 7
Loop counter is: 8
Loop counter is: 9
Loop counter is: 10
Loop counter is: 11
Loop counter is: 12
Loop counter is: 13
```

Chapter 3: Singletons, Statics, GameObjects, and the World

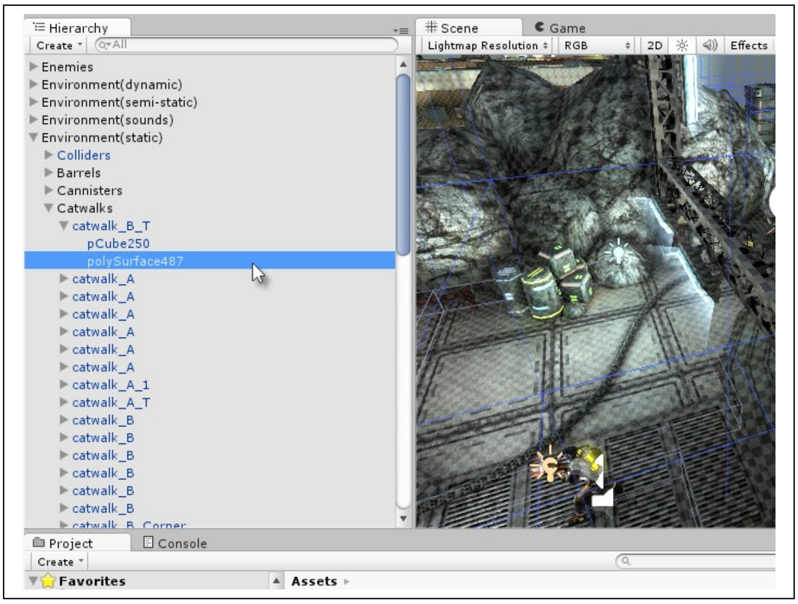


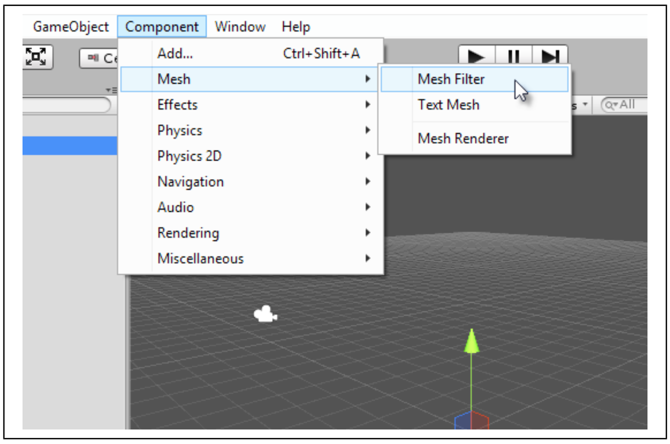
Env
Main Camera
Player
Enemy
Collider
Point light

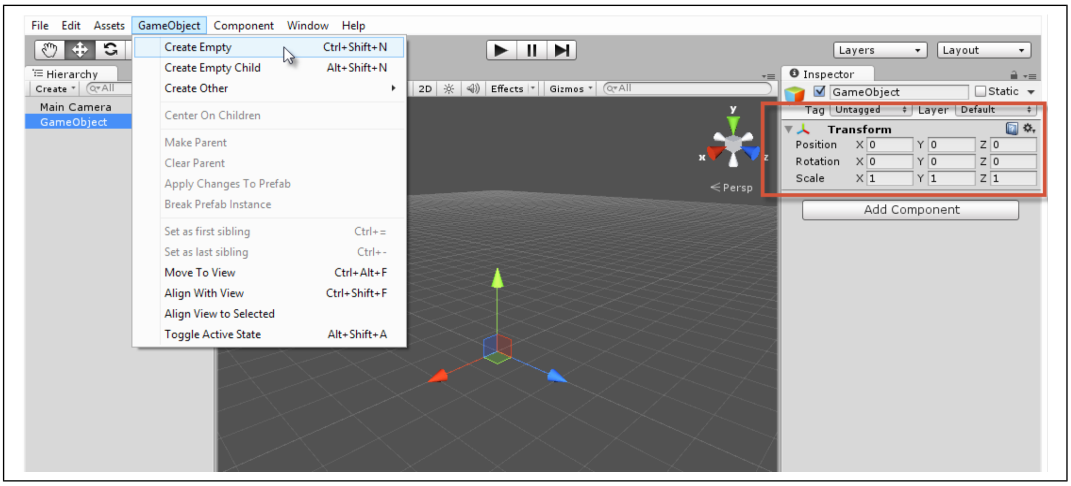
☑ Env □ Static
Tag Untagged Layer Default
Transform
Position X 0 Y 0 Z 0
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1



☑ Cube □ Static
Tag Untagged Layer Default
Positio Y 0 Z 0
Rotatic Y 34.22825 Z 0
Scale Y 1 Z 1
Mesh ube
Is Trig
Materi (Physic Material)
Center Y 0 Z 0
Size X 1 Y 1 Z 1
☑ Mesh Renderer
Cast Shadows ☑
Receive Shadows ☑
Materials
Use Light Probes □





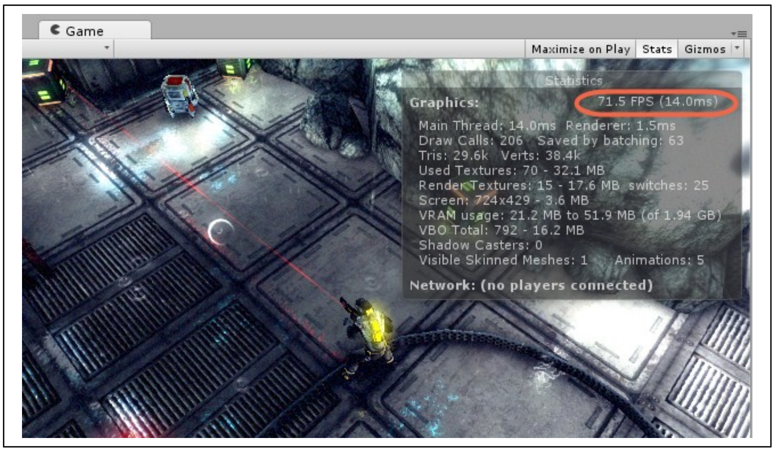


GameObject

Tag Untagged Layer Default

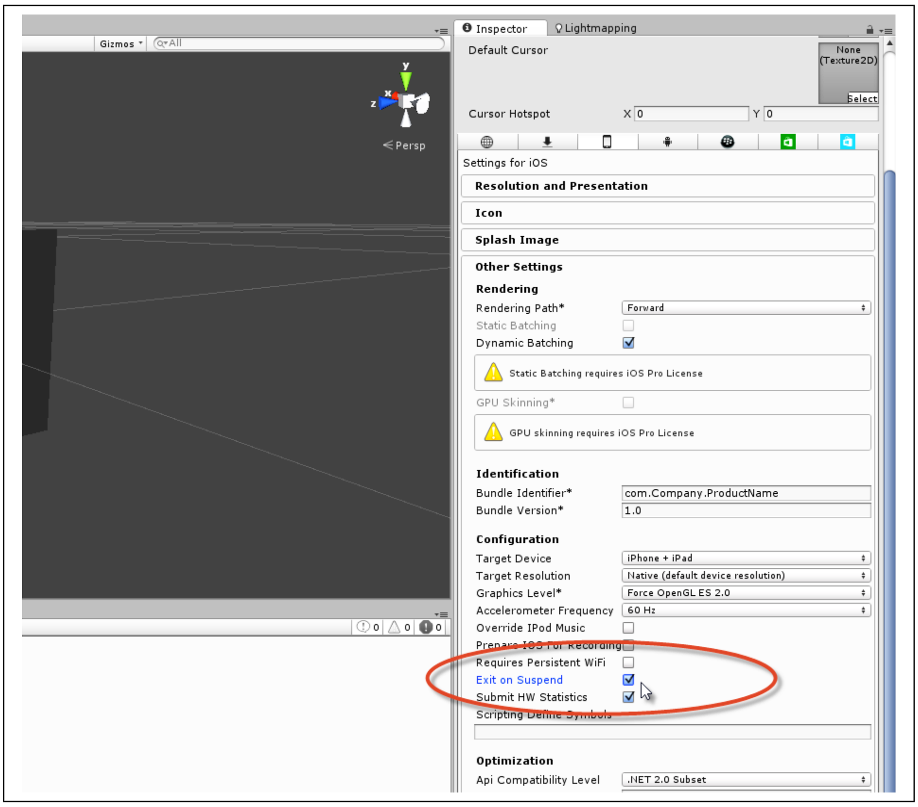
Transform

Position	X 0	Y 0	Z 0
Rotation	X 0	Y 0	Z 0
Scale	X 1	Y 1	Z 1



```
Statistics
Graphics:                    71.5 FPS (14.0ms)
  Main Thread: 14.0ms  Renderer: 1.5ms
  Draw Calls: 206   Saved by batching: 63
  Tris: 29.6k   Verts: 38.4k
  Used Textures: 70 - 32.1 MB
  Render Textures: 15 - 17.6 MB  switches: 25
  Screen: 724x429 - 3.6 MB
  VRAM usage: 21.2 MB to 51.9 MB (of 1.94 GB)
  VBO Total: 792 - 16.2 MB
  Shadow Casters: 0
  Visible Skinned Meshes: 1      Animations: 5

Network: (no players connected)
```

Chapter 4: Event-driven Programming



Inspector | Lightmapping

Default Cursor: None (Texture2D) Select

Cursor Hotspot X 0 Y 0

Settings for iOS

Resolution and Presentation

Icon

Splash Image

Other Settings

Rendering

Rendering Path*: Forward

Static Batching: □

Dynamic Batching: ☑

Static Batching requires iOS Pro License

GPU Skinning*: □

GPU skinning requires iOS Pro License

Identification

Bundle Identifier*: com.Company.ProductName

Bundle Version*: 1.0

Configuration

Target Device: iPhone + iPad

Target Resolution: Native (default device resolution)

Graphics Level*: Force OpenGL ES 2.0

Accelerometer Frequency: 60 Hz

Override IPod Music: □

Prepare IOS For Recording: □

Requires Persistent WiFi: □

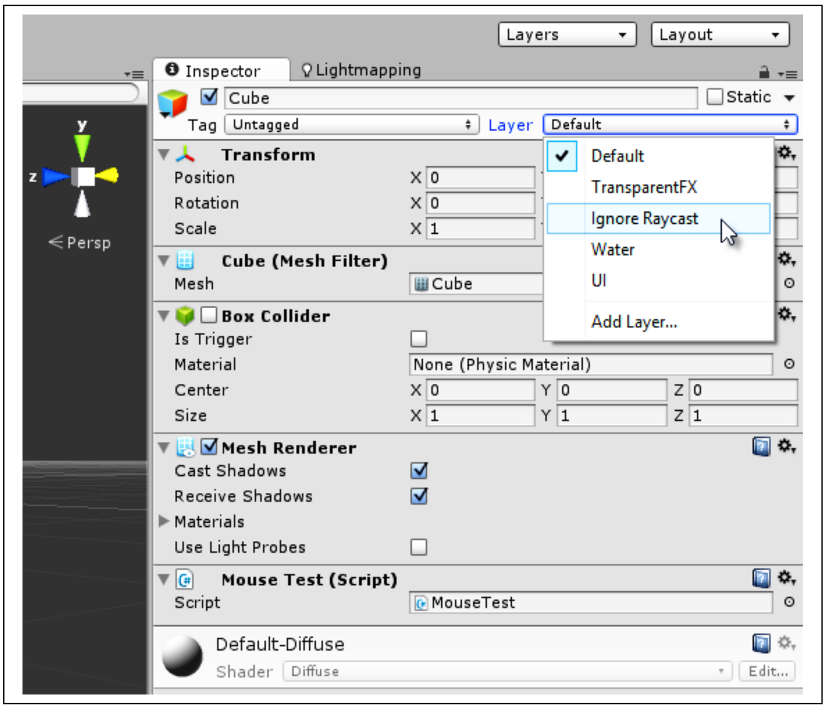
Exit on Suspend: ☑

Submit HW Statistics: ☑

Scripting Define Symbols

Optimization

Api Compatibility Level: .NET 2.0 Subset



Layers | Layout

Inspector | Lightmapping

☑ Cube □ Static

Tag: Untagged Layer: Default

✓ Default
TransparentFX
Ignore Raycast
Water
UI
Add Layer...

Transform

Position X 0

Rotation X 0

Scale X 1

Cube (Mesh Filter)

Mesh: Cube

☑ **Box Collider**

Is Trigger: □

Material: None (Physic Material)

Center X 0 Y 0 Z 0

Size X 1 Y 1 Z 1

☑ **Mesh Renderer**

Cast Shadows: ☑

Receive Shadows: ☑

Materials

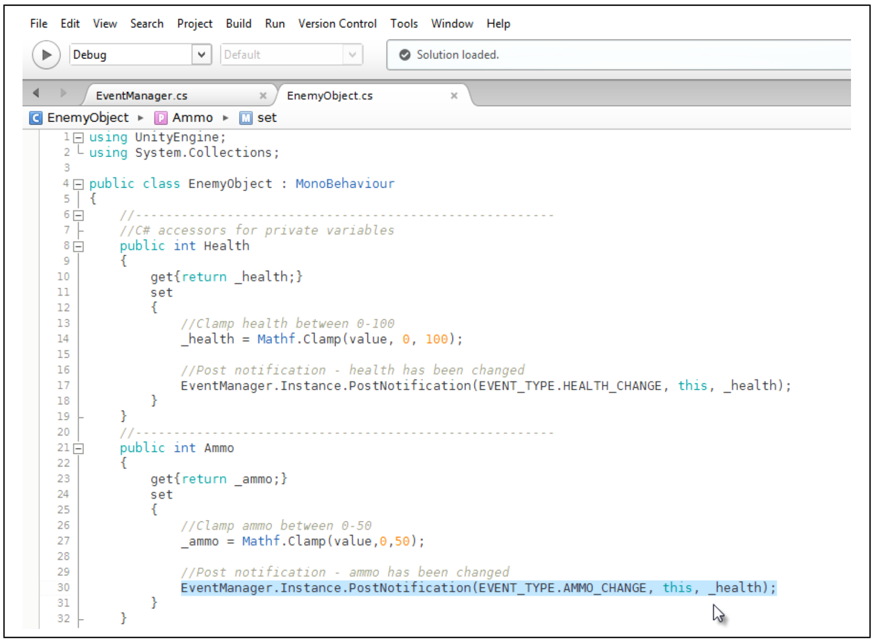
Use Light Probes: □

Mouse Test (Script)

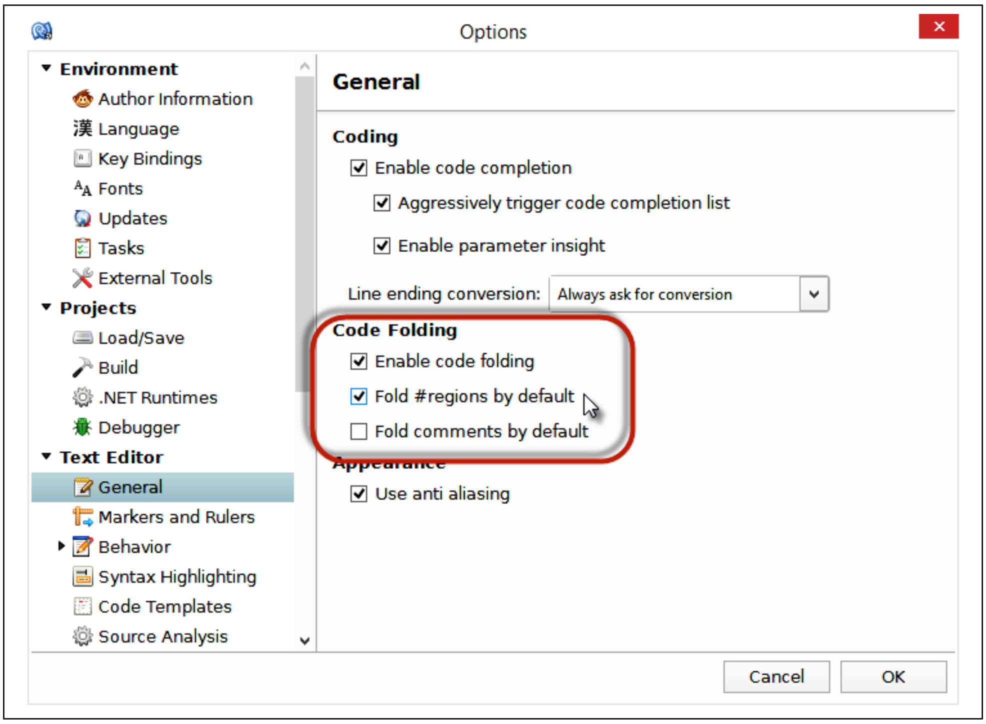
Script: MouseTest

Default-Diffuse

Shader: Diffuse Edit...



```
using UnityEngine;
using System.Collections;

public class EnemyObject : MonoBehaviour
{
    //-------------------------------------------------------
    //C# accessors for private variables
    public int Health
    {
        get{return _health;}
        set
        {
            //Clamp health between 0-100
            _health = Mathf.Clamp(value, 0, 100);

            //Post notification - health has been changed
            EventManager.Instance.PostNotification(EVENT_TYPE.HEALTH_CHANGE, this, _health);
        }
    }
    //-------------------------------------------------------
    public int Ammo
    {
        get{return _ammo;}
        set
        {
            //Clamp ammo between 0-50
            _ammo = Mathf.Clamp(value,0,50);

            //Post notification - ammo has been changed
            EventManager.Instance.PostNotification(EVENT_TYPE.AMMO_CHANGE, this, _health);
        }
    }
```



General

Coding

☑ Enable code completion

☑ Aggressively trigger code completion list

☑ Enable parameter insight

Line ending conversion: Always ask for conversion

Code Folding

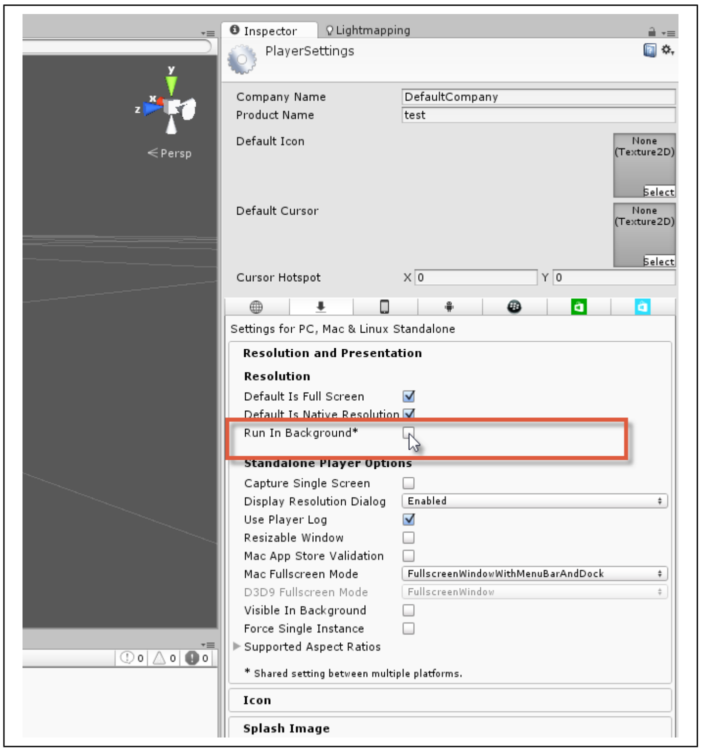
☑ Enable code folding

☑ Fold #regions by default

☐ Fold comments by default

Appearance

☑ Use anti aliasing



PlayerSettings

Company Name DefaultCompany

Product Name test

Default Icon None (Texture2D)

Default Cursor None (Texture2D)

Cursor Hotspot X 0 Y 0

Settings for PC, Mac & Linux Standalone

Resolution and Presentation

Resolution

Default Is Full Screen ☑

Default Is Native Resolution ☑

Run In Background* ☐

Standalone Player Options

Capture Single Screen ☐

Display Resolution Dialog Enabled

Use Player Log ☑

Resizable Window ☐

Mac App Store Validation ☐

Mac Fullscreen Mode FullscreenWindowWithMenuBarAndDock

D3D9 Fullscreen Mode FullscreenWindow

Visible In Background ☐

Force Single Instance ☐

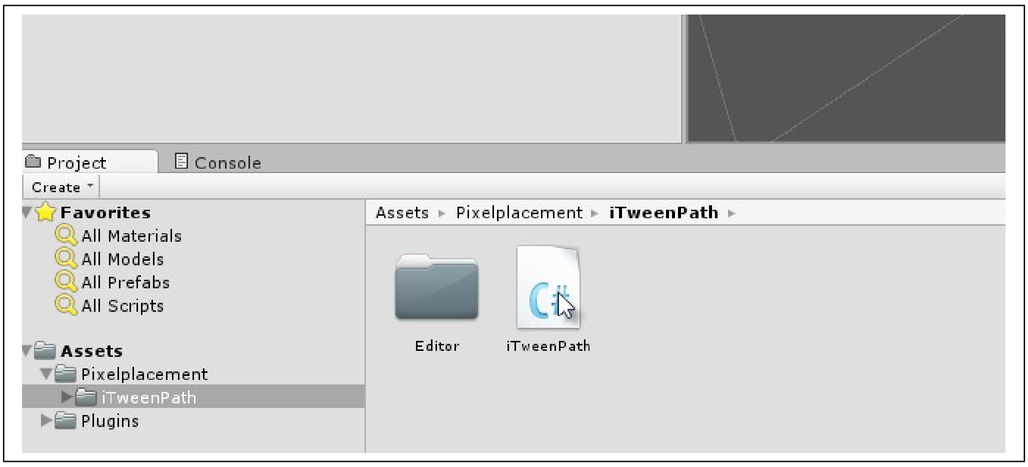
Supported Aspect Ratios

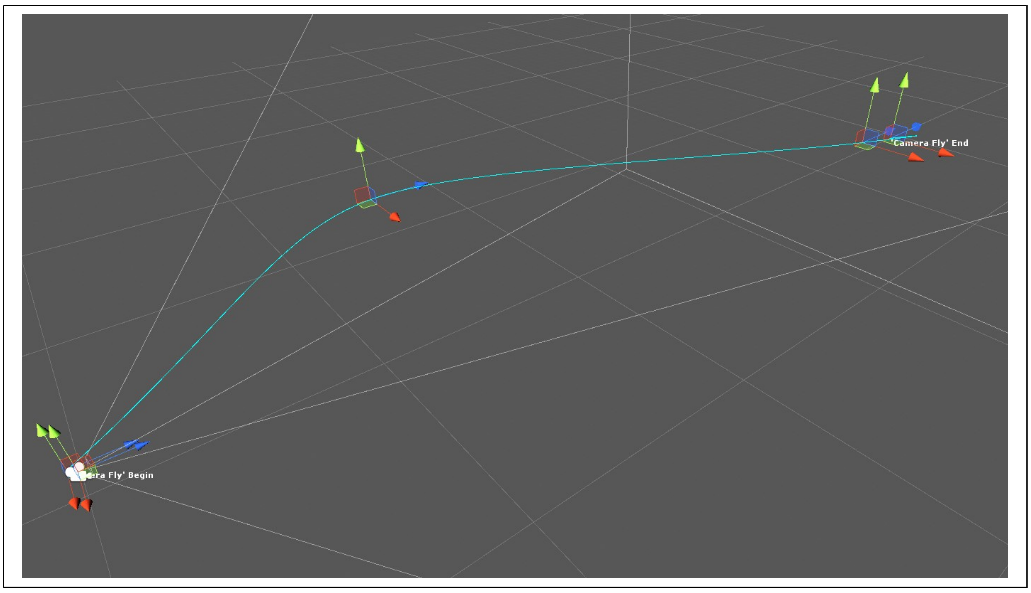
* Shared setting between multiple platforms.

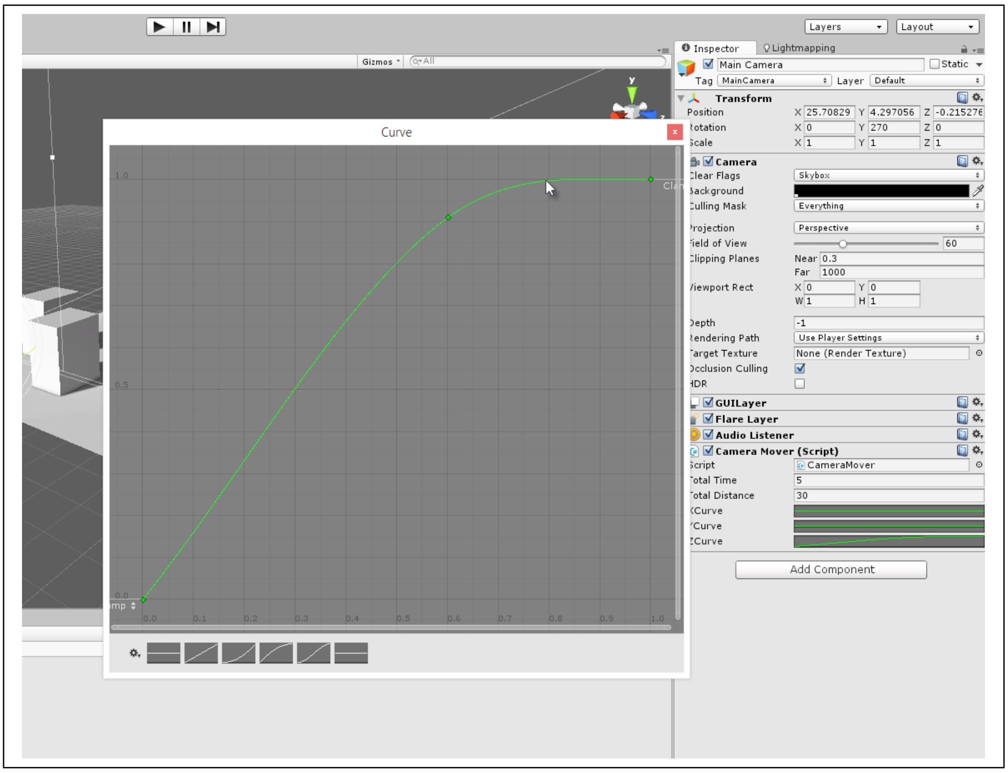
Icon

Splash Image

Chapter 5: Cameras, Rendering, and Scenes







Inspector | Lightmapping

☑ Main Camera □ Static

Tag MainCamera Layer Default

Transform
Position X 25.70829 Y 4.297056 Z -0.215276
Rotation X 0 Y 270 Z 0
Scale X 1 Y 1 Z 1

☑ Camera
Clear Flags: Skybox
Background: ■
Culling Mask: Everything
Projection: Perspective
Field of View: 60
Clipping Planes: Near 0.3
Far 1000
Viewport Rect: X 0 Y 0
W 1 H 1
Depth: -1
Rendering Path: Use Player Settings
Target Texture: None (Render Texture)
Occlusion Culling: ☑
HDR: □

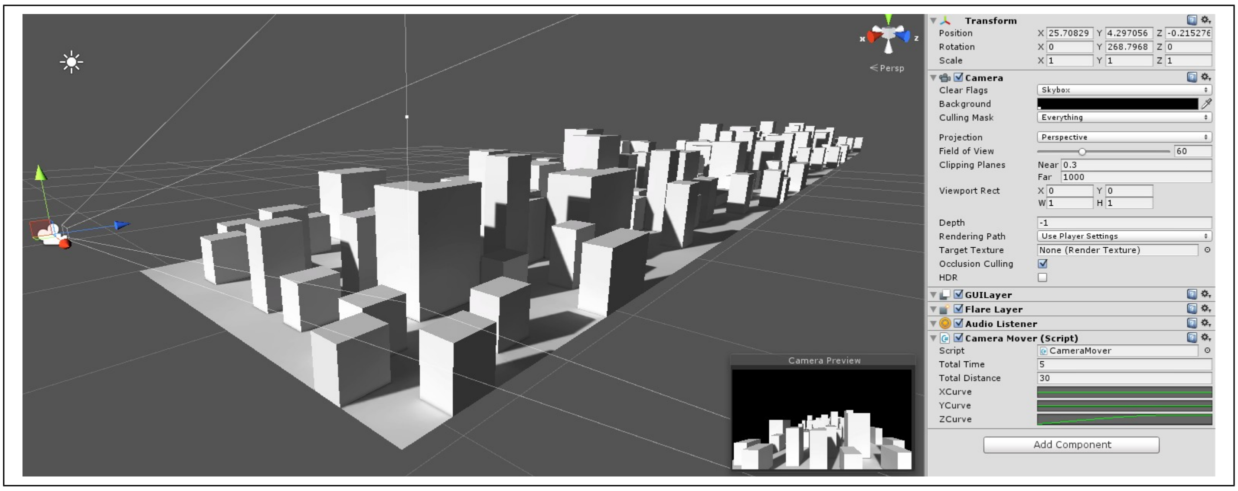
☑ GUILayer

☑ Flare Layer

☑ Audio Listener

☑ Camera Mover (Script)
Script: CameraMover
Total Time: 5
Total Distance: 30
XCurve
YCurve
ZCurve

Add Component



Transform
Position X 25.70829 Y 4.297056 Z -0.215276
Rotation X 0 Y 268.7968 Z 0
Scale X 1 Y 1 Z 1

☑ Camera
Clear Flags: Skybox
Background: ■
Culling Mask: Everything
Projection: Perspective
Field of View: 60
Clipping Planes: Near 0.3
Far 1000
Viewport Rect: X 0 Y 0
W 1 H 1
Depth: -1
Rendering Path: Use Player Settings
Target Texture: None (Render Texture)
Occlusion Culling: ☑
HDR: □

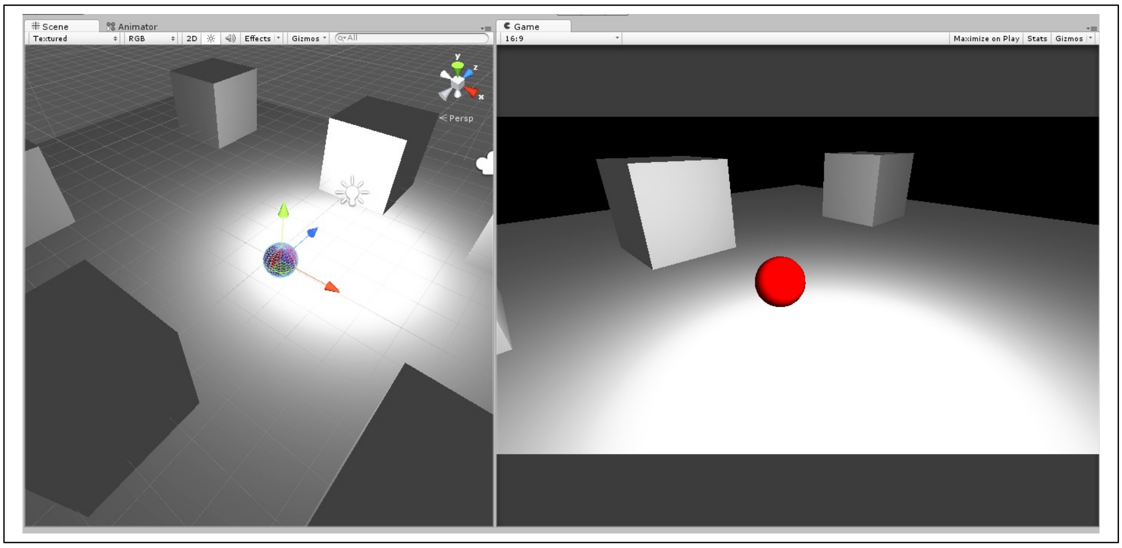
☑ GUILayer

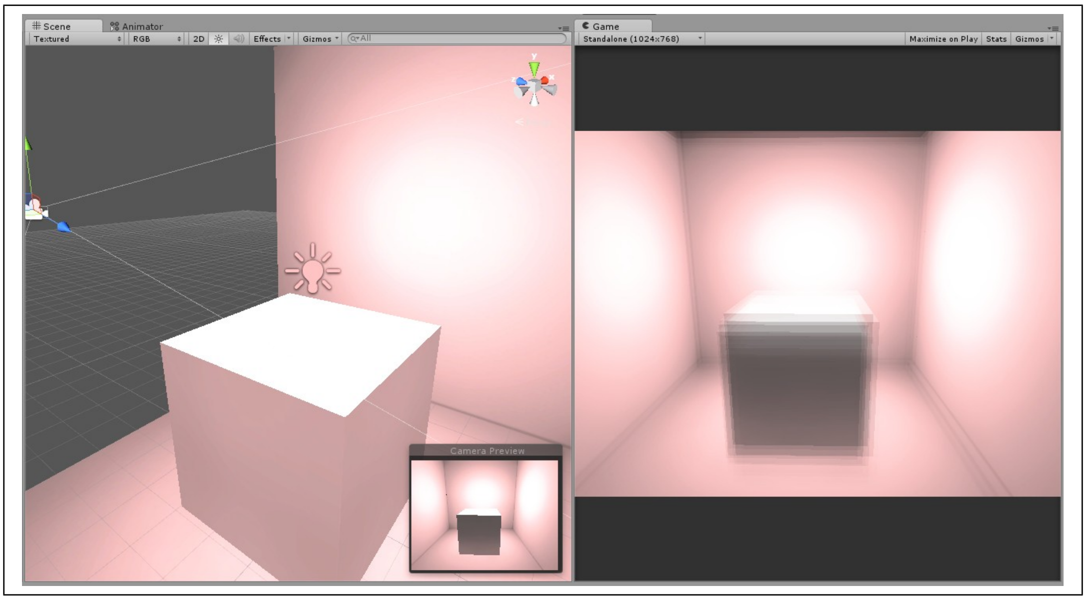
☑ Flare Layer

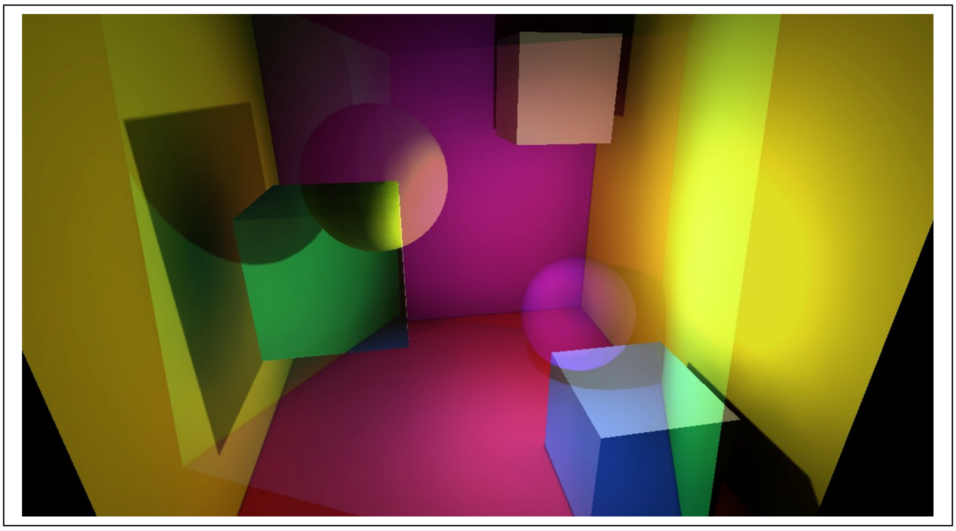
☑ Audio Listener

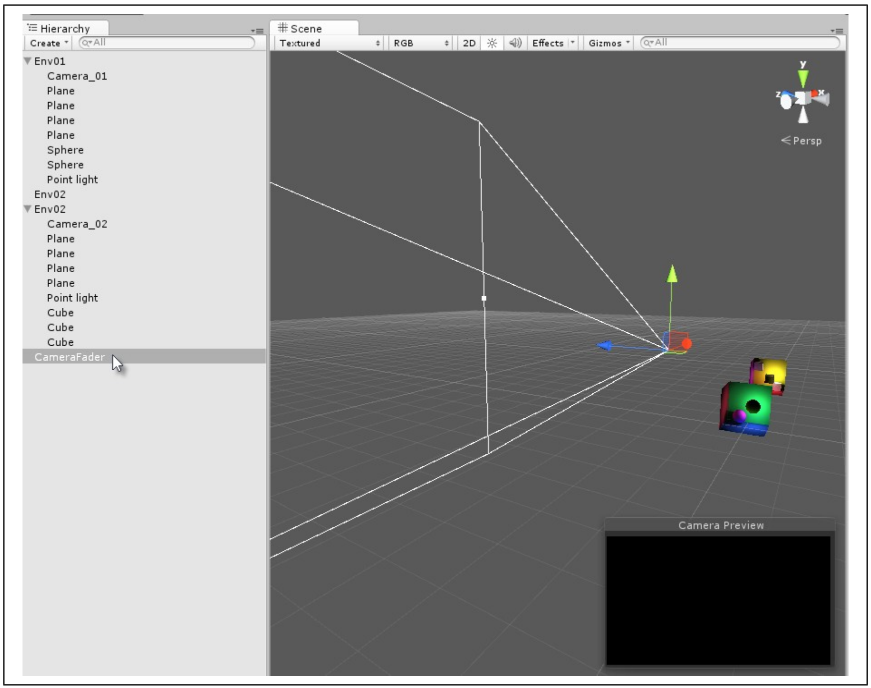
☑ Camera Mover (Script)
Script: CameraMover
Total Time: 5
Total Distance: 30
XCurve
YCurve
ZCurve

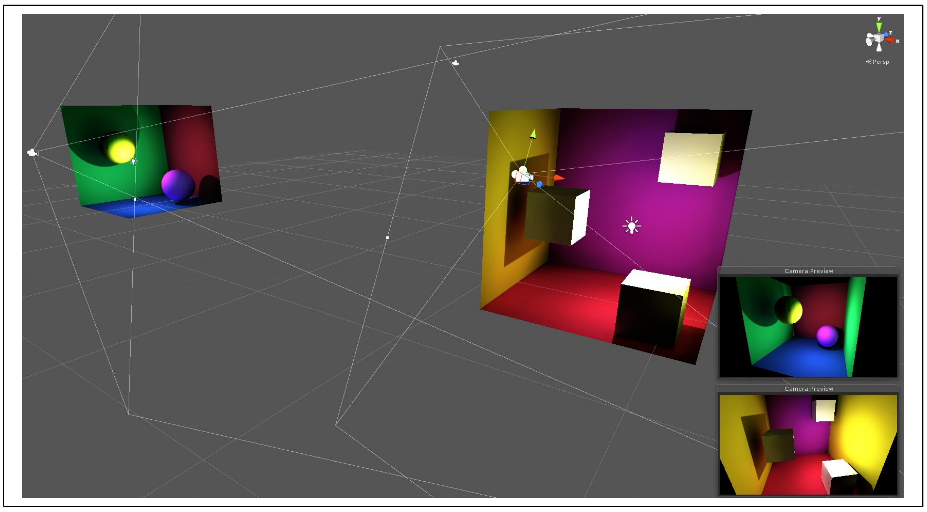
Add Component

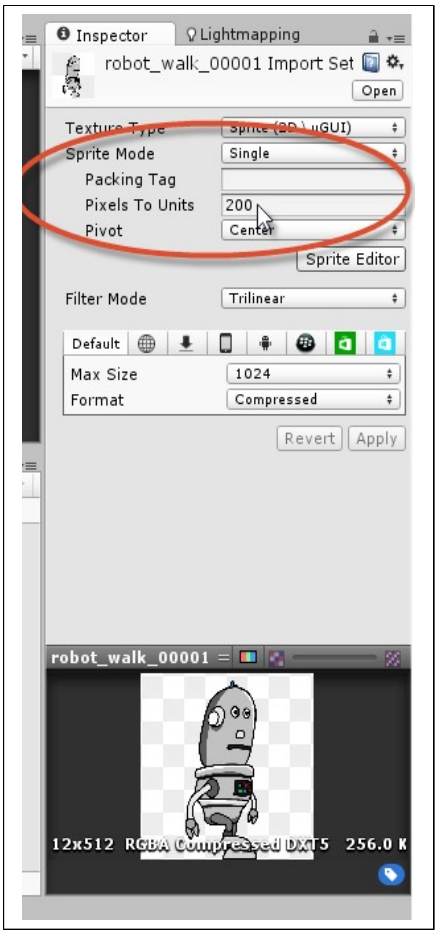

Scene
Animator
Textured
RGB
2D
Effects
Gizmos
All
Persp
Game
16:9
Maximize on Play
Stats
Gizmos


Scene
Animator
Textured
RGB
2D
Effects
Gizmos
All
Camera Preview
Game
Standalone (1024x768)
Maximize on Play
Stats
Gizmos




Hierarchy
Create
All
Env01
Camera_01
Plane
Plane
Plane
Plane
Sphere
Sphere
Point light
Env02
Env02
Camera_02
Plane
Plane
Plane
Plane
Point light
Cube
Cube
Cube
CameraFader
Scene
Textured
RGB
2D
Effects
Gizmos
All
Persp
Camera Preview


Persp
Camera Preview
Camera Preview



robot_walk_00001 Import Set

Texture Type: Sprite (2D \ uGUI)

Sprite Mode: Single

Packing Tag:

Pixels To Units: 200

Pivot: Center

Filter Mode: Trilinear

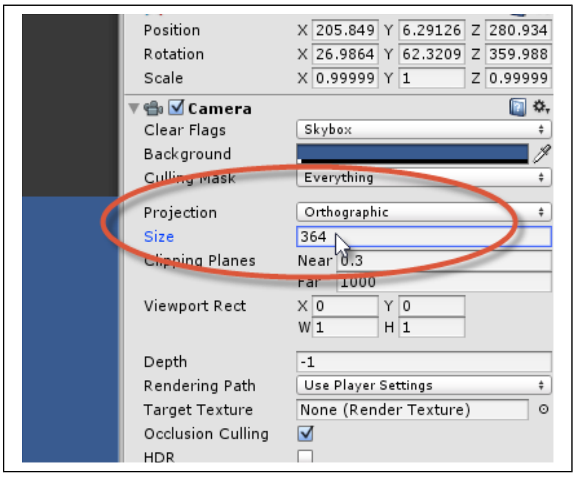
Default

Max Size: 1024

Format: Compressed

robot_walk_00001

12x512 RGBA Compressed DXT5 256.0 K



Position	X 205.849	Y 6.29126	Z 280.934
Rotation	X 26.9864	Y 62.3209	Z 359.988
Scale	X 0.99999	Y 1	Z 0.99999

☑ Camera

Clear Flags: Skybox

Background:

Culling Mask: Everything

Projection: Orthographic

Size: 364

Clipping Planes: Near 0.3, Far 1000

Viewport Rect: X 0, Y 0, W 1, H 1

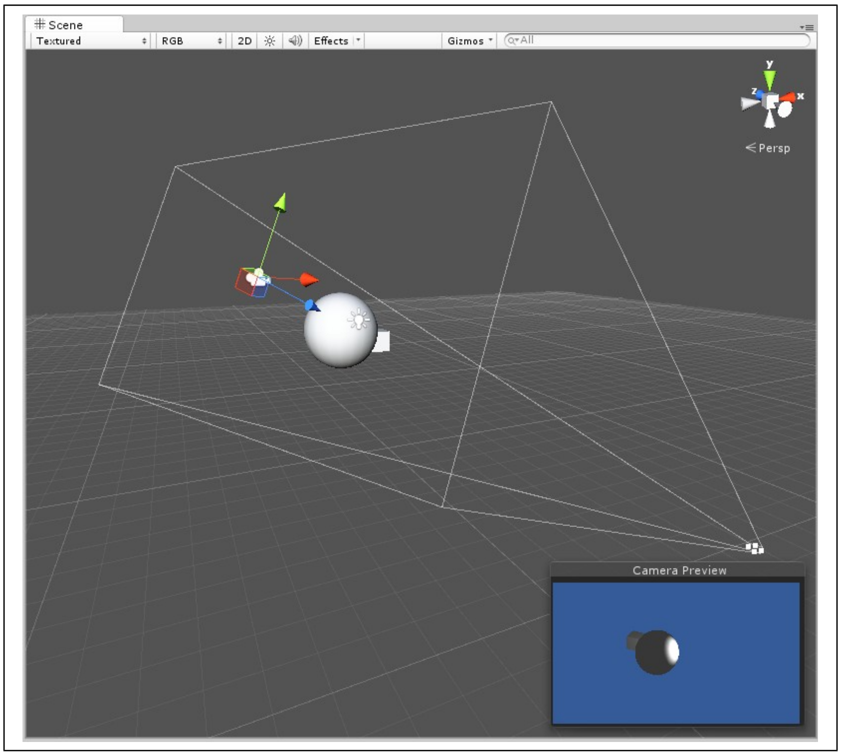
Depth: -1

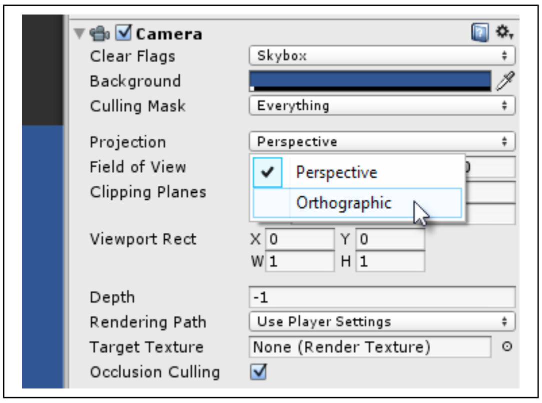
Rendering Path: Use Player Settings

Target Texture: None (Render Texture)

Occlusion Culling ☑

HDR □





Camera ☑

Clear Flags: Skybox

Background

Culling Mask: Everything

Projection: Perspective

Field of View

Clipping Planes

✓ Perspective

Orthographic

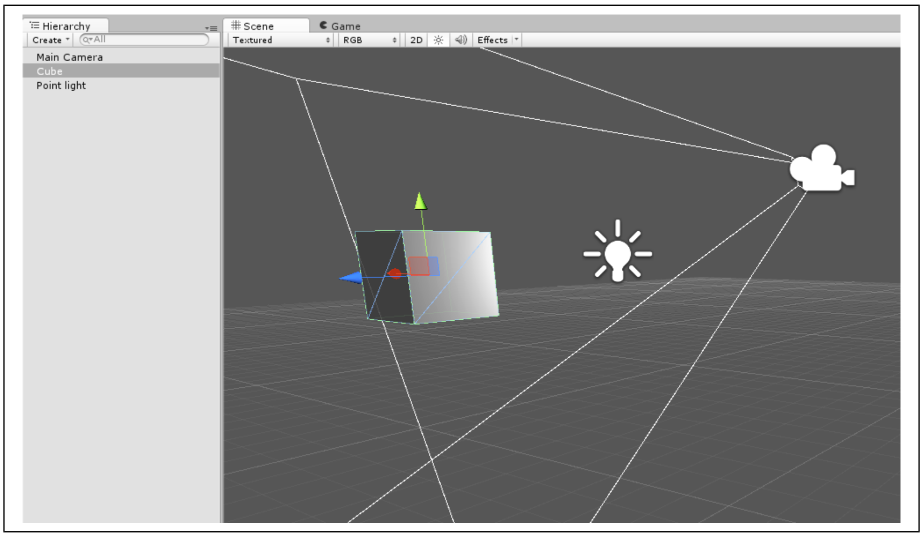
Viewport Rect: X 0 Y 0 W 1 H 1

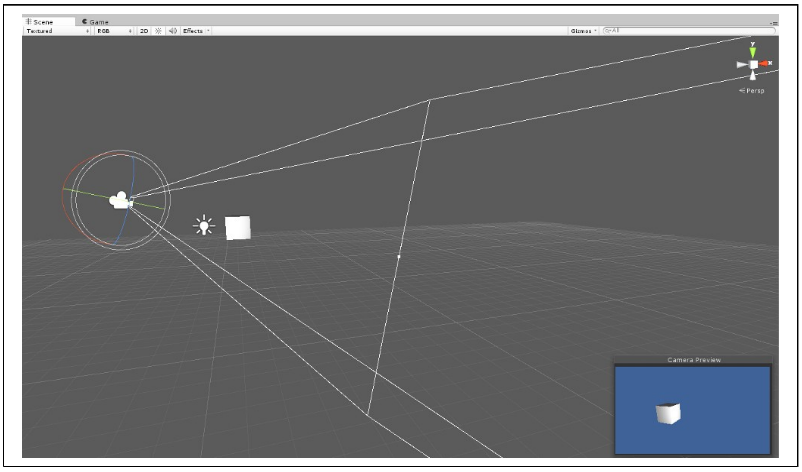
Depth: -1

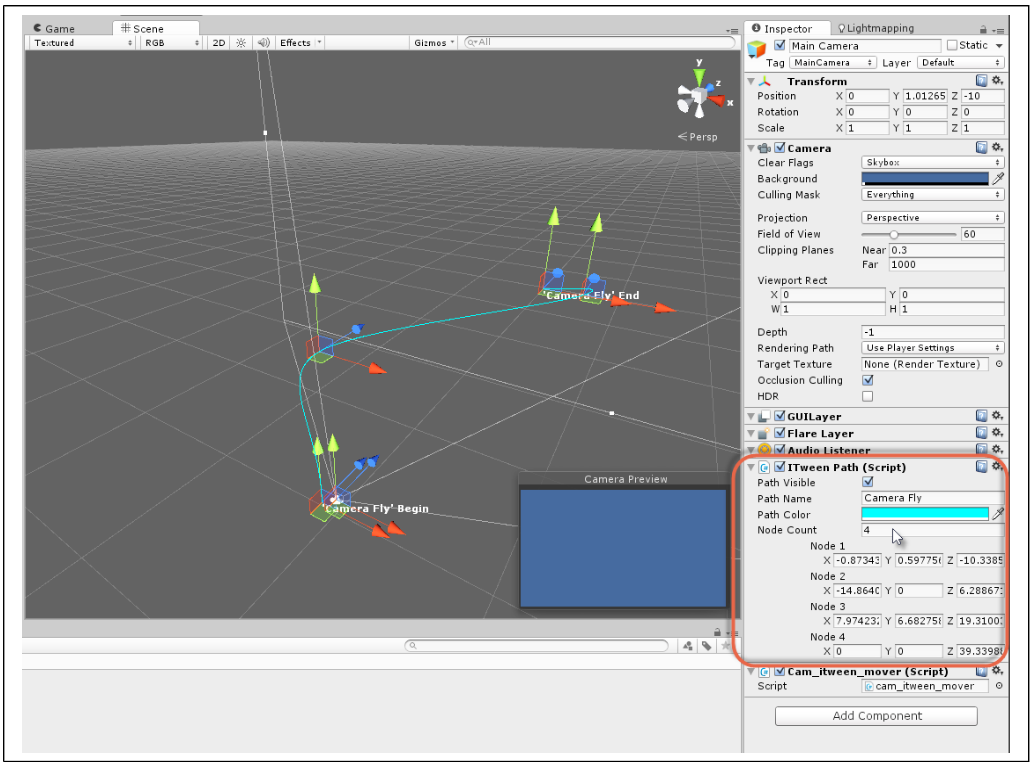
Rendering Path: Use Player Settings

Target Texture: None (Render Texture)

Occlusion Culling: ☑







☑ Main Camera □ Static

Tag MainCamera Layer Default

Transform

Position X 0 Y 1.01265 Z -10

Rotation X 0 Y 0 Z 0

Scale X 1 Y 1 Z 1

☑ **Camera**

Clear Flags Skybox

Background

Culling Mask Everything

Projection Perspective

Field of View 60

Clipping Planes Near 0.3

Far 1000

Viewport Rect

X 0 Y 0

W 1 H 1

Depth -1

Rendering Path Use Player Settings

Target Texture None (Render Texture)

Occlusion Culling ☑

HDR □

☑ **GUILayer**

☑ **Flare Layer**

☑ **Audio Listener**

☑ **ITween Path (Script)**

Path Visible ☑

Path Name Camera Fly

Path Color

Node Count 4

Node 1

X -0.87343 Y 0.59775 Z -10.3385

Node 2

X -14.8640 Y 0 Z 6.28867

Node 3

X 7.97423 Y 6.68275 Z 19.3100

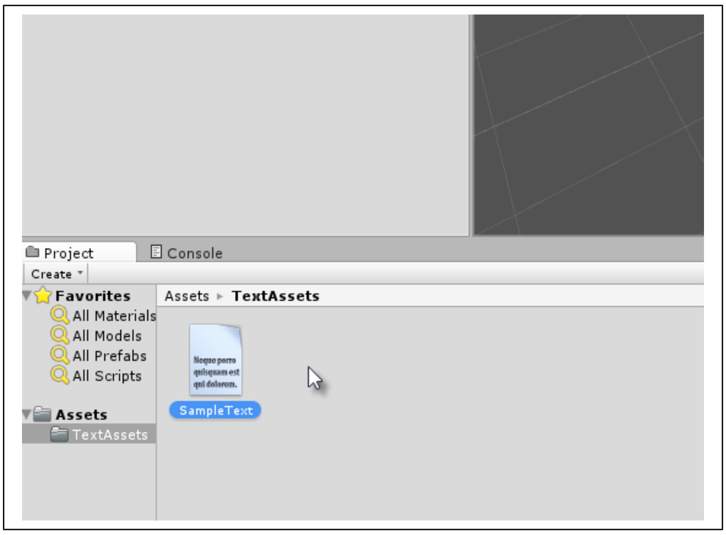
Node 4

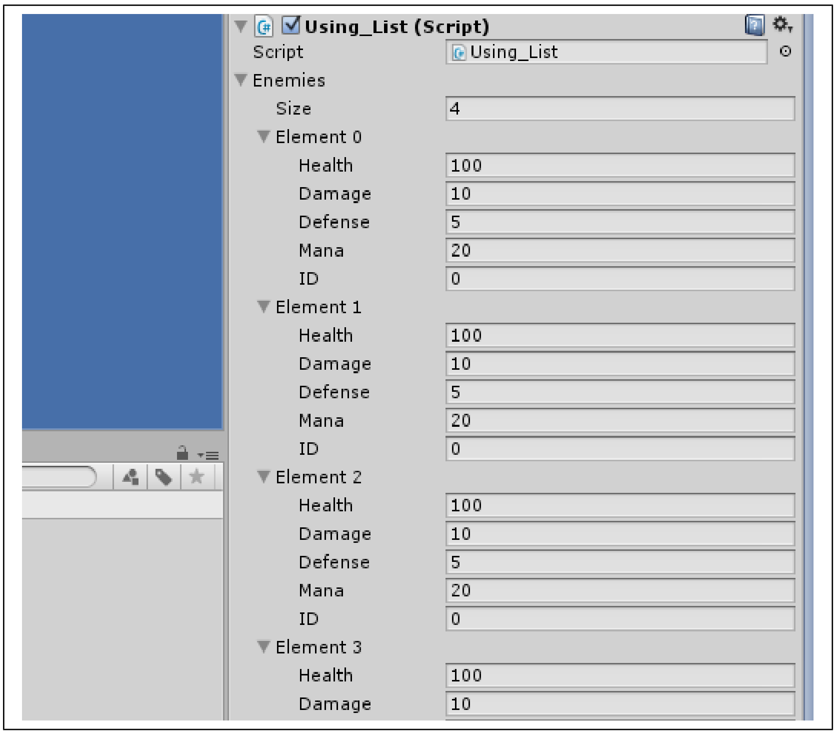
X 0 Y 0 Z 39.3398

☑ **Cam_itween_mover (Script)**

Script cam_itween_mover

Chapter 6: Working with Mono





Using_List (Script)

Script Using_List

Enemies

Size 4

Element 0

Health 100

Damage 10

Defense 5

Mana 20

ID 0

Element 1

Health 100

Damage 10

Defense 5

Mana 20

ID 0

Element 2

Health 100

Damage 10

Defense 5

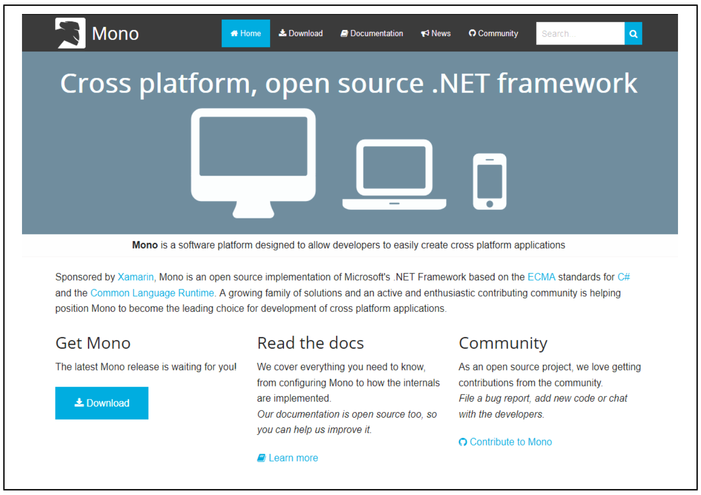
Mana 20

ID 0

Element 3

Health 100

Damage 10



Cross platform, open source .NET framework

Mono is a software platform designed to allow developers to easily create cross platform applications

Sponsored by Xamarin, Mono is an open source implementation of Microsoft's .NET Framework based on the ECMA standards for C# and the Common Language Runtime. A growing family of solutions and an active and enthusiastic contributing community is helping position Mono to become the leading choice for development of cross platform applications.

Get Mono

The latest Mono release is waiting for you!

Read the docs

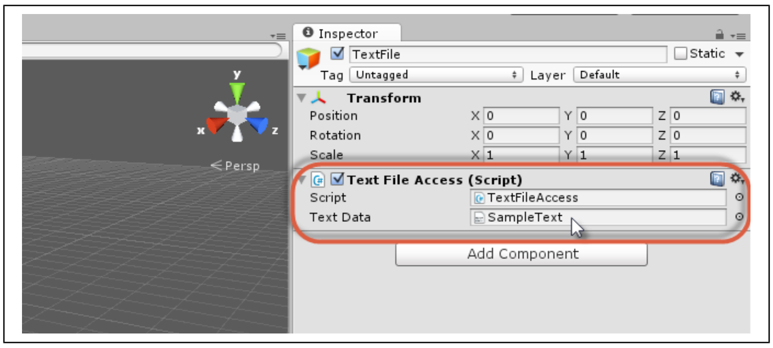
We cover everything you need to know, from configuring Mono to how the internals are implemented.

Our documentation is open source too, so you can help us improve it.

Community

As an open source project, we love getting contributions from the community.

File a bug report, add new code or chat with the developers.



☑ TextFile □ Static

Tag Untagged Layer Default

Transform

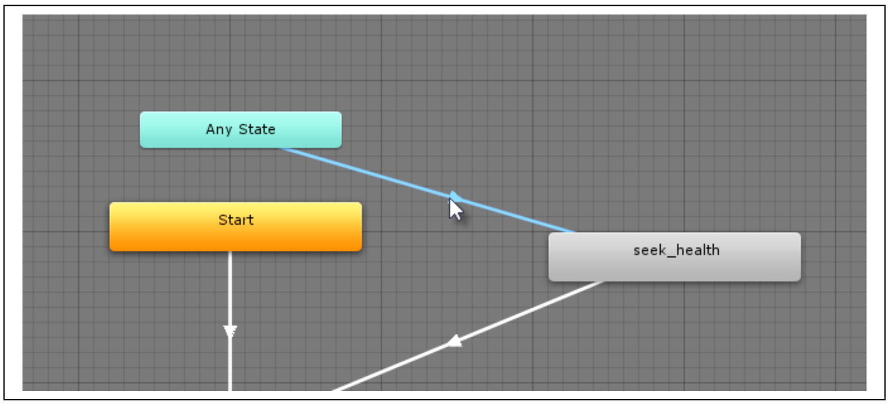
Position	X	0	Y	0	Z	0
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

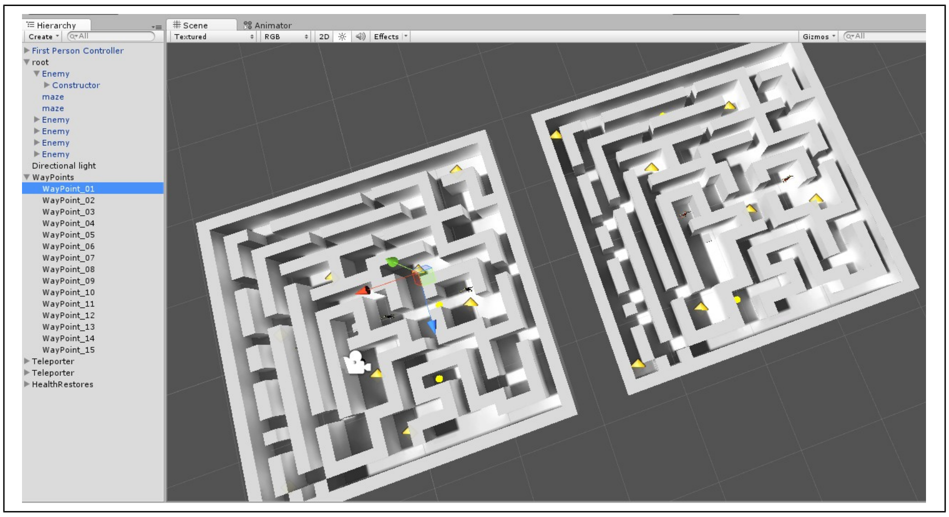
☑ Text File Access (Script)

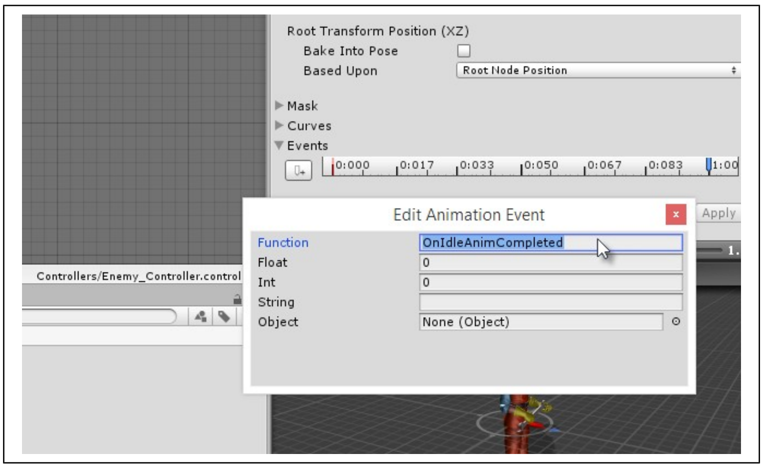
Script TextFileAccess

Text Data SampleText

Chapter 7: Artificial Intelligence







Root Transform Position (XZ)

Bake Into Pose □

Based Upon: Root Node Position

Edit Animation Event

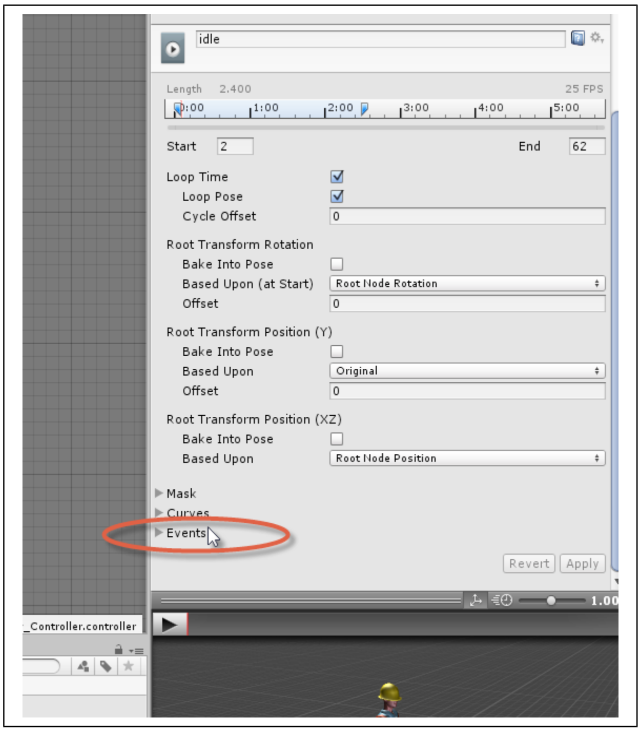
Function: OnIdleAnimCompleted

Float: 0

Int: 0

String:

Object: None (Object)



idle

Length 2.400 25 FPS

Start 2 End 62

Loop Time ☑

Loop Pose ☑

Cycle Offset 0

Root Transform Rotation

Bake Into Pose □

Based Upon (at Start) Root Node Rotation

Offset 0

Root Transform Position (Y)

Bake Into Pose □

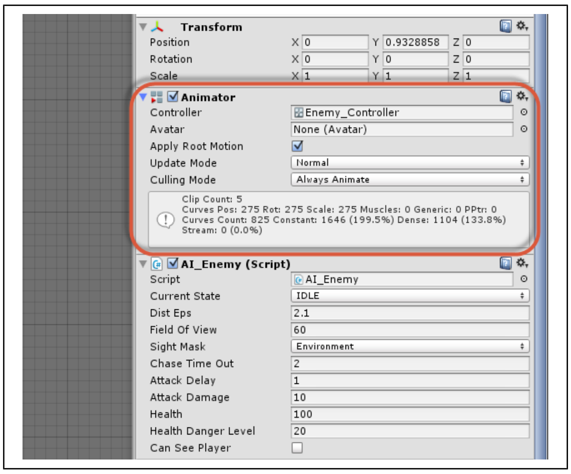
Based Upon Original

Offset 0

Root Transform Position (XZ)

Bake Into Pose □

Based Upon Root Node Position



Transform

Position	X	0	Y	0.9328858	Z	0
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

Animator ☑

Controller Enemy_Controller

Avatar None (Avatar)

Apply Root Motion ☑

Update Mode Normal

Culling Mode Always Animate

```
Clip Count: 5
Curves Pos: 275 Rot: 275 Scale: 275 Muscles: 0 Generic: 0 PPtr: 0
Curves Count: 825 Constant: 1646 (199.5%) Dense: 1104 (133.8%)
Stream: 0 (0.0%)
```

AI_Enemy (Script) ☑

Script AI_Enemy

Current State IDLE

Dist Eps 2.1

Field Of View 60

Sight Mask Environment

Chase Time Out 2

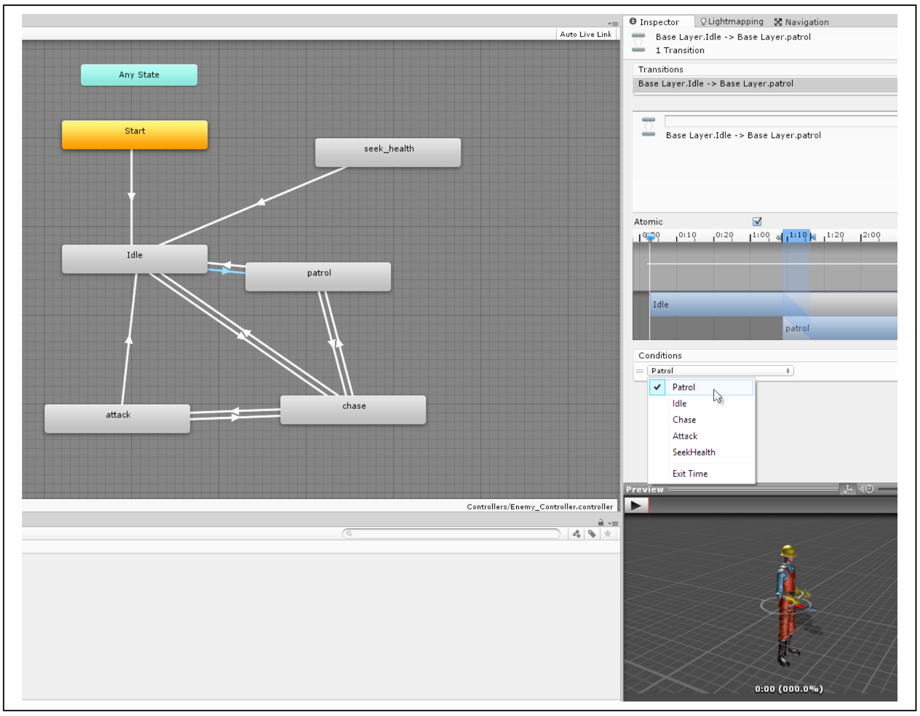
Attack Delay 1

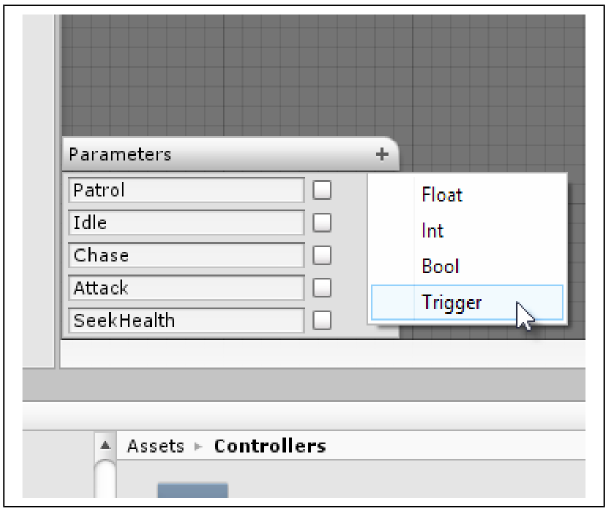
Attack Damage 10

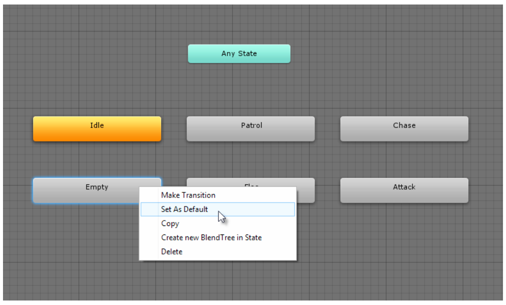
Health 100

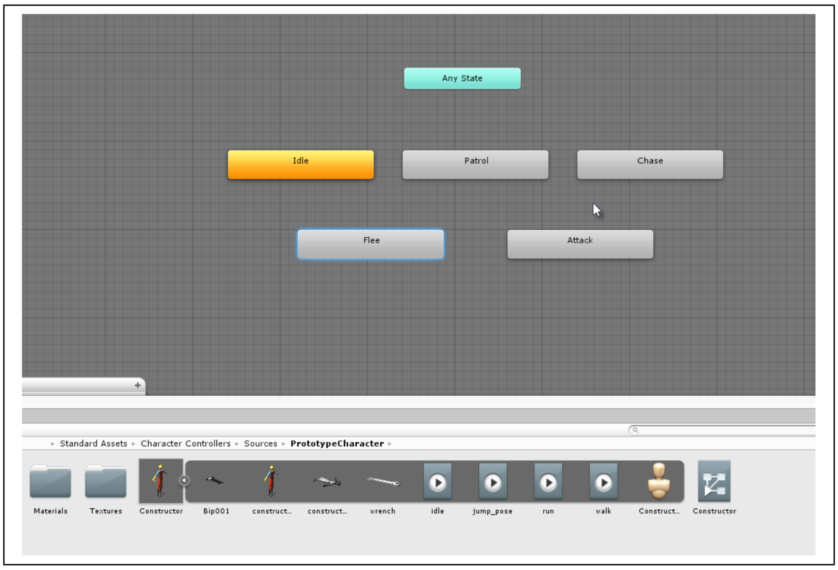
Health Danger Level 20

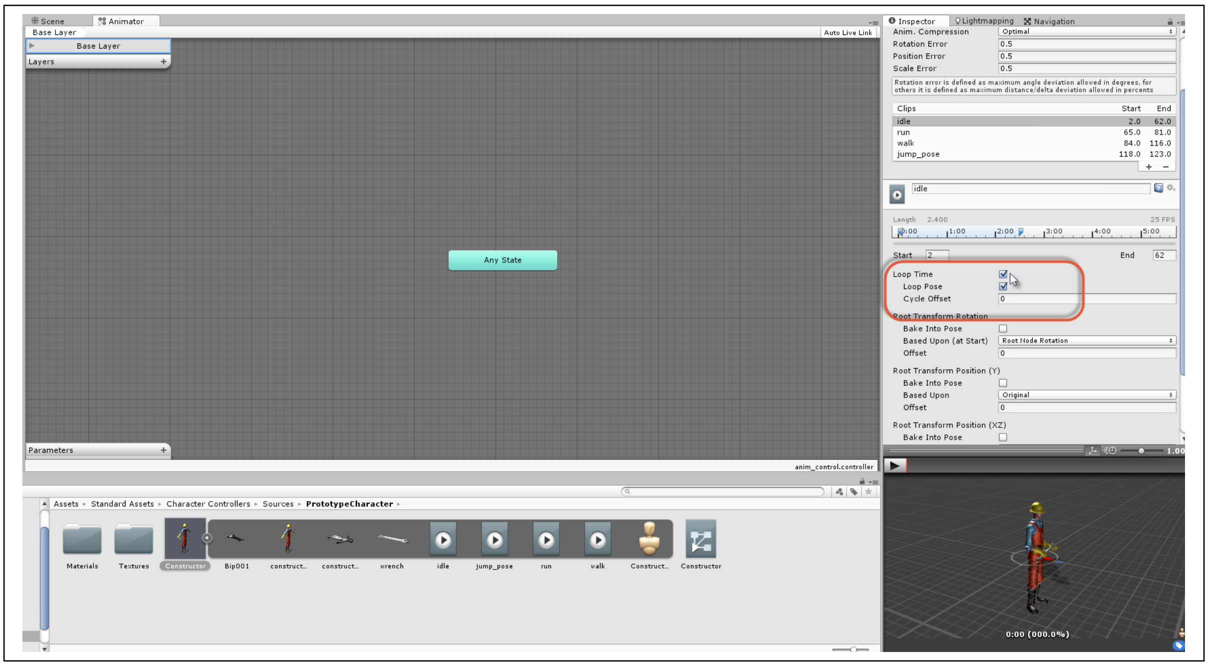
Can See Player □


Inspector
Lightmapping
Navigation
Auto Live Link
Any State
Start
seek_health
Idle
patrol
attack
chase
Controllers/Enemy_Controller.controller
Base Layer.Idle -> Base Layer.patrol
1 Transition
Transitions
Base Layer.Idle -> Base Layer.patrol
Base Layer.Idle -> Base Layer.patrol
Atomic
0:00
0:10
0:20
1:00
1:10
1:20
2:00
Idle
patrol
Conditions
Patrol
Patrol
Idle
Chase
Attack
SeekHealth
Exit Time
Preview
0:00 (000.0%)


Parameters
+
Patrol
Idle
Chase
Attack
SeekHealth
Float
Int
Bool
Trigger
Assets
Controllers


Any State
Idle
Patrol
Chase
Empty
Flee
Attack
Make Transition
Set As Default
Copy
Create new BlendTree in State
Delete





Anim. Compression: Optimal
Rotation Error: 0.5
Position Error: 0.5
Scale Error: 0.5

Rotation error is defined as maximum angle deviation allowed in degrees, for others it is defined as maximum distance/delta deviation allowed in percents

Clips	Start	End
idle	2.0	62.0
run	65.0	81.0
walk	84.0	116.0
jump_pose	118.0	123.0

idle

Length 2.400 25 FPS

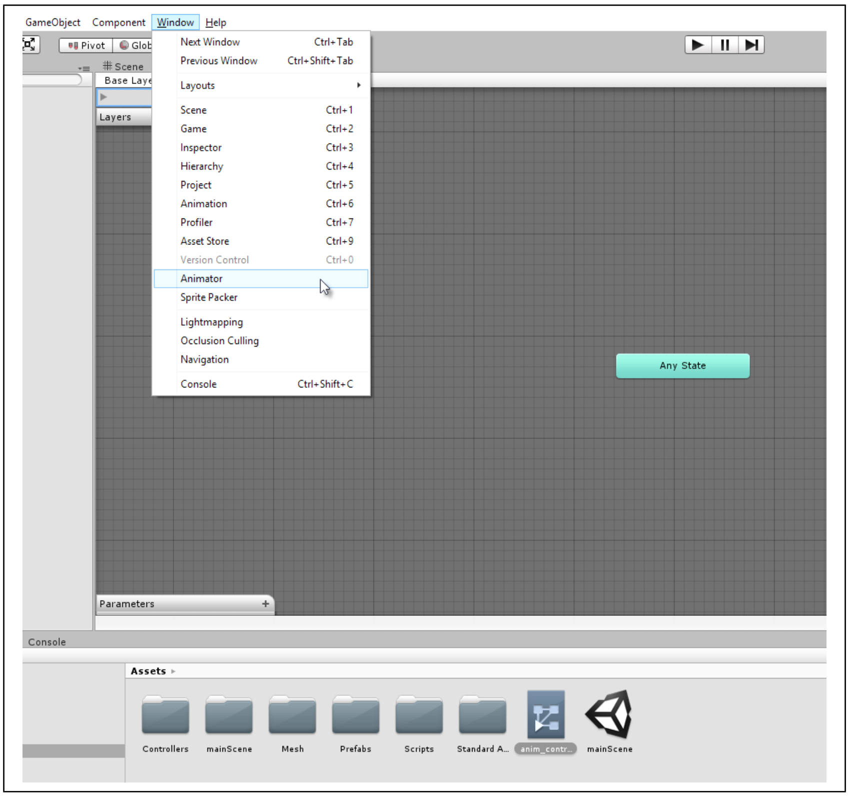
Start 2 End 62

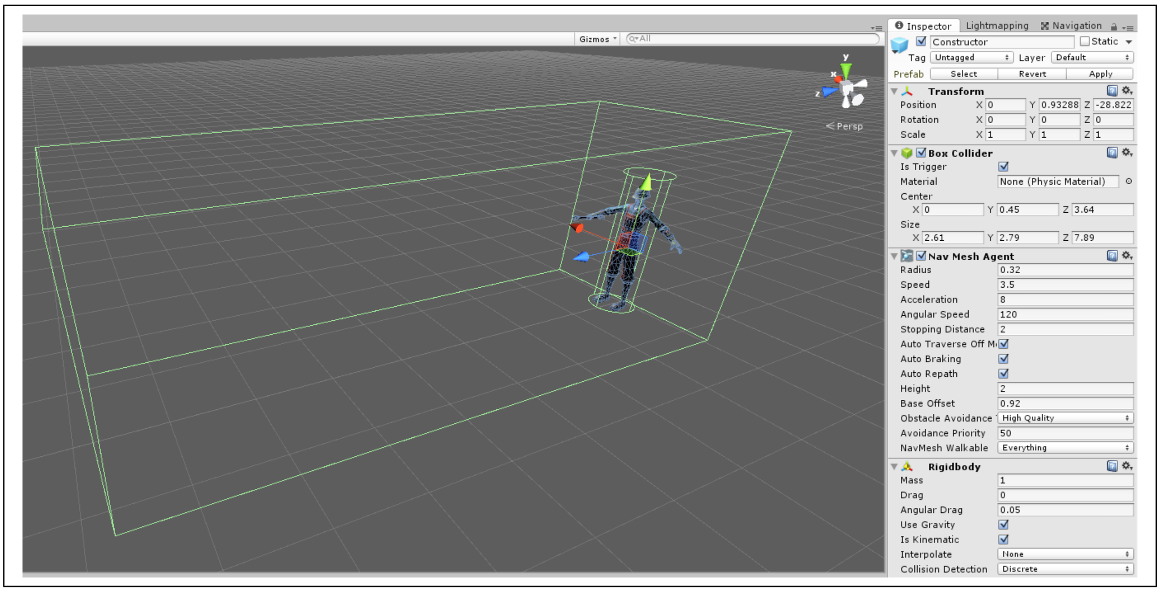
Loop Time ☑
Loop Pose ☑
Cycle Offset 0

Root Transform Rotation
Bake Into Pose □
Based Upon (at Start) Root Node Rotation
Offset 0

Root Transform Position (Y)
Bake Into Pose □
Based Upon Original
Offset 0

Root Transform Position (XZ)
Bake Into Pose □





☑ Constructor □ Static

Tag Untagged Layer Default

Transform

Position	X	0	Y	0.93288	Z	-28.822
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

☑ **Box Collider**

Is Trigger ☑

Material None (Physic Material)

Center X 0 Y 0.45 Z 3.64

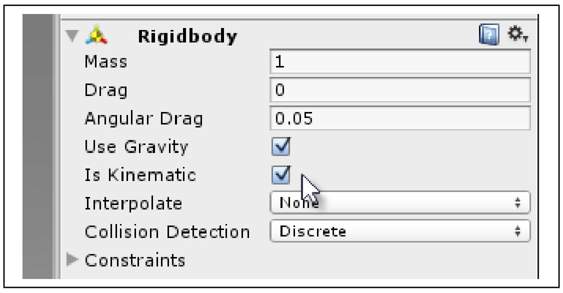
Size X 2.61 Y 2.79 Z 7.89

☑ **Nav Mesh Agent**

Radius	0.32
Speed	3.5
Acceleration	8
Angular Speed	120
Stopping Distance	2
Auto Traverse Off M	☑
Auto Braking	☑
Auto Repath	☑
Height	2
Base Offset	0.92
Obstacle Avoidance	High Quality
Avoidance Priority	50
NavMesh Walkable	Everything

Rigidbody

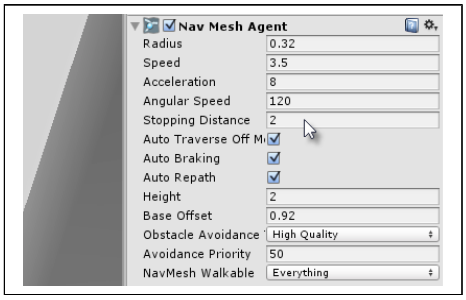
Mass	1
Drag	0
Angular Drag	0.05
Use Gravity	☑
Is Kinematic	☑
Interpolate	None
Collision Detection	Discrete



Rigidbody

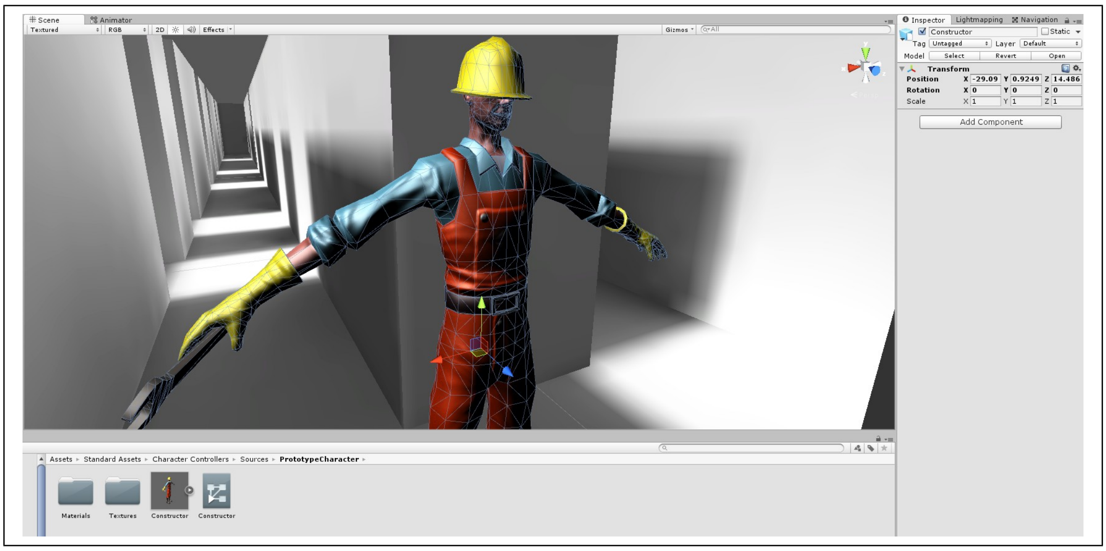
Mass	1
Drag	0
Angular Drag	0.05
Use Gravity	☑
Is Kinematic	☑
Interpolate	None
Collision Detection	Discrete

▶ Constraints



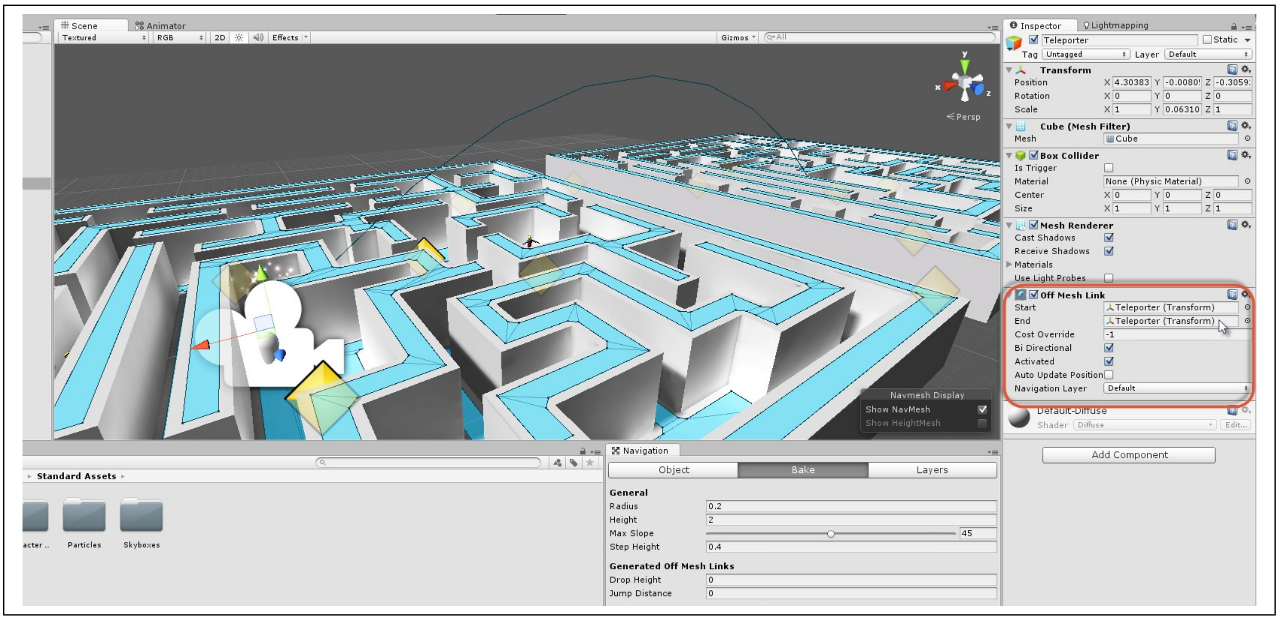
Nav Mesh Agent

Radius 0.32
Speed 3.5
Acceleration 8
Angular Speed 120
Stopping Distance 2
Auto Traverse Off M ☑
Auto Braking ☑
Auto Repath ☑
Height 2
Base Offset 0.92
Obstacle Avoidance High Quality
Avoidance Priority 50
NavMesh Walkable Everything



☑ Constructor □ Static
Tag Untagged Layer Default
Model Select Revert Open

Transform
Position X -29.09 Y 0.9249 Z 14.486
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1



Navmesh Display
Show NavMesh ☑
Show HeightMesh □

☑ Teleporter □ Static
Tag Untagged Layer Default

Transform
Position X 4.30383 Y -0.0080! Z -0.3059:
Rotation X 0 Y 0 Z 0
Scale X 1 Y 0.06310 Z 1

Cube (Mesh Filter)
Mesh Cube

☑ Box Collider
Is Trigger □
Material None (Physic Material)
Center X 0 Y 0 Z 0
Size X 1 Y 1 Z 1

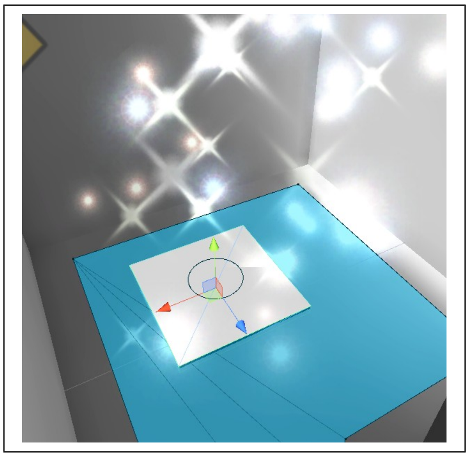
☑ Mesh Renderer
Cast Shadows ☑
Receive Shadows ☑
Materials
Use Light Probes □

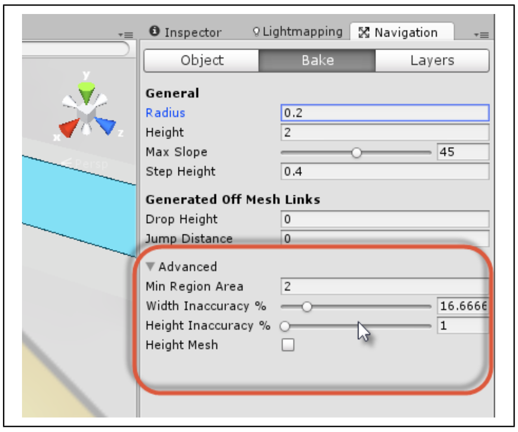
☑ Off Mesh Link
Start Teleporter (Transform)
End Teleporter (Transform)
Cost Override -1
Bi Directional ☑
Activated ☑
Auto Update Position □
Navigation Layer Default

Default-Diffuse
Shader Diffuse Edit...

General
Radius 0.2
Height 2
Max Slope 45
Step Height 0.4

Generated Off Mesh Links
Drop Height 0
Jump Distance 0





General

Radius 0.2

Height 2

Max Slope 45

Step Height 0.4

Generated Off Mesh Links

Drop Height 0

Jump Distance 0

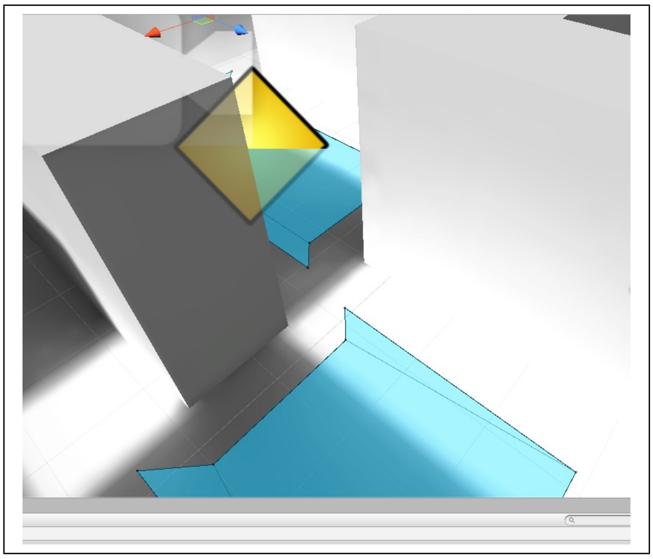
Advanced

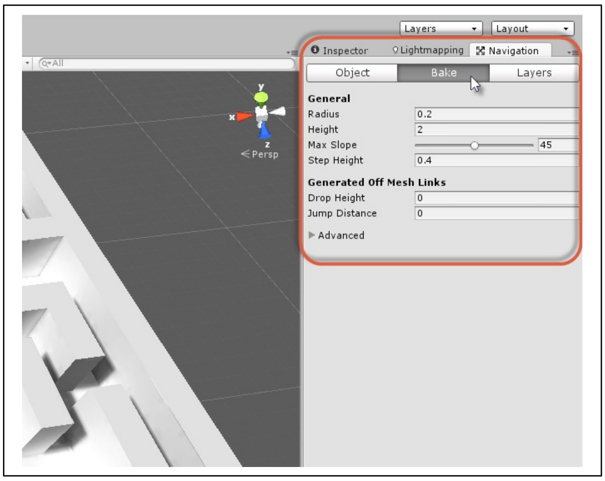
Min Region Area 2

Width Inaccuracy % 16.6666

Height Inaccuracy % 1

Height Mesh □





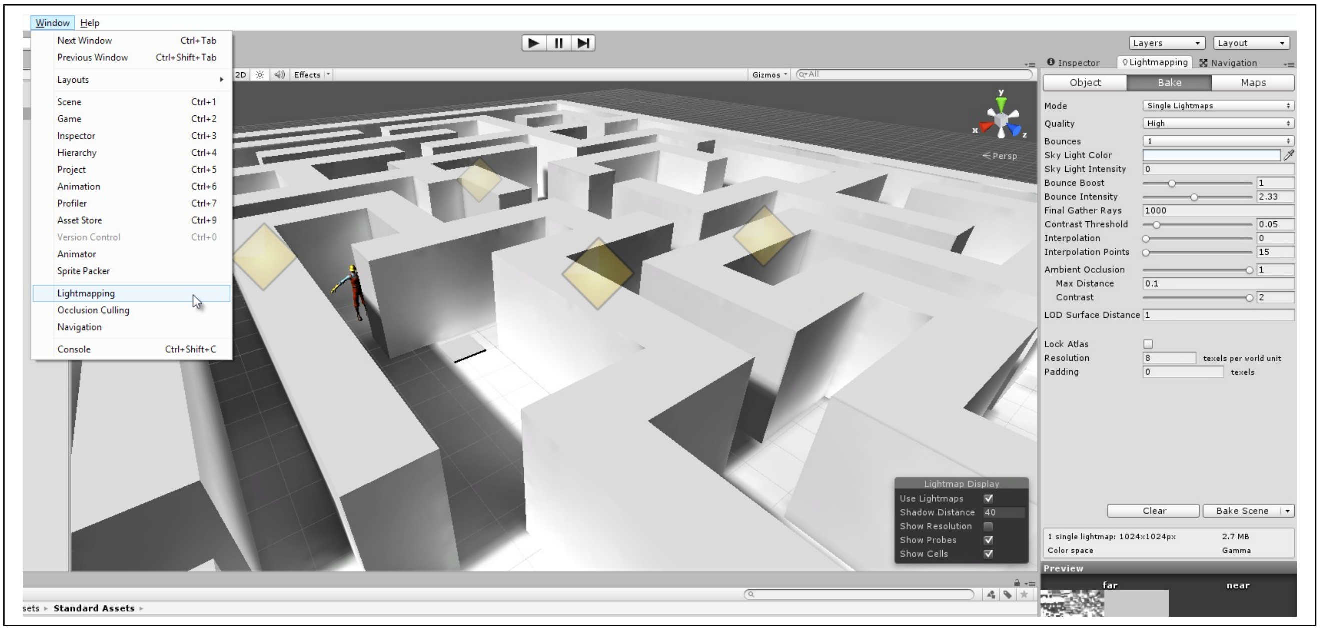
General

Radius 0.2
Height 2
Max Slope 45
Step Height 0.4

Generated Off Mesh Links

Drop Height 0
Jump Distance 0

▶ Advanced

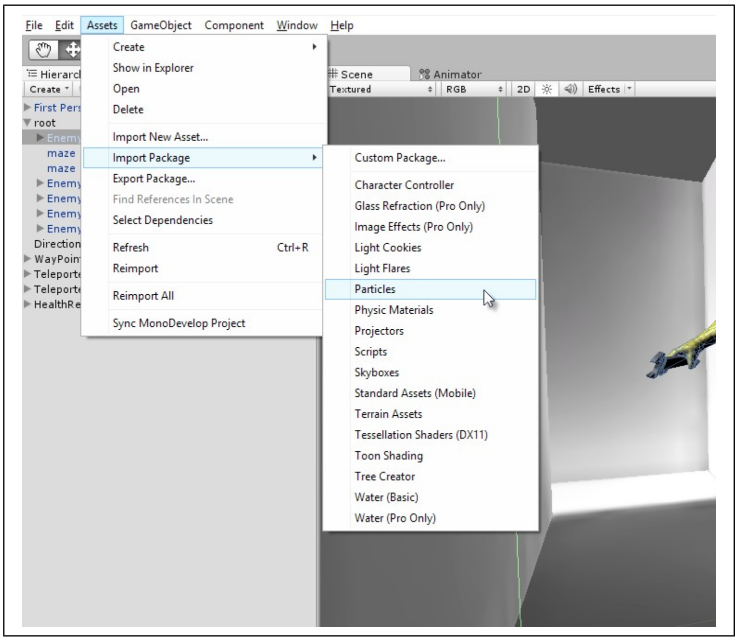


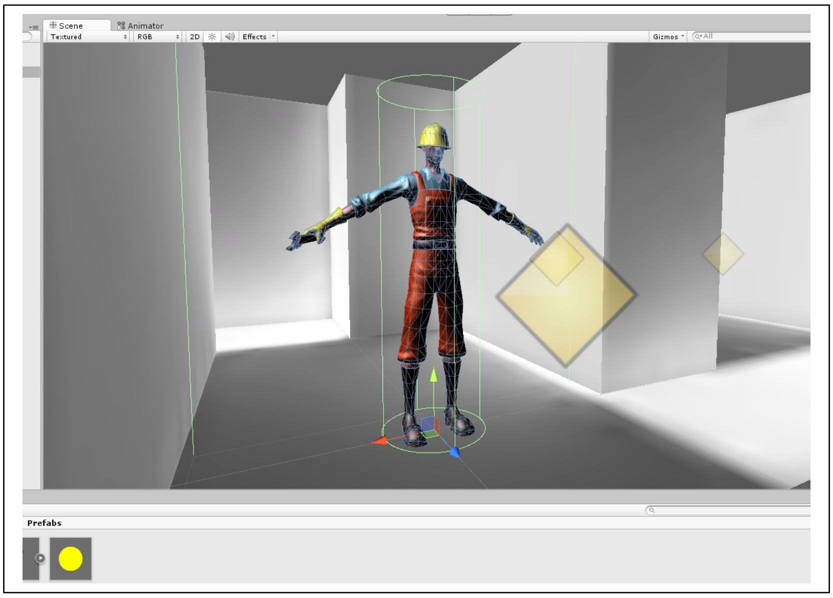
Mode Single Lightmaps
Quality High
Bounces 1
Sky Light Color
Sky Light Intensity 0
Bounce Boost 1
Bounce Intensity 2.33
Final Gather Rays 1000
Contrast Threshold 0.05
Interpolation 0
Interpolation Points 15
Ambient Occlusion 1
Max Distance 0.1
Contrast 2
LOD Surface Distance 1

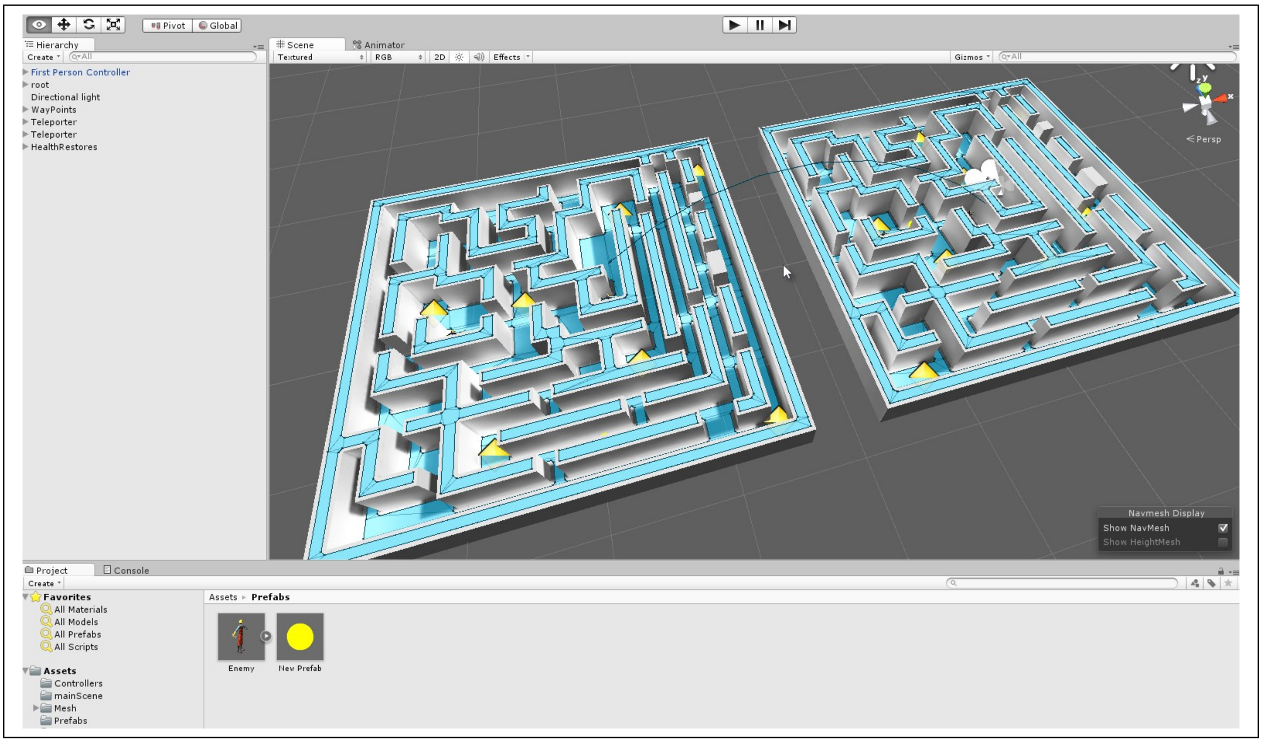
Lock Atlas □
Resolution 8 texels per world unit
Padding 0 texels

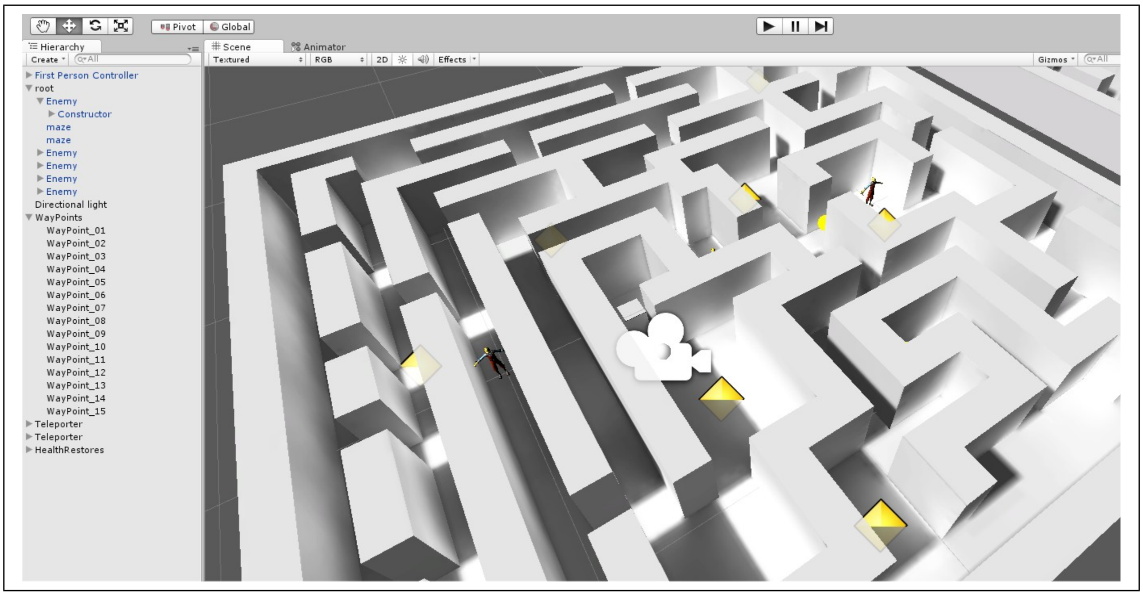
1 single lightmap: 1024x1024px 2.7 MB
Color space Gamma

Lightmap Display
Use Lightmaps ☑
Shadow Distance 40
Show Resolution □
Show Probes ☑
Show Cells ☑

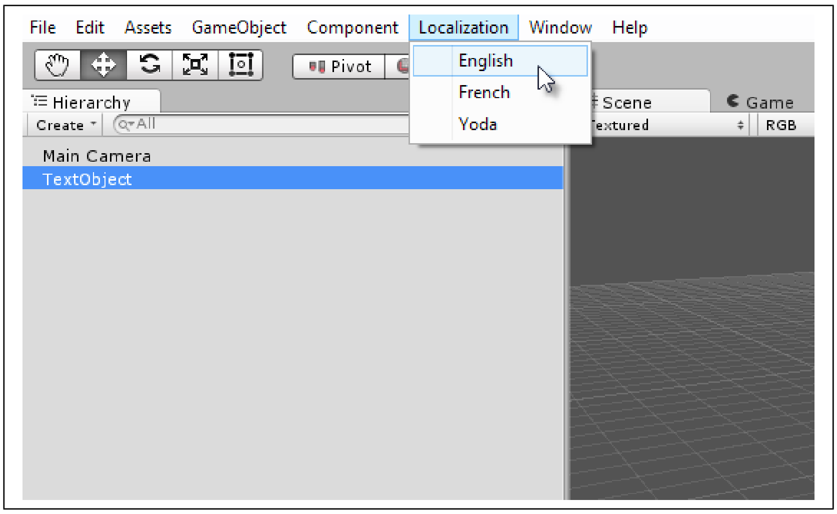

File
Edit
Assets
GameObject
Component
Window
Help
Hierarch
Create
First Pers
root
Enemy
maze
maze
Enemy
Enemy
Enemy
Enemy
Direction
WayPoin
Teleporte
Teleporte
HealthRe
Create
Show in Explorer
Open
Delete
Import New Asset...
Import Package
Export Package...
Find References In Scene
Select Dependencies
Refresh Ctrl+R
Reimport
Reimport All
Sync MonoDevelop Project
Scene
Animator
Textured
RGB
2D
Effects
Custom Package...
Character Controller
Glass Refraction (Pro Only)
Image Effects (Pro Only)
Light Cookies
Light Flares
Particles
Physic Materials
Projectors
Scripts
Skyboxes
Standard Assets (Mobile)
Terrain Assets
Tessellation Shaders (DX11)
Toon Shading
Tree Creator
Water (Basic)
Water (Pro Only)

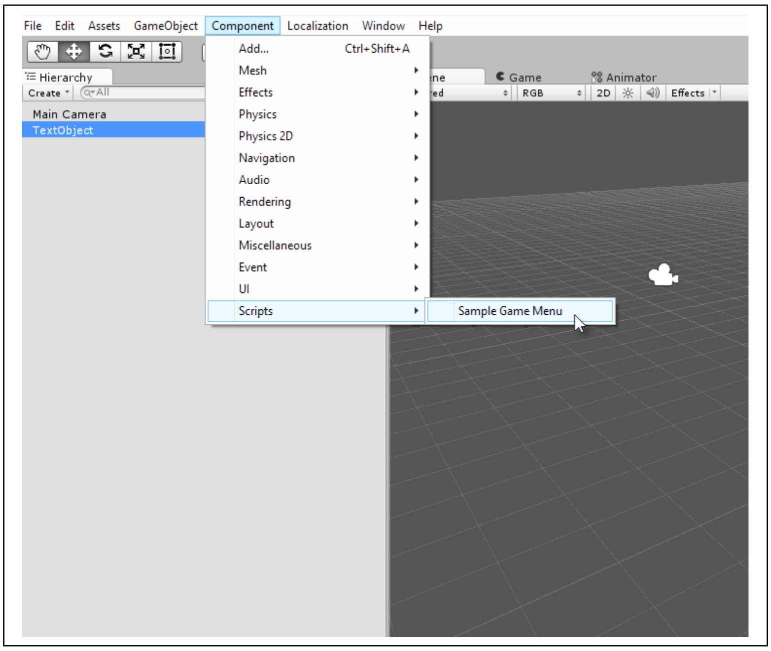

Scene
Animator
Textured
RGB
2D
Effects
Gizmos
All
Prefabs

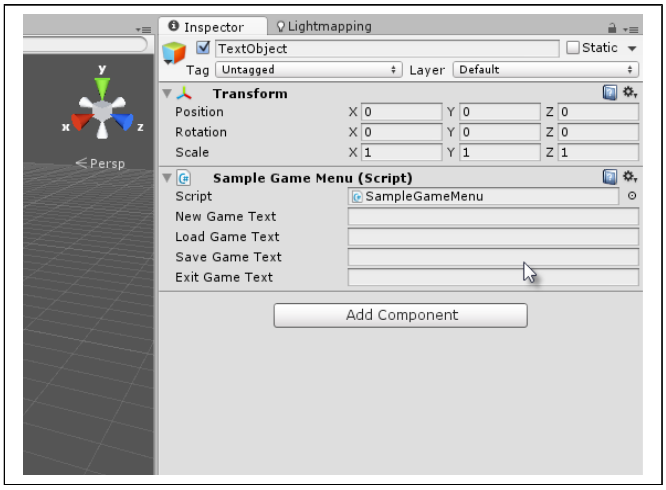

Pivot
Global
Hierarchy
Create
First Person Controller
root
Directional light
WayPoints
Teleporter
Teleporter
HealthRestores
Scene
Animator
Textured
RGB
2D
Effects
Gizmos
Persp
Navmesh Display
Show NavMesh
Show HeightMesh
Project
Console
Favorites
All Materials
All Models
All Prefabs
All Scripts
Assets
Controllers
mainScene
Mesh
Prefabs
Assets ▸ Prefabs
Enemy
New Prefab


Pivot
Global
Hierarchy
Create
First Person Controller
root
Enemy
Constructor
maze
maze
Enemy
Enemy
Enemy
Enemy
Directional light
WayPoints
WayPoint_01
WayPoint_02
WayPoint_03
WayPoint_04
WayPoint_05
WayPoint_06
WayPoint_07
WayPoint_08
WayPoint_09
WayPoint_10
WayPoint_11
WayPoint_12
WayPoint_13
WayPoint_14
WayPoint_15
Teleporter
Teleporter
HealthRestores
Scene
Animator
Textured
RGB
2D
Effects
Gizmos

Chapter 8: Customizing the Unity Editor







TextObject ☐ Static

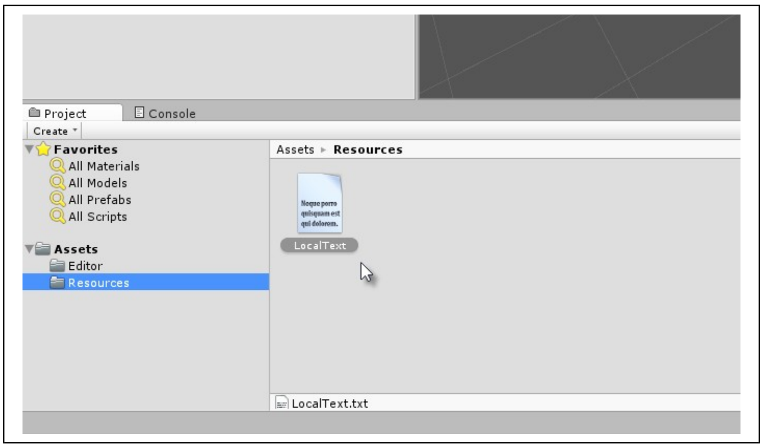
Tag Untagged Layer Default

Transform

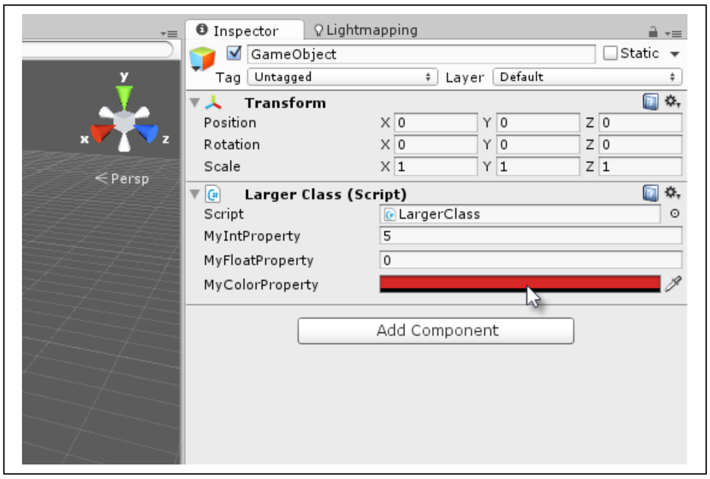
Position	X 0	Y 0	Z 0
Rotation	X 0	Y 0	Z 0
Scale	X 1	Y 1	Z 1

Sample Game Menu (Script)

Script	SampleGameMenu
New Game Text	
Load Game Text	
Save Game Text	
Exit Game Text	



LocalText.txt



GameObject ☐ Static

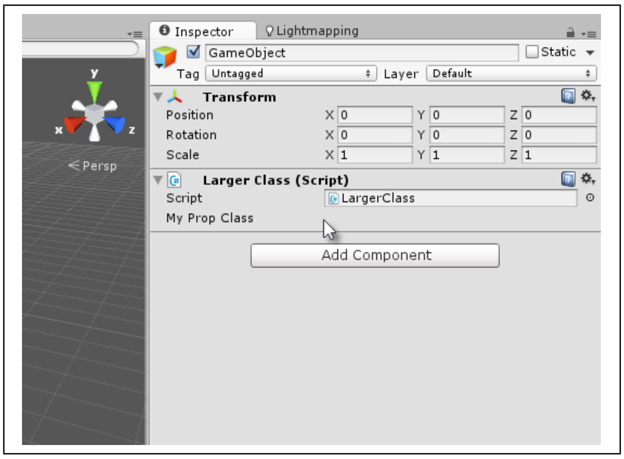
Tag Untagged Layer Default

Transform

Position	X 0	Y 0	Z 0
Rotation	X 0	Y 0	Z 0
Scale	X 1	Y 1	Z 1

Larger Class (Script)

Script	LargerClass
MyIntProperty	5
MyFloatProperty	0
MyColorProperty	🟥



☑ GameObject □ Static

Tag Untagged Layer Default

Transform

Position X 0 Y 0 Z 0

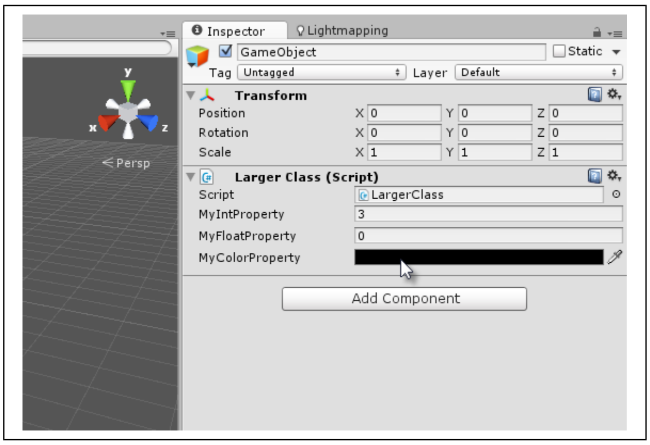
Rotation X 0 Y 0 Z 0

Scale X 1 Y 1 Z 1

Larger Class (Script)

Script LargerClass

My Prop Class



☑ GameObject □ Static

Tag Untagged Layer Default

Transform

Position X 0 Y 0 Z 0

Rotation X 0 Y 0 Z 0

Scale X 1 Y 1 Z 1

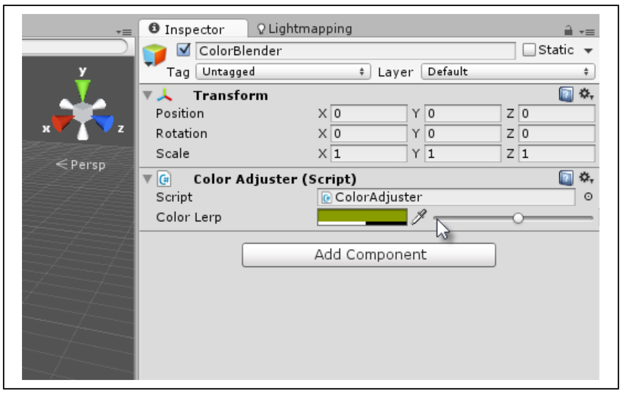
Larger Class (Script)

Script LargerClass

MyIntProperty 3

MyFloatProperty 0

MyColorProperty



☑ ColorBlender □ Static

Tag Untagged Layer Default

Transform

Position X 0 Y 0 Z 0

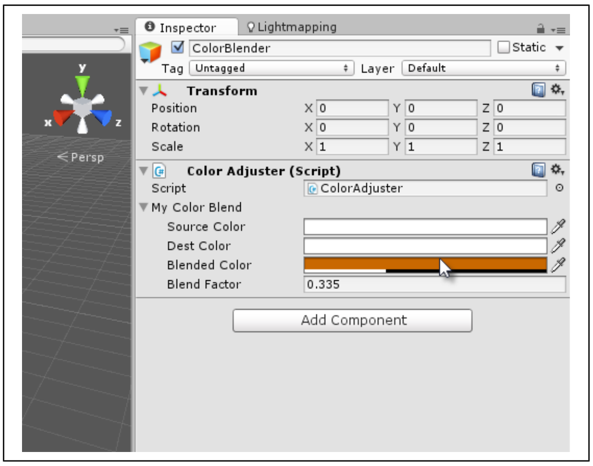
Rotation X 0 Y 0 Z 0

Scale X 1 Y 1 Z 1

Color Adjuster (Script)

Script ColorAdjuster

Color Lerp



Inspector | Lightmapping

☑ ColorBlender □ Static

Tag Untagged Layer Default

Transform

Position	X	0	Y	0	Z	0
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

Color Adjuster (Script)

Script ColorAdjuster

My Color Blend

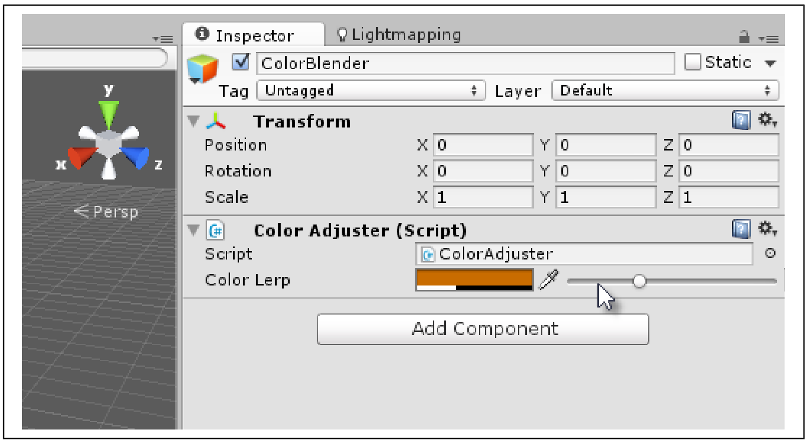
Source Color

Dest Color

Blended Color

Blend Factor 0.335

Add Component



Inspector | Lightmapping

☑ ColorBlender □ Static

Tag Untagged Layer Default

Transform

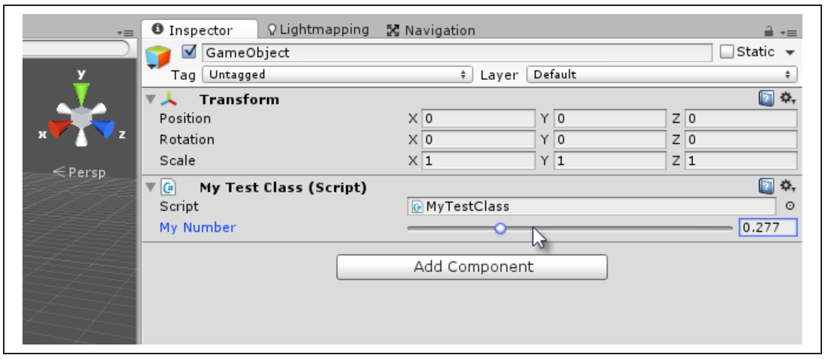
Position	X	0	Y	0	Z	0
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

Color Adjuster (Script)

Script ColorAdjuster

Color Lerp

Add Component



Inspector | Lightmapping | Navigation

☑ GameObject □ Static

Tag Untagged Layer Default

Transform

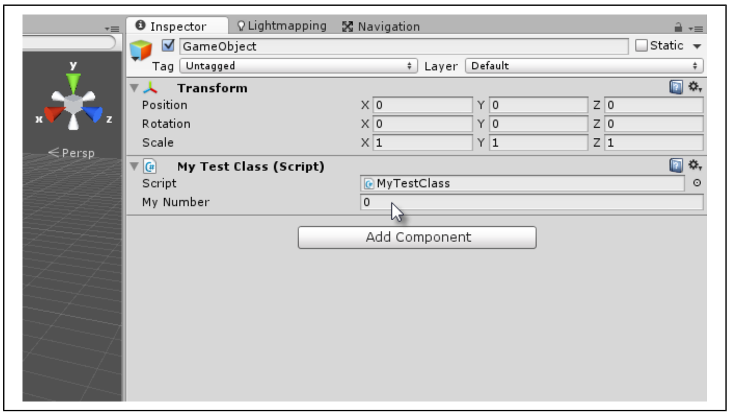
Position	X	0	Y	0	Z	0
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

My Test Class (Script)

Script MyTestClass

My Number 0.277

Add Component



GameObject □ Static

Tag Untagged Layer Default

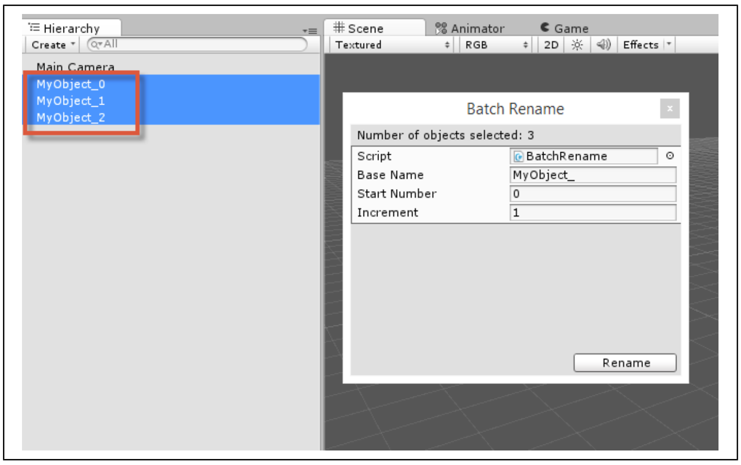
Transform

Position	X	0	Y	0	Z	0
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

My Test Class (Script)

Script MyTestClass

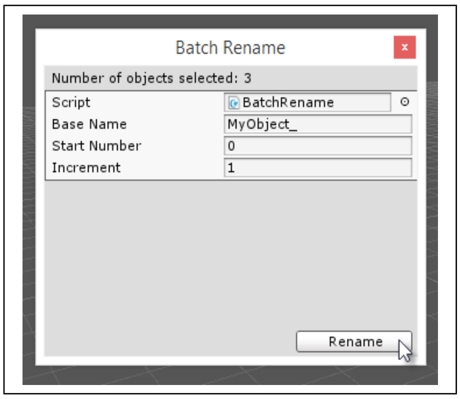
My Number 0



Main Camera
MyObject_0
MyObject_1
MyObject_2

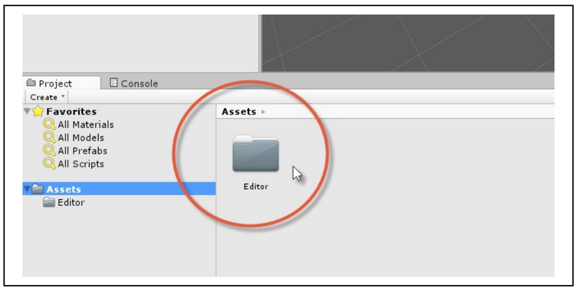
Number of objects selected: 3

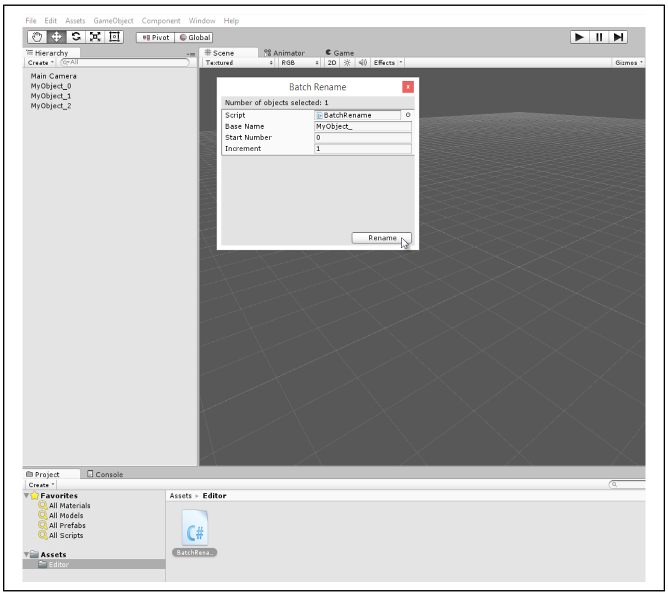
Script	BatchRename
Base Name	MyObject_
Start Number	0
Increment	1



Number of objects selected: 3

Script	BatchRename
Base Name	MyObject_
Start Number	0
Increment	1



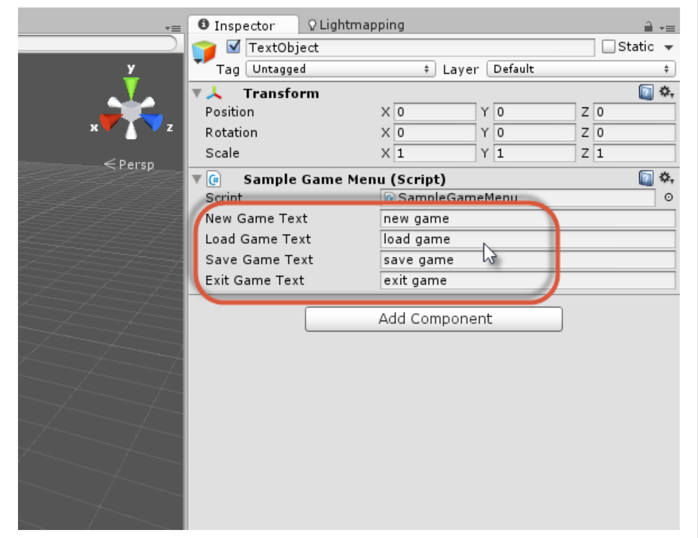


Main Camera
MyObject_0
MyObject_1
MyObject_2

Batch Rename

Number of objects selected: 1

Script	BatchRename
Base Name	MyObject_
Start Number	0
Increment	1



TextObject ☑ □ Static

Tag Untagged Layer Default

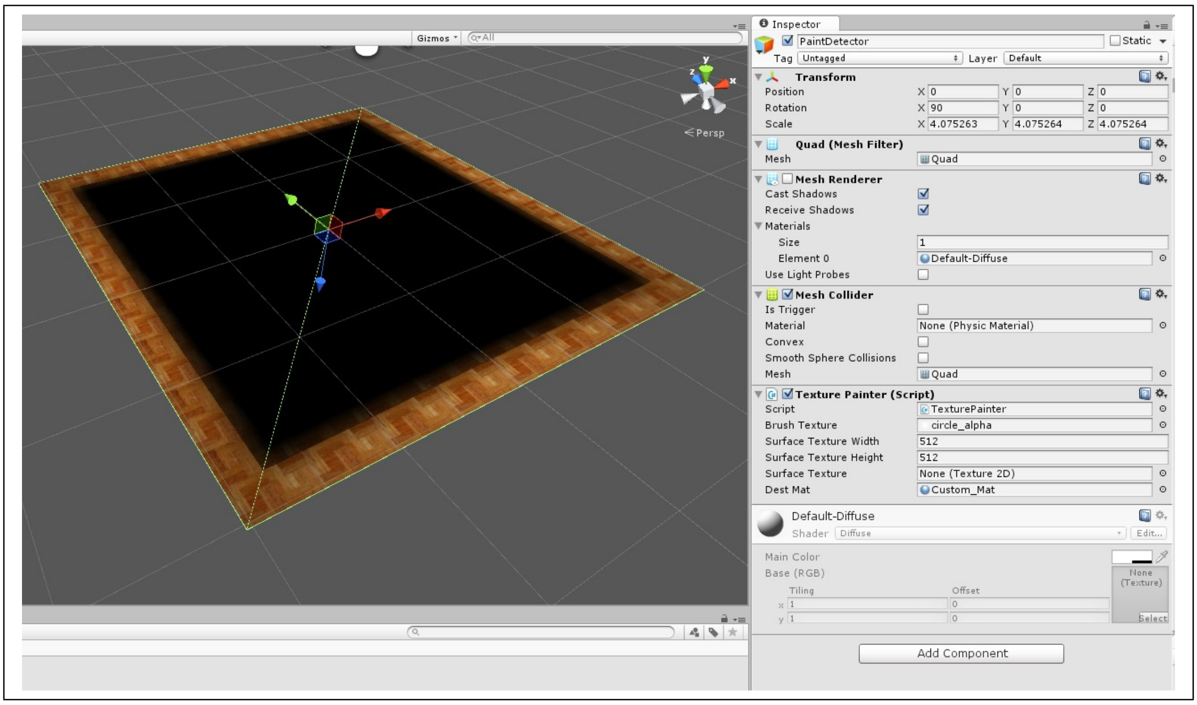
Transform

Position	X	0	Y	0	Z	0
Rotation	X	0	Y	0	Z	0
Scale	X	1	Y	1	Z	1

Sample Game Menu (Script)

Script	SampleGameMenu
New Game Text	new game
Load Game Text	load game
Save Game Text	save game
Exit Game Text	exit game

Chapter 9: Working with Textures, Models, and 2D



☑ PaintDetector □ Static

Tag Untagged Layer Default

Transform

Position X 0 Y 0 Z 0

Rotation X 90 Y 0 Z 0

Scale X 4.075263 Y 4.075264 Z 4.075264

Quad (Mesh Filter)

Mesh Quad

□ Mesh Renderer

Cast Shadows ☑

Receive Shadows ☑

Materials

Size 1

Element 0 Default-Diffuse

Use Light Probes □

☑ Mesh Collider

Is Trigger □

Material None (Physic Material)

Convex □

Smooth Sphere Collisions □

Mesh Quad

☑ Texture Painter (Script)

Script TexturePainter

Brush Texture circle_alpha

Surface Texture Width 512

Surface Texture Height 512

Surface Texture None (Texture 2D)

Dest Mat Custom_Mat

Default-Diffuse

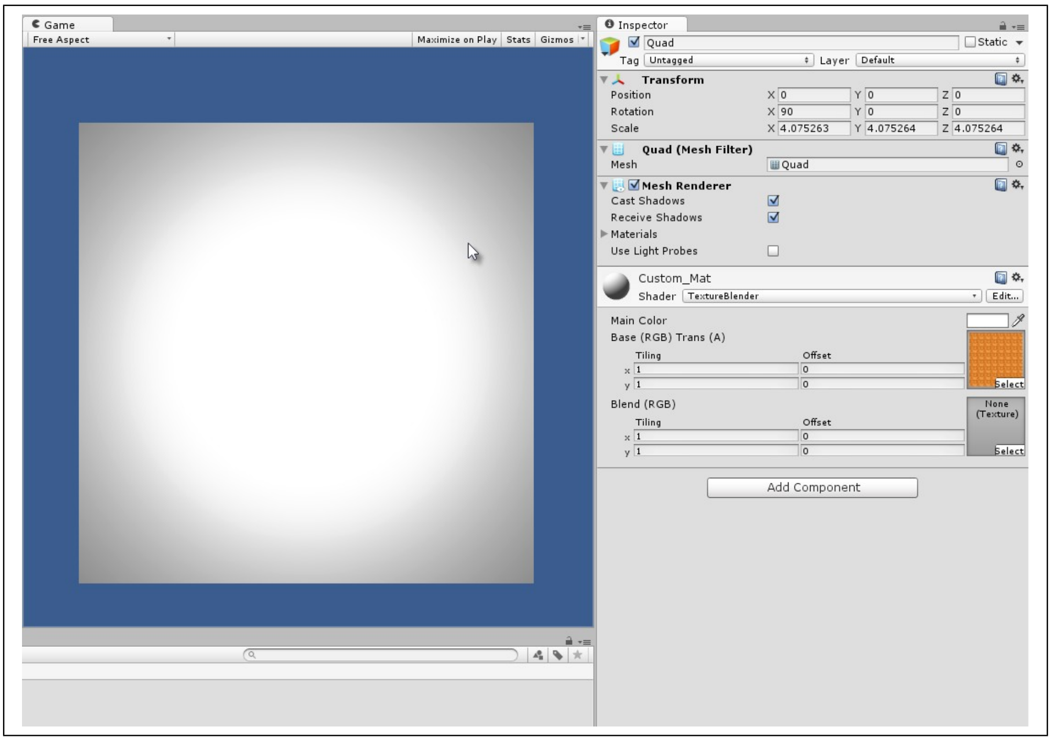
Shader Diffuse Edit...

Main Color

Base (RGB)

Tiling x 1 y 1 Offset 0 0

None (Texture) Select



☑ Quad □ Static

Tag Untagged Layer Default

Transform

Position X 0 Y 0 Z 0

Rotation X 90 Y 0 Z 0

Scale X 4.075263 Y 4.075264 Z 4.075264

Quad (Mesh Filter)

Mesh Quad

☑ Mesh Renderer

Cast Shadows ☑

Receive Shadows ☑

Materials

Use Light Probes □

Custom_Mat

Shader TextureBlender Edit...

Main Color

Base (RGB) Trans (A)

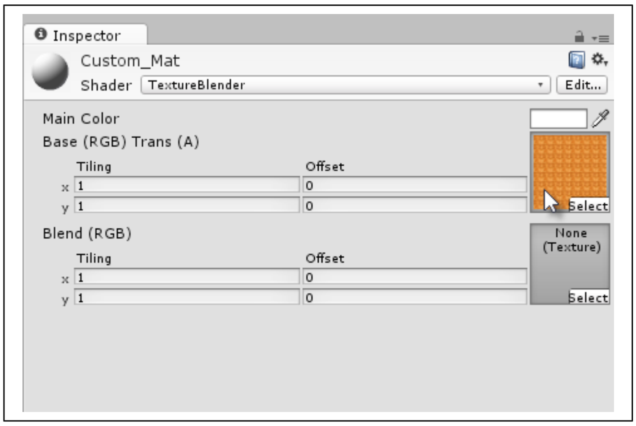
Tiling x 1 y 1 Offset 0 0

Select

Blend (RGB)

Tiling x 1 y 1 Offset 0 0

None (Texture) Select



Custom_Mat

Shader TextureBlender

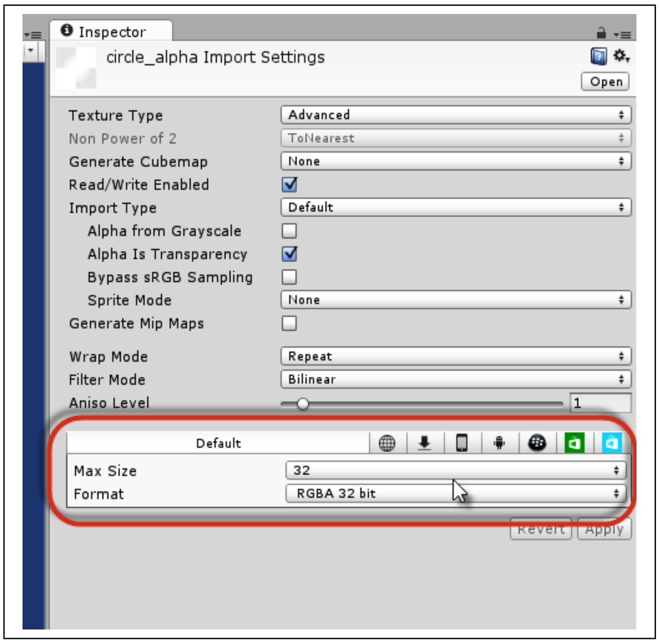
Main Color

Base (RGB) Trans (A)

Tiling x 1 y 1 · Offset x 0 y 0

Blend (RGB) None (Texture)

Tiling x 1 y 1 · Offset x 0 y 0



circle_alpha Import Settings

Texture Type: Advanced

Non Power of 2: ToNearest

Generate Cubemap: None

Read/Write Enabled: ☑

Import Type: Default

Alpha from Grayscale: □

Alpha Is Transparency: ☑

Bypass sRGB Sampling: □

Sprite Mode: None

Generate Mip Maps: □

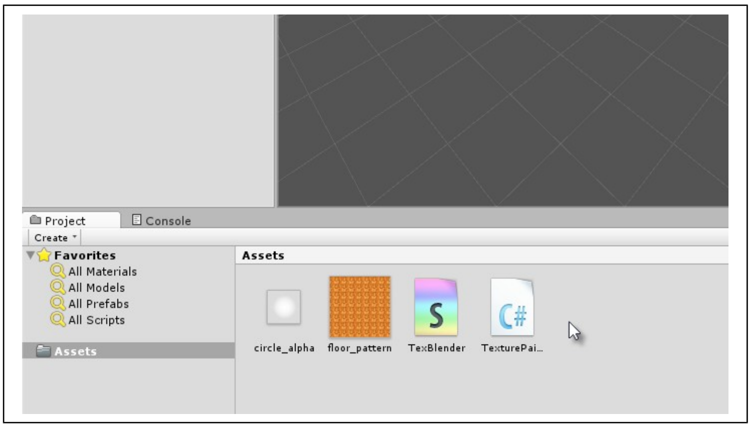
Wrap Mode: Repeat

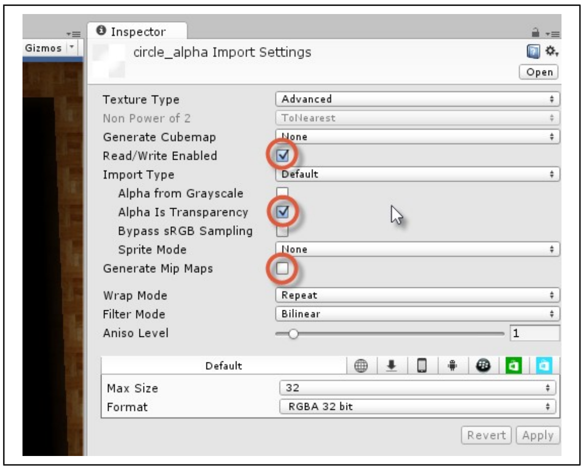
Filter Mode: Bilinear

Aniso Level: 1

Max Size: 32

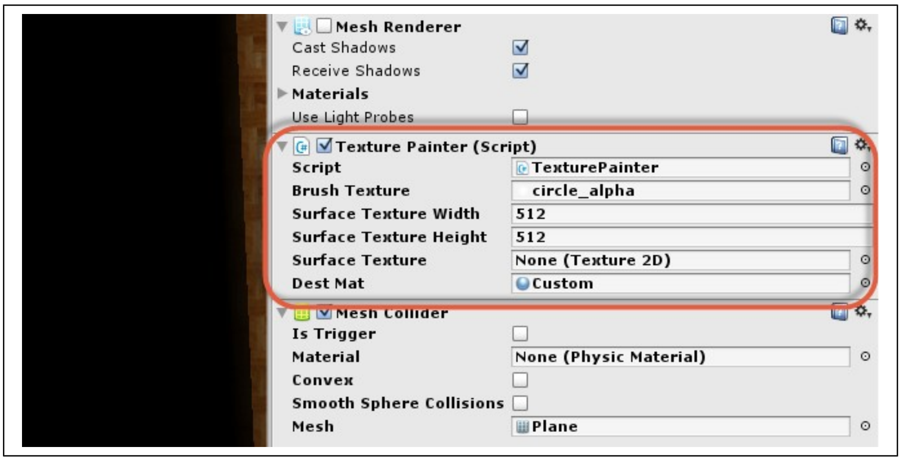
Format: RGBA 32 bit





circle_alpha Import Settings

- Texture Type: Advanced
- Non Power of 2: ToNearest
- Generate Cubemap: None
- Read/Write Enabled: ☑
- Import Type: Default
- Alpha from Grayscale: □
- Alpha Is Transparency: ☑
- Bypass sRGB Sampling: □
- Sprite Mode: None
- Generate Mip Maps: □
- Wrap Mode: Repeat
- Filter Mode: Bilinear
- Aniso Level: 1
- Max Size: 32
- Format: RGBA 32 bit



☐ Mesh Renderer

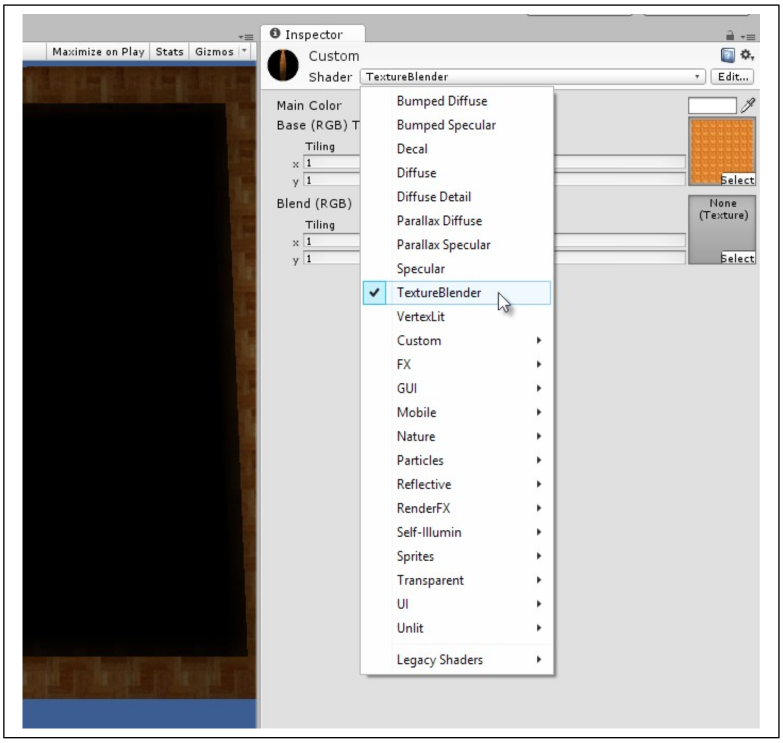
- Cast Shadows: ☑
- Receive Shadows: ☑
- Materials
- Use Light Probes: □

☑ Texture Painter (Script)

- Script: TexturePainter
- Brush Texture: circle_alpha
- Surface Texture Width: 512
- Surface Texture Height: 512
- Surface Texture: None (Texture 2D)
- Dest Mat: Custom

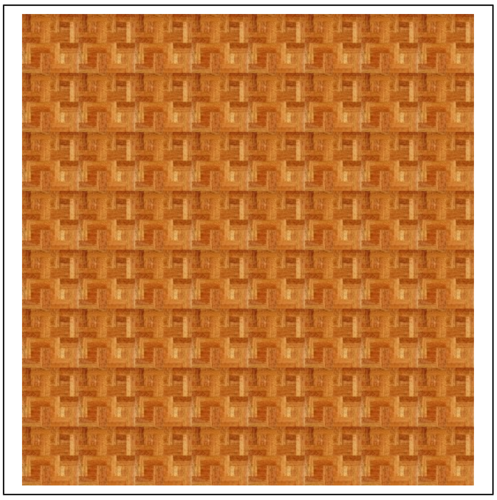
☑ Mesh Collider

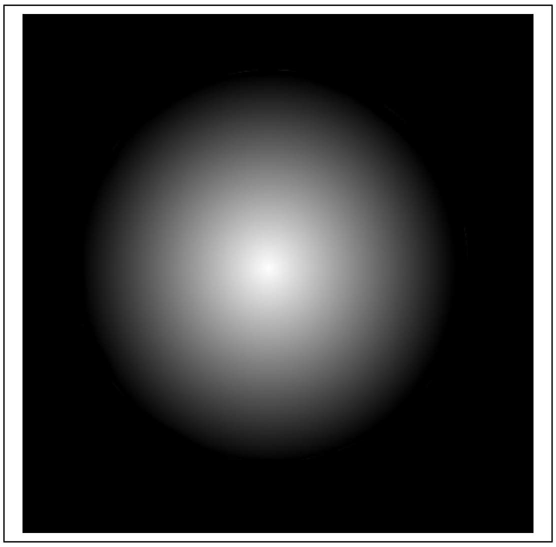
- Is Trigger: □
- Material: None (Physic Material)
- Convex: □
- Smooth Sphere Collisions: □
- Mesh: Plane

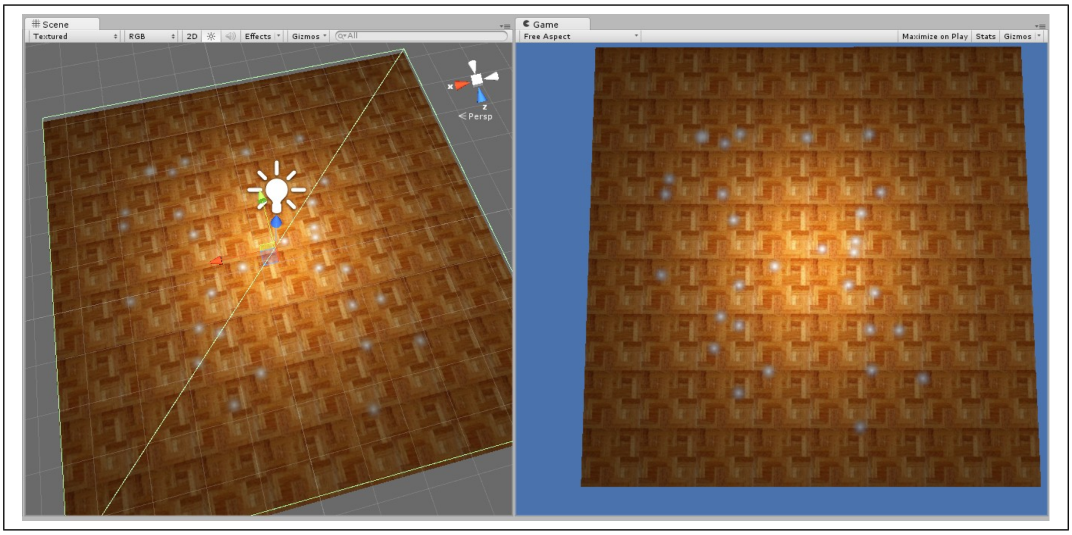


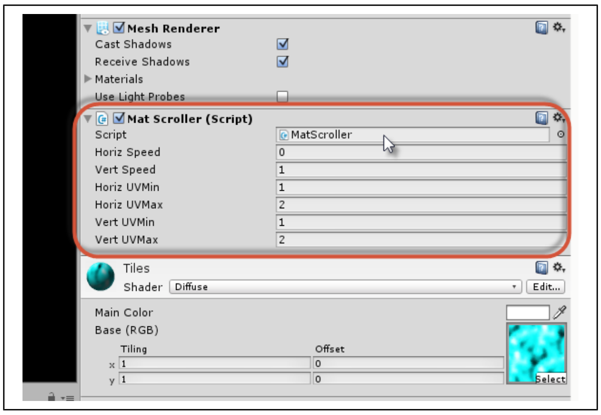
Custom

- Shader: TextureBlender
- Main Color
- Base (RGB) T
  - Tiling x: 1
  - Tiling y: 1
- Blend (RGB)
  - Tiling x: 1
  - Tiling y: 1






Scene
Textured
RGB
2D
Effects
Gizmos
All
x
z
Persp
Game
Free Aspect
Maximize on Play
Stats
Gizmos



Mesh Renderer

Cast Shadows ☑

Receive Shadows ☑

Materials

Use Light Probes □

Mat Scroller (Script)

Script	MatScroller
Horiz Speed	0
Vert Speed	1
Horiz UVMin	1
Horiz UVMax	2
Vert UVMin	1
Vert UVMax	2

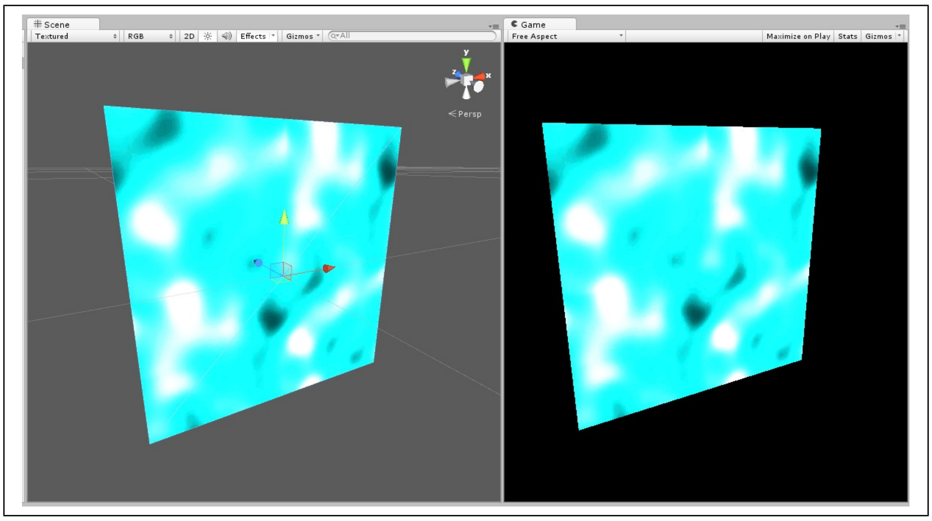
Tiles

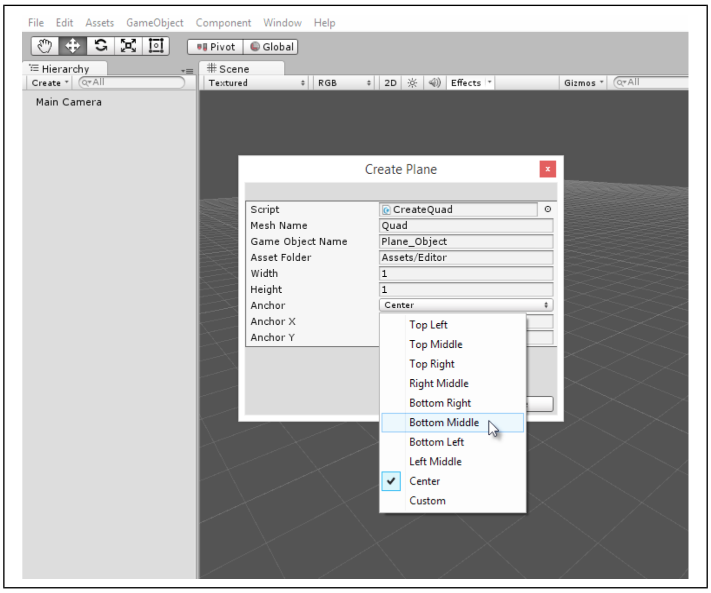
Shader Diffuse

Main Color

Base (RGB)

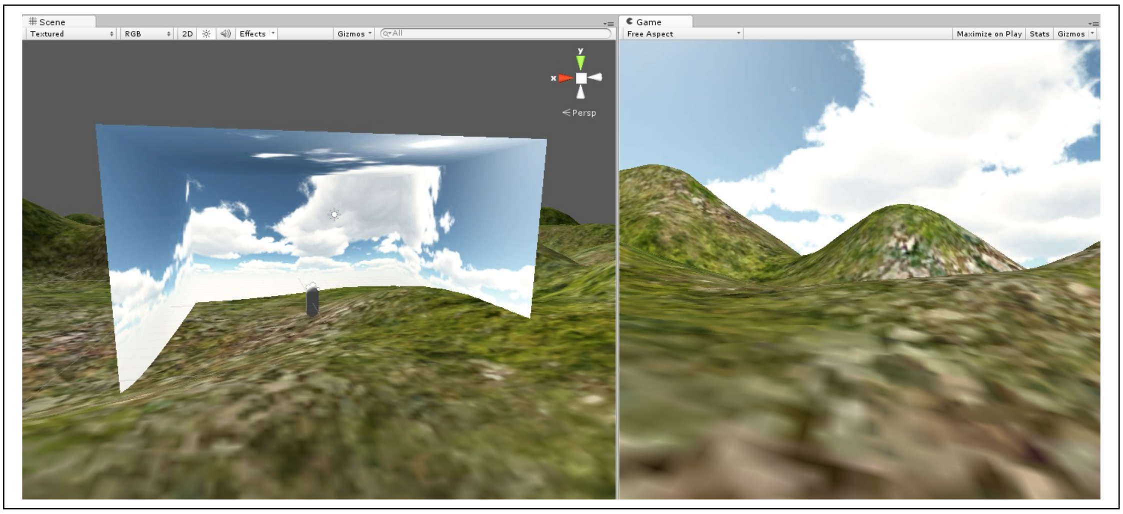
	Tiling	Offset
x	1	0
y	1	0

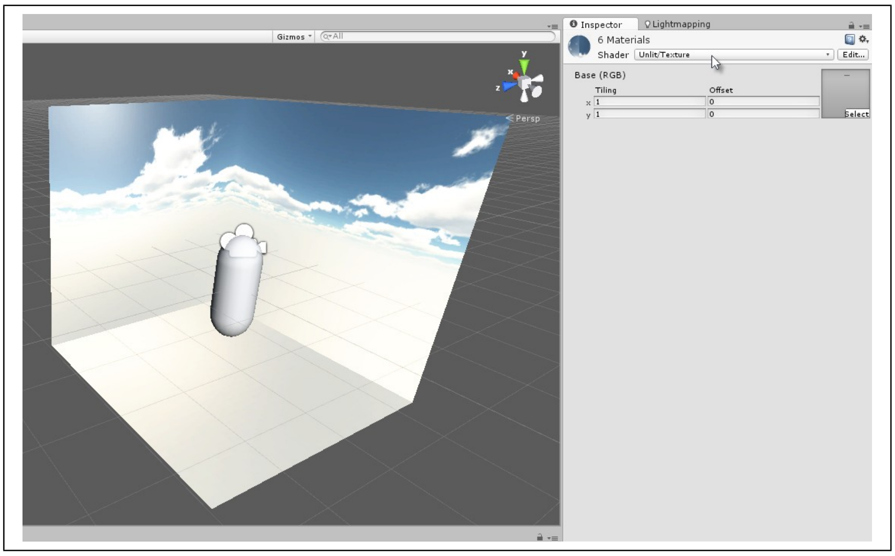




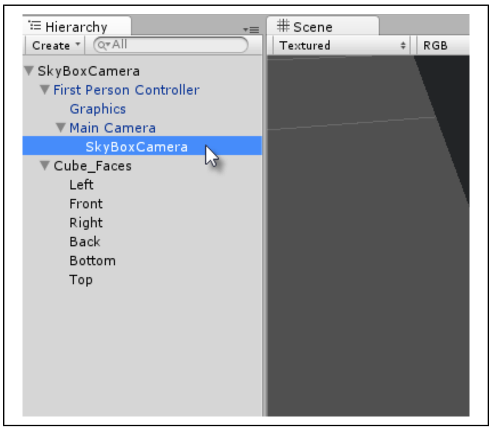
Create Plane

Script	CreateQuad
Mesh Name	Quad
Game Object Name	Plane_Object
Asset Folder	Assets/Editor
Width	1
Height	1
Anchor	Center
Anchor X	
Anchor Y	

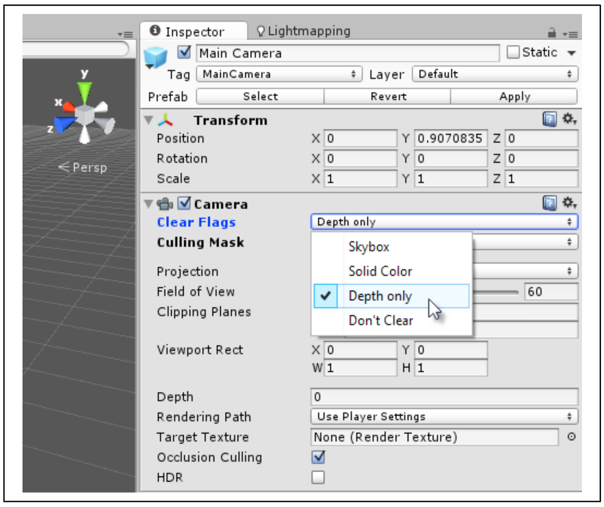




6 Materials
Shader Unlit/Texture
Base (RGB)
Tiling Offset
x 1 0
y 1 0



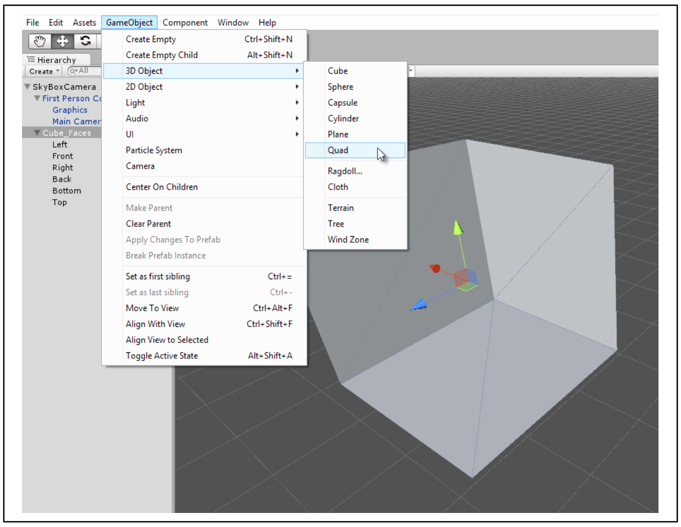
- SkyBoxCamera
  - First Person Controller
    - Graphics
    - Main Camera
      - SkyBoxCamera
  - Cube_Faces
    - Left
    - Front
    - Right
    - Back
    - Bottom
    - Top

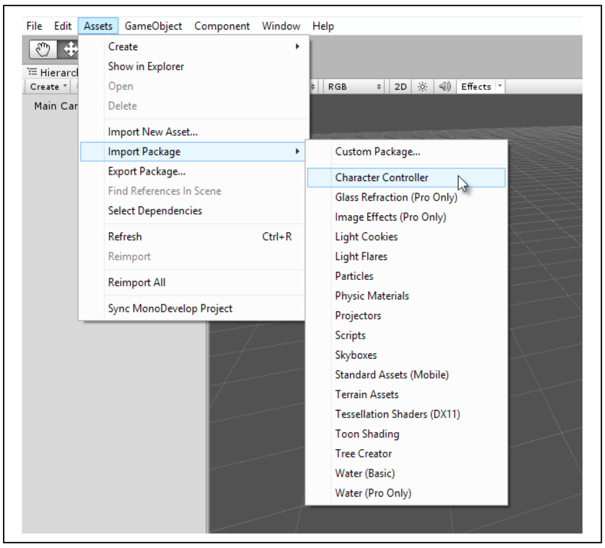


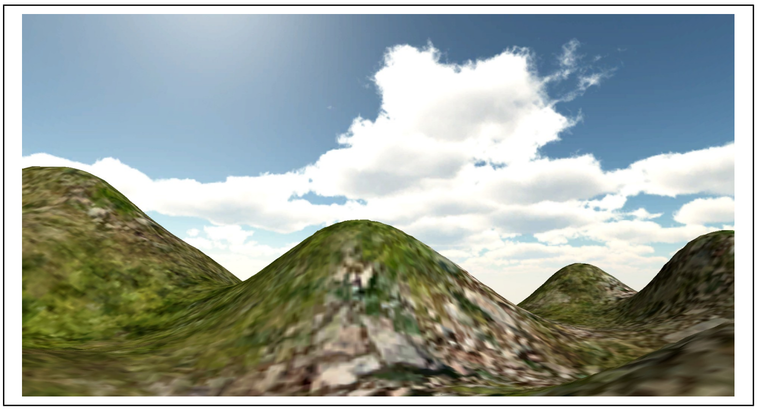
☑ Main Camera □ Static
Tag MainCamera Layer Default
Prefab Select Revert Apply

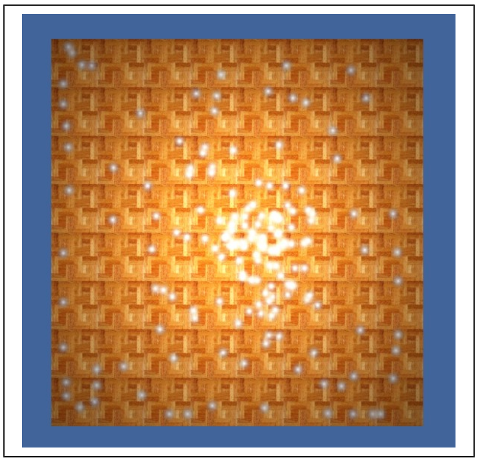
▼ Transform
Position X 0 Y 0.9070835 Z 0
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1

▼ ☑ Camera
Clear Flags Depth only
Culling Mask
Projection
Field of View 60
Clipping Planes
Viewport Rect X 0 Y 0
W 1 H 1
Depth 0
Rendering Path Use Player Settings
Target Texture None (Render Texture)
Occlusion Culling ☑
HDR □

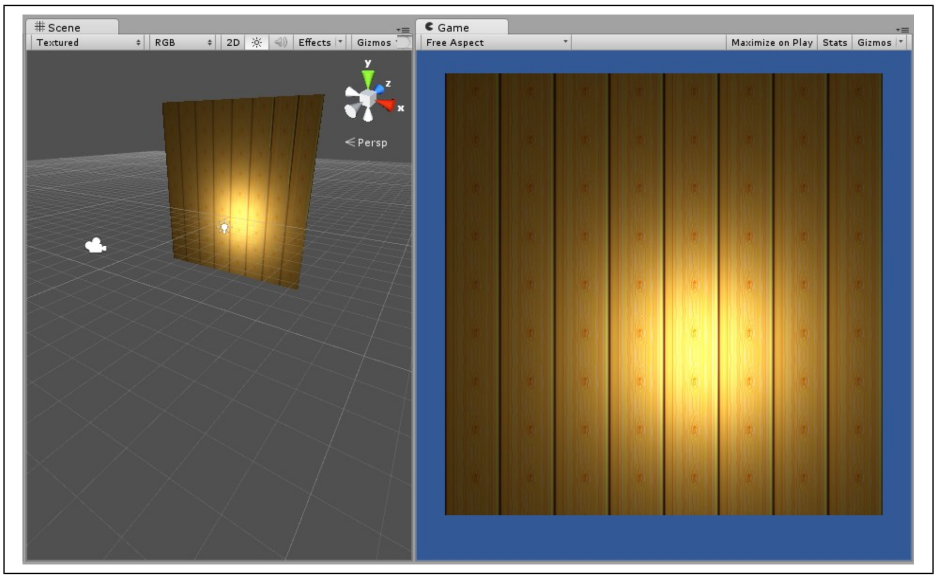


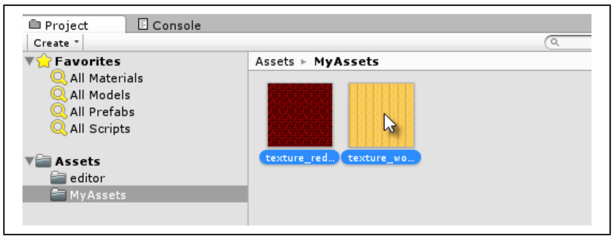


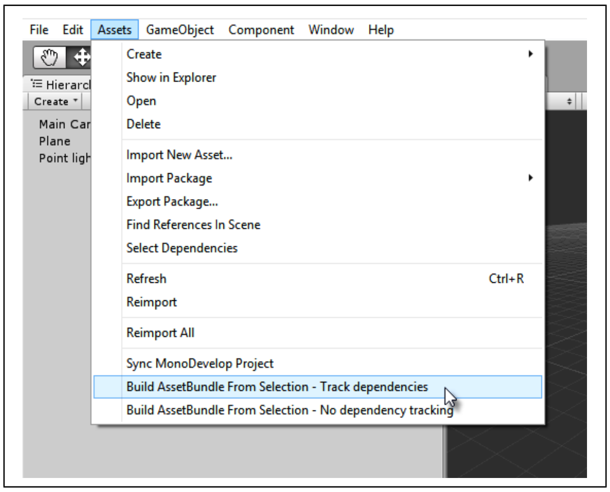


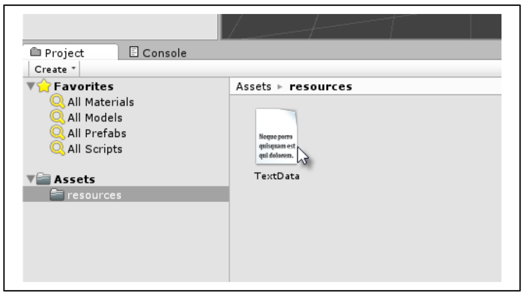


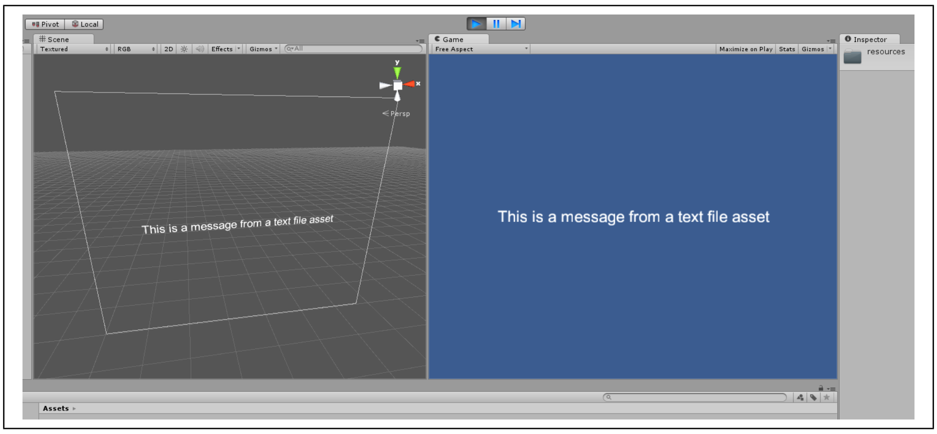
Chapter 10: Source Control and Other Tips

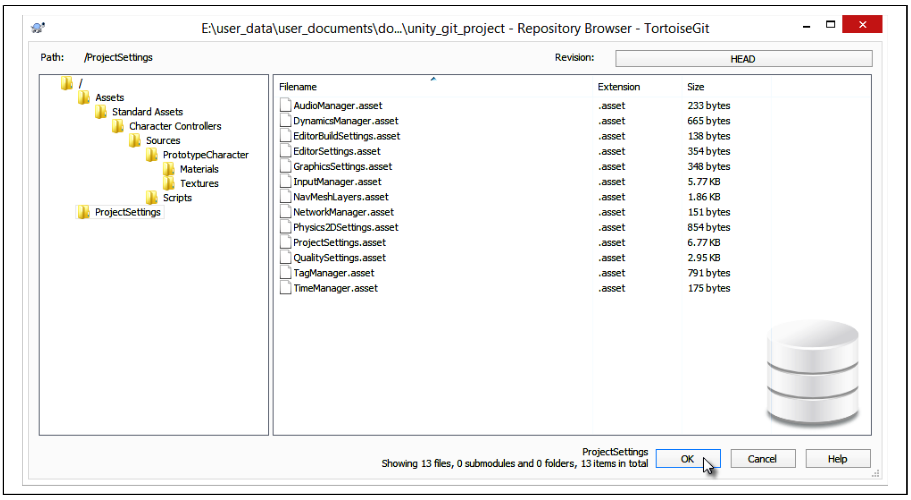









This is a message from a text file asset

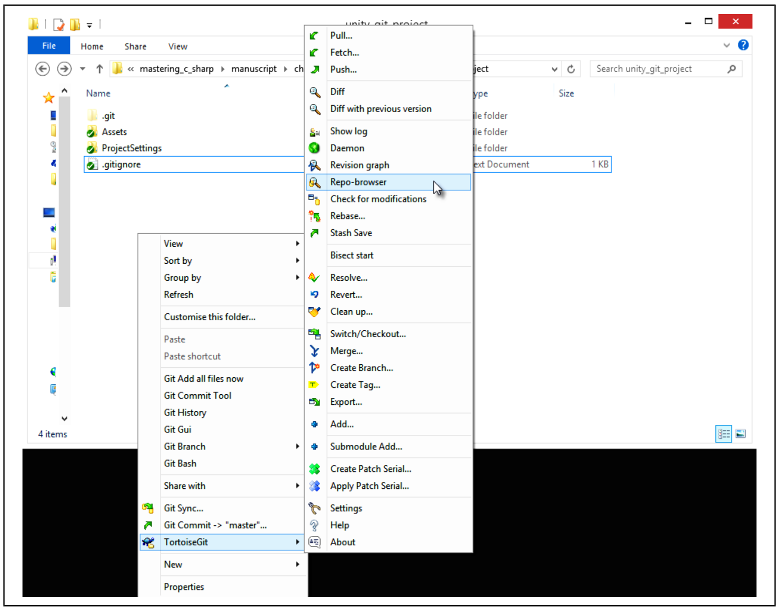

E:\user_data\user_documents\do...\unity_git_project - Repository Browser - TortoiseGit

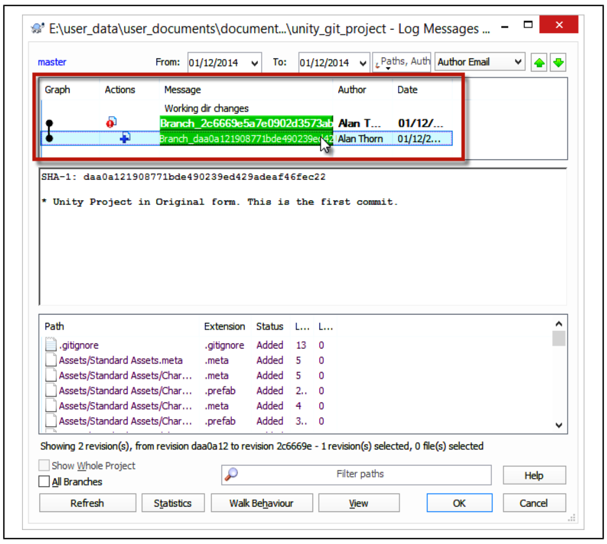
Path: /ProjectSettings

Revision: HEAD

Filename	Extension	Size
AudioManager.asset	.asset	233 bytes
DynamicsManager.asset	.asset	665 bytes
EditorBuildSettings.asset	.asset	138 bytes
EditorSettings.asset	.asset	354 bytes
GraphicsSettings.asset	.asset	348 bytes
InputManager.asset	.asset	5.77 KB
NavMeshLayers.asset	.asset	1.86 KB
NetworkManager.asset	.asset	151 bytes
Physics2DSettings.asset	.asset	854 bytes
ProjectSettings.asset	.asset	6.77 KB
QualitySettings.asset	.asset	2.95 KB
TagManager.asset	.asset	791 bytes
TimeManager.asset	.asset	175 bytes

ProjectSettings
Showing 13 files, 0 submodules and 0 folders, 13 items in total





E:\user_data\user_documents\document...\unity_git_project - Log Messages ...

master From: 01/12/2014 To: 01/12/2014 Paths, Auth Author Email

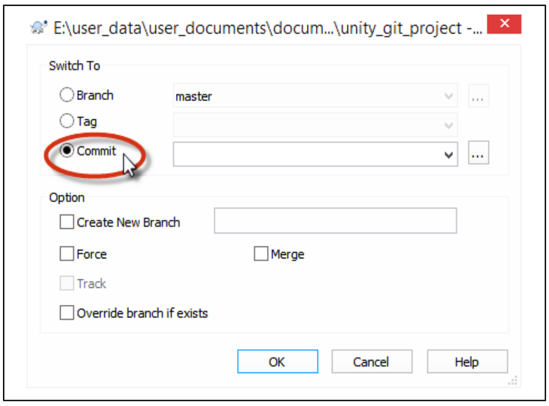
Graph	Actions	Message	Author	Date
		Working dir changes		
		Branch_2c6669e5a7e0902d3573ab	Alan T...	01/12/...
		Branch_daa0a121908771bde490239ed42	Alan Thorn	01/12/2...

```
SHA-1: daa0a121908771bde490239ed429adeaf46fec22

* Unity Project in Original form. This is the first commit.
```

Path	Extension	Status	L...	L...
.gitignore	.gitignore	Added	13	0
Assets/Standard Assets.meta	.meta	Added	5	0
Assets/Standard Assets/Char...	.meta	Added	5	0
Assets/Standard Assets/Char...	.prefab	Added	2..	0
Assets/Standard Assets/Char...	.meta	Added	4	0
Assets/Standard Assets/Char...	.prefab	Added	3..	0

Showing 2 revision(s), from revision daa0a12 to revision 2c6669e - 1 revision(s) selected, 0 file(s) selected

□ Show Whole Project
□ All Branches



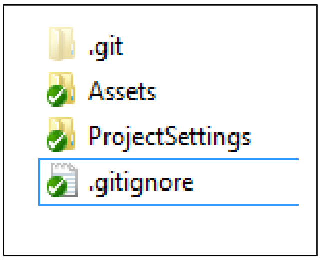
E:\user_data\user_documents\docum...\unity_git_project -...

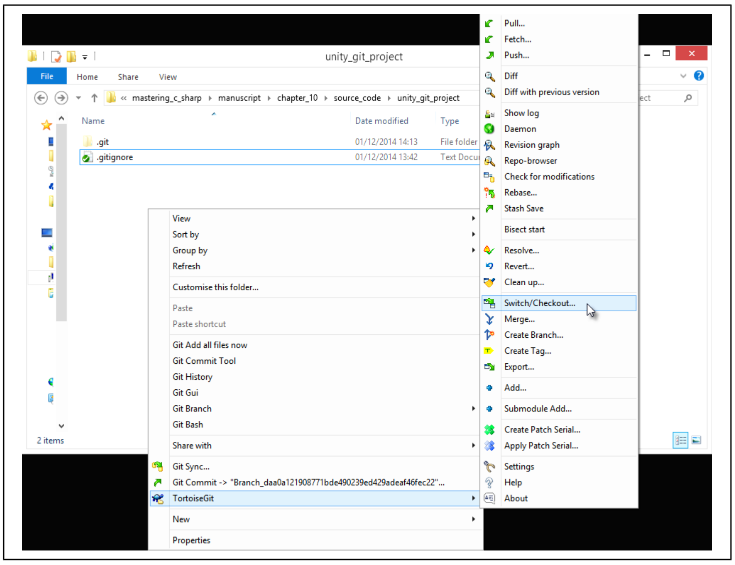
Switch To

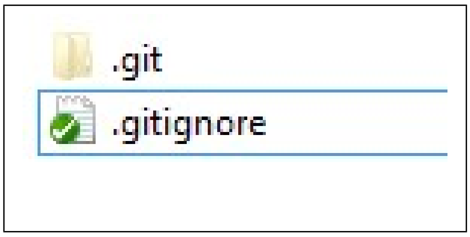
○ Branch master
○ Tag
● Commit

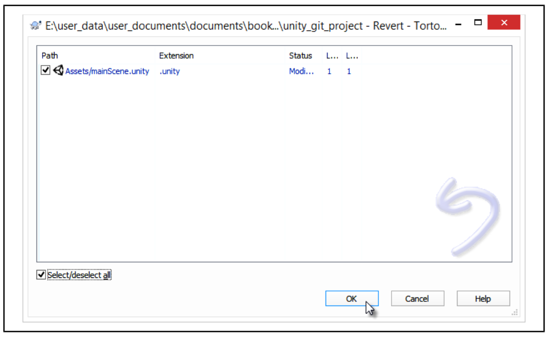
Option

□ Create New Branch
□ Force
□ Merge
□ Track
□ Override branch if exists



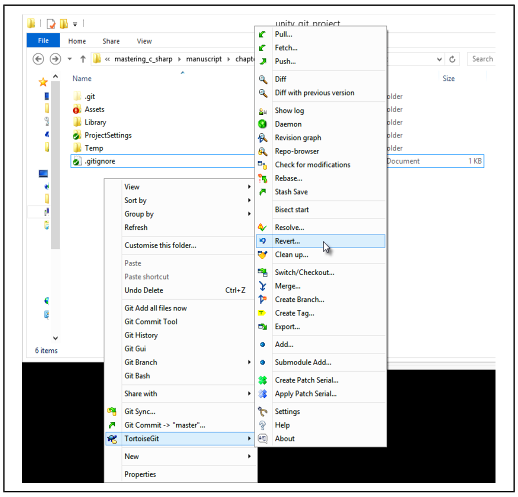


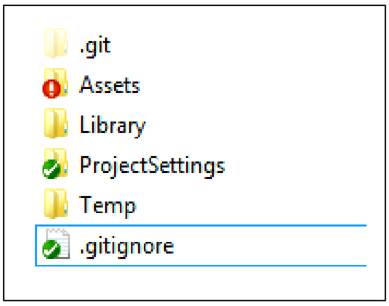


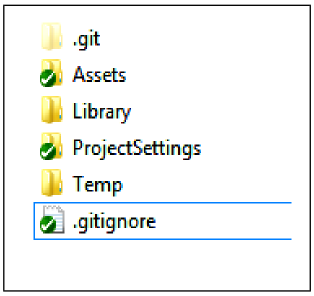

E:\user_data\user_documents\documents\book..\unity_git_project - Revert - Torto...

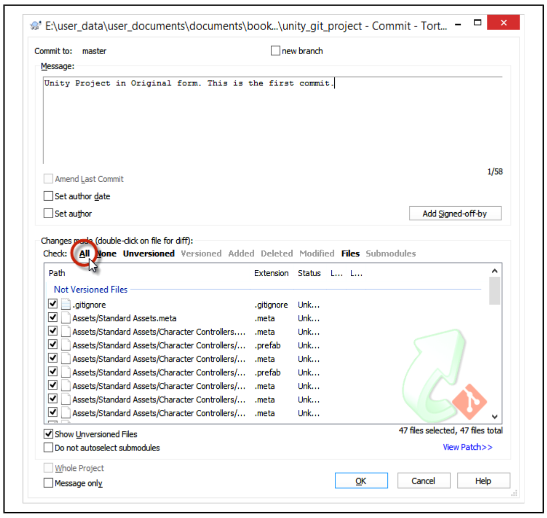
Path	Extension	Status	L...	L...
☑ Assets/mainScene.unity	.unity	Modi...	1	1

☑ Select/deselect all








E:\user_data\user_documents\documents\book...\unity_git_project - Commit - Tort...

Commit to: master ☐ new branch

Message:

```
Unity Project in Original form. This is the first commit.
```

1/58

☐ Amend Last Commit

☐ Set author date

☐ Set author

Add Signed-off-by

Changes made (double-click on file for diff):

Check: All None Unversioned Versioned Added Deleted Modified Files Submodules

	Path	Extension	Status	L...	L...
	Not Versioned Files				
☑	.gitignore	.gitignore	Unk...		
☑	Assets/Standard Assets.meta	.meta	Unk...		
☑	Assets/Standard Assets/Character Controllers....	.meta	Unk...		
☑	Assets/Standard Assets/Character Controllers/...	.prefab	Unk...		
☑	Assets/Standard Assets/Character Controllers/...	.meta	Unk...		
☑	Assets/Standard Assets/Character Controllers/...	.prefab	Unk...		
☑	Assets/Standard Assets/Character Controllers/...	.meta	Unk...		
☑	Assets/Standard Assets/Character Controllers/...	.meta	Unk...		
☑	Assets/Standard Assets/Character Controllers/...	.meta	Unk...		

☑ Show Unversioned Files

☐ Do not autoselect submodules

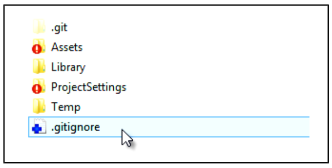
47 files selected, 47 files total

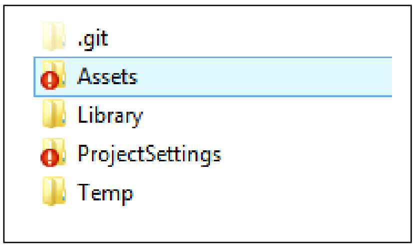
View Patch>>

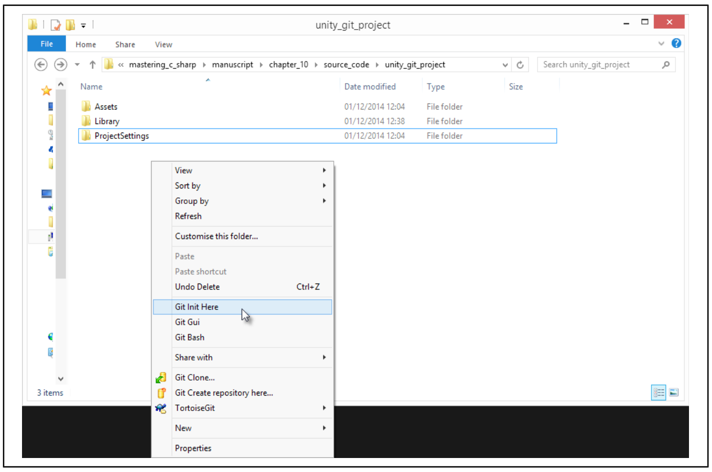
☐ Whole Project

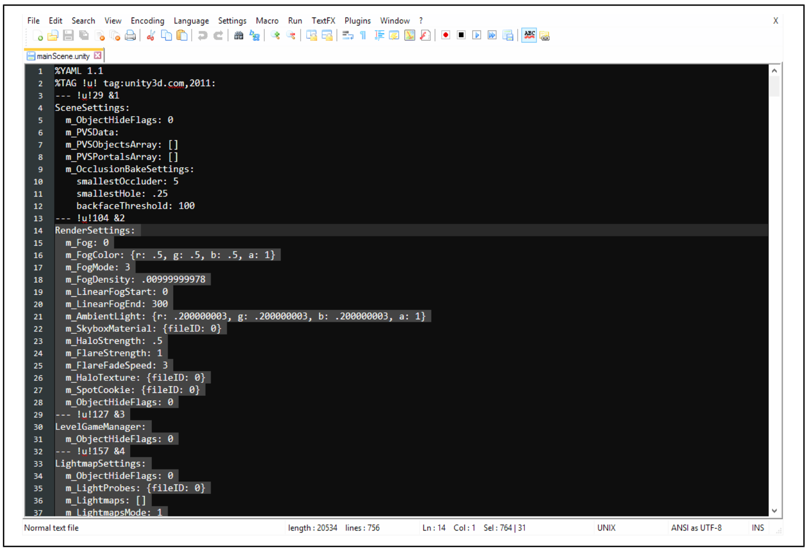
☐ Message only

OK Cancel Help



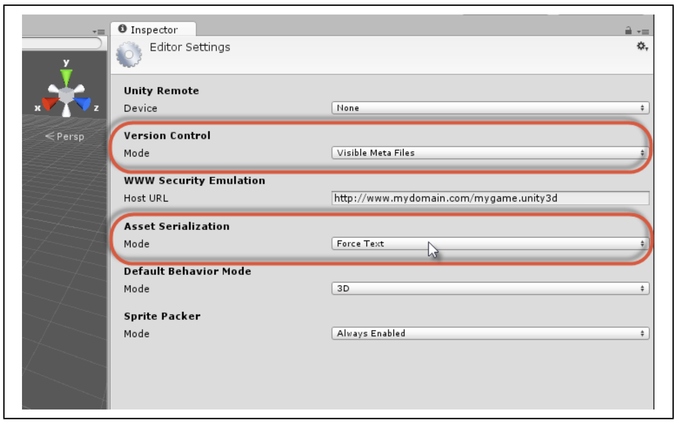






```
%YAML 1.1
%TAG !u! tag:unity3d.com,2011:
--- !u!29 &1
SceneSettings:
  m_ObjectHideFlags: 0
  m_PVSData:
  m_PVSObjectsArray: []
  m_PVSPortalsArray: []
  m_OcclusionBakeSettings:
    smallestOccluder: 5
    smallestHole: .25
    backfaceThreshold: 100
--- !u!104 &2
RenderSettings:
  m_Fog: 0
  m_FogColor: {r: .5, g: .5, b: .5, a: 1}
  m_FogMode: 3
  m_FogDensity: .00999999978
  m_LinearFogStart: 0
  m_LinearFogEnd: 300
  m_AmbientLight: {r: .200000003, g: .200000003, b: .200000003, a: 1}
  m_SkyboxMaterial: {fileID: 0}
  m_HaloStrength: .5
  m_FlareStrength: 1
  m_FlareFadeSpeed: 3
  m_HaloTexture: {fileID: 0}
  m_SpotCookie: {fileID: 0}
  m_ObjectHideFlags: 0
--- !u!127 &3
LevelGameManager:
  m_ObjectHideFlags: 0
--- !u!157 &4
LightmapSettings:
  m_ObjectHideFlags: 0
  m_LightProbes: {fileID: 0}
  m_Lightmaps: []
  m_LightmapsMode: 1
```

Normal text file
length : 20534   lines : 756
Ln : 14   Col : 1   Sel : 764 | 31
UNIX
ANSI as UTF-8
INS



Inspector

Editor Settings

Unity Remote

Device: None

Version Control

Mode: Visible Meta Files

WWW Security Emulation

Host URL: http://www.mydomain.com/mygame.unity3d

Asset Serialization

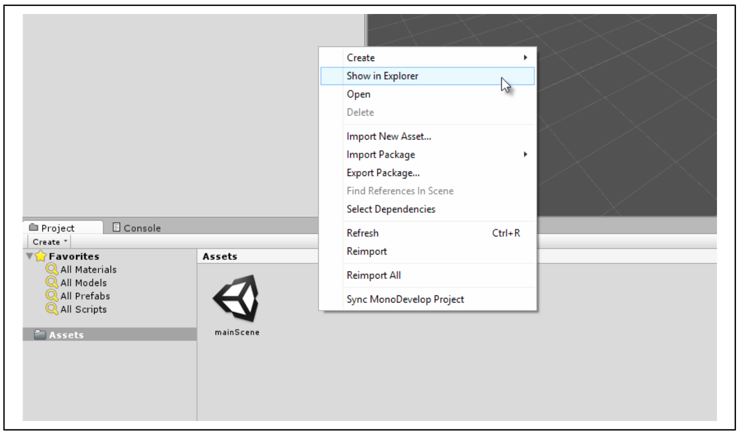
Mode: Force Text

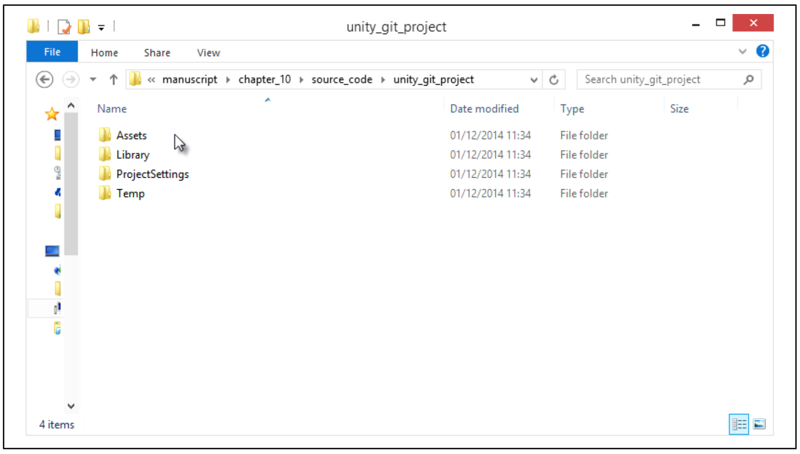
Default Behavior Mode

Mode: 3D

Sprite Packer

Mode: Always Enabled



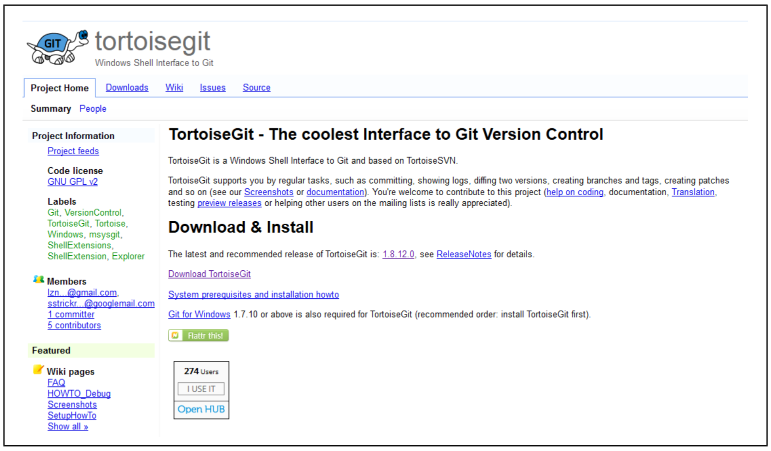


unity_git_project

« manuscript › chapter_10 › source_code › unity_git_project

Name	Date modified	Type	Size
Assets	01/12/2014 11:34	File folder	
Library	01/12/2014 11:34	File folder	
ProjectSettings	01/12/2014 11:34	File folder	
Temp	01/12/2014 11:34	File folder	

4 items



Project Information

Project feeds

Code license
GNU GPL v2

Labels
Git, VersionControl, TortoiseGit, Tortoise, Windows, msysgit, ShellExtensions, ShellExtension, Explorer

Members
lzn...@gmail.com, sstrickr...@googlemail.com
1 committer
5 contributors

Featured

Wiki pages
FAQ
HOWTO_Debug
Screenshots
SetupHowTo
Show all »

TortoiseGit - The coolest Interface to Git Version Control

TortoiseGit is a Windows Shell Interface to Git and based on TortoiseSVN.

TortoiseGit supports you by regular tasks, such as committing, showing logs, diffing two versions, creating branches and tags, creating patches and so on (see our Screenshots or documentation). You're welcome to contribute to this project (help on coding, documentation, Translation, testing preview releases or helping other users on the mailing lists is really appreciated).

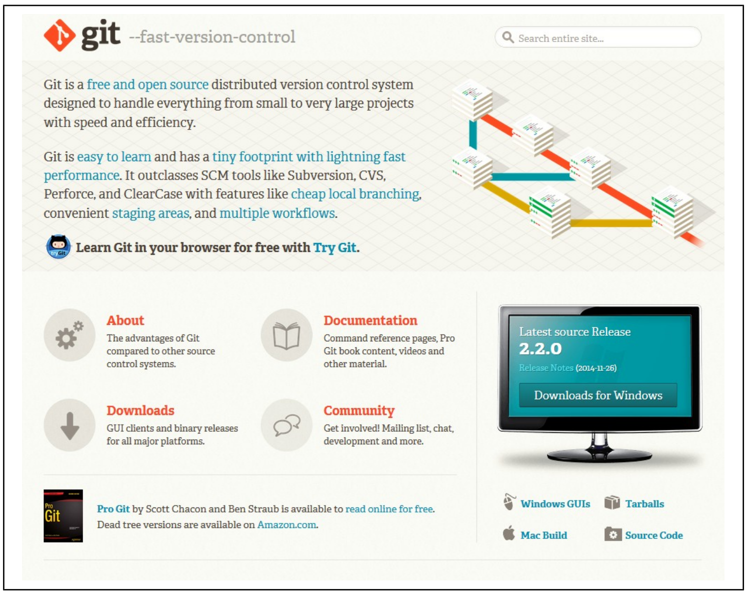
Download & Install

The latest and recommended release of TortoiseGit is: 1.8.12.0, see ReleaseNotes for details.

Download TortoiseGit

System prerequisites and installation howto

Git for Windows 1.7.10 or above is also required for TortoiseGit (recommended order: install TortoiseGit first).



Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Git is easy to learn and has a tiny footprint with lightning fast performance. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like cheap local branching, convenient staging areas, and multiple workflows.

Learn Git in your browser for free with Try Git.

About
The advantages of Git compared to other source control systems.

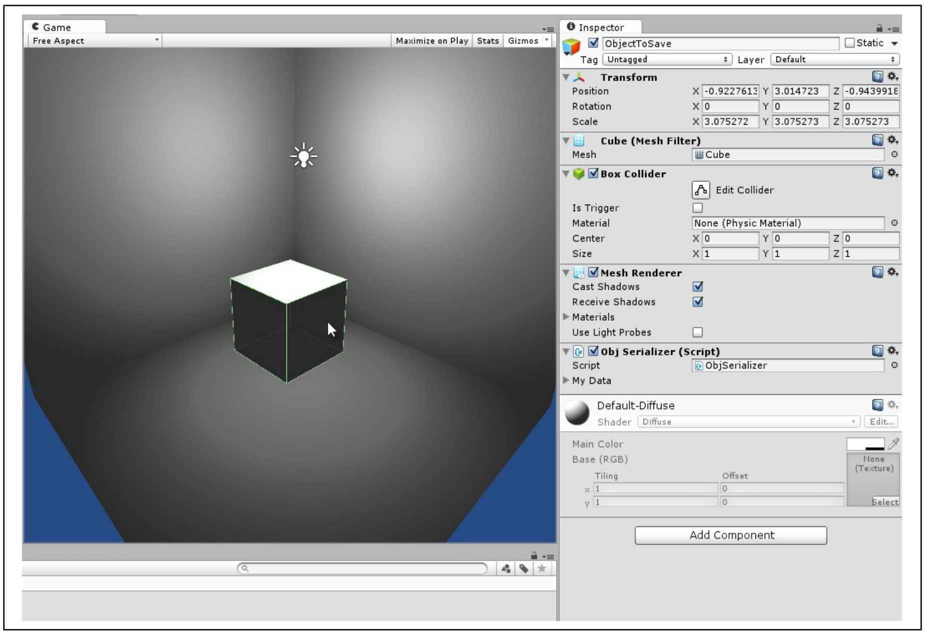
Documentation
Command reference pages, Pro Git book content, videos and other material.

Downloads
GUI clients and binary releases for all major platforms.

Community
Get involved! Mailing list, chat, development and more.

Pro Git by Scott Chacon and Ben Straub is available to read online for free. Dead tree versions are available on Amazon.com.

Latest source Release
2.2.0
Release Notes (2014-11-26)



☑ ObjectToSave □ Static
Tag Untagged Layer Default

Transform
Position X -0.9227613 Y 3.014723 Z -0.9439918
Rotation X 0 Y 0 Z 0
Scale X 3.075272 Y 3.075273 Z 3.075273

Cube (Mesh Filter)
Mesh Cube

☑ **Box Collider**
Edit Collider
Is Trigger □
Material None (Physic Material)
Center X 0 Y 0 Z 0
Size X 1 Y 1 Z 1

☑ **Mesh Renderer**
Cast Shadows ☑
Receive Shadows ☑
Materials
Use Light Probes □

☑ **Obj Serializer (Script)**
Script ObjSerializer
My Data

Default-Diffuse
Shader Diffuse

Main Color
Base (RGB)
Tiling x 1 y 1
Offset x 0 y 0
None (Texture)