# Javascript or C#

This project contain both of Javascript and C# version
But we recommended to choose one to prevent the problem.

All of the C# version are in "CsharpExample" Folder

The other outside CsharpExample Folder are JavaScript Version

- If you choose C# you should use all  Objects all Prefabs and
All Example in "CsharpExample" Folder

- If you choose Javascript version you should ignore the
"CsharpExample" Folder and use all examples outside that folder

# How to Spawn Player

We recommend you to use "SpawnPlayer" Script to spawn Player.
First create Empty GameObject(Or any GameObject) and attach
use "SpawnPlayer" Script from Script folder to it and assign
Your Player's prefab to the Player Variable.

When you start the game Your Player will spawn at the Spawn
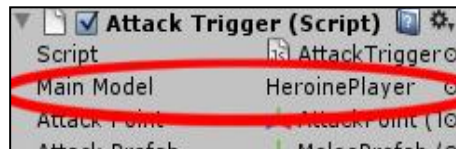Point. It can work well althought your player come from the other scene.
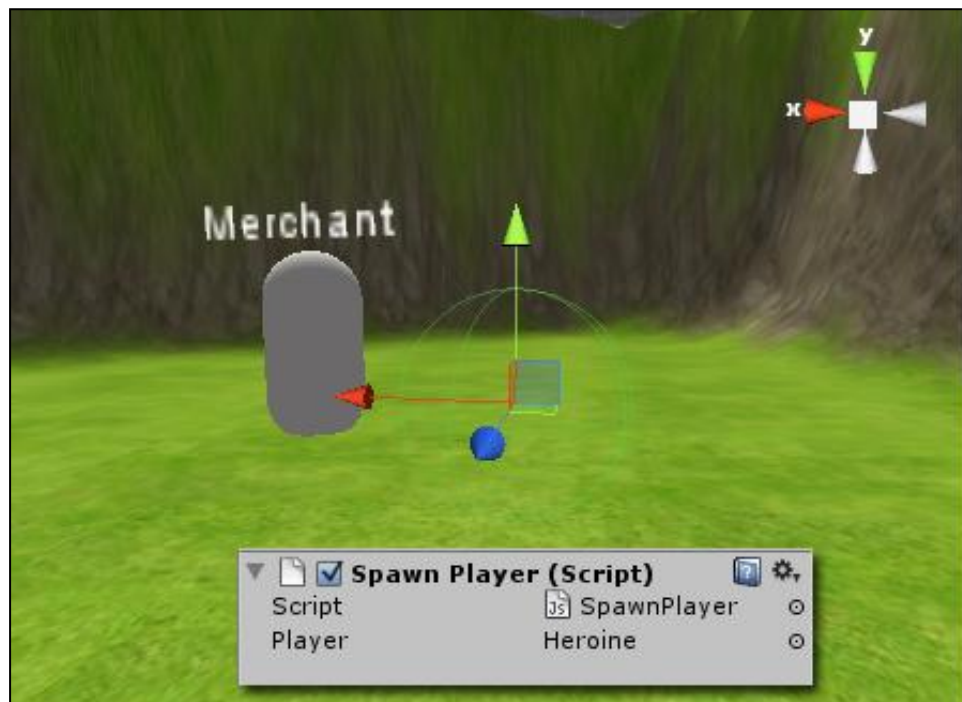
# How to Create Player

# Easy Tip:

The fastest way to create player. You can use the example character(Heroine) from Prefab folder then replace "HerionePlayer" Model in the prefab with your character Model



After that Assign your character model to the "Main Model" Variable in Attack Trigger script
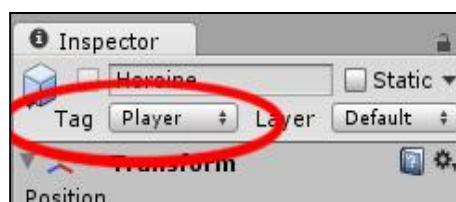


Now your character will ready to use.

------------------------------------------------------------

However you can create the new one with this step.

First import your character and set tag to " Player" as picture below.

# Legacy or Mecanim Animation

This package is now support both of Legacy and Mecanim Animation.

# If you use Legacy Animation



Attach the "PlayerAnimation" Script to your character.
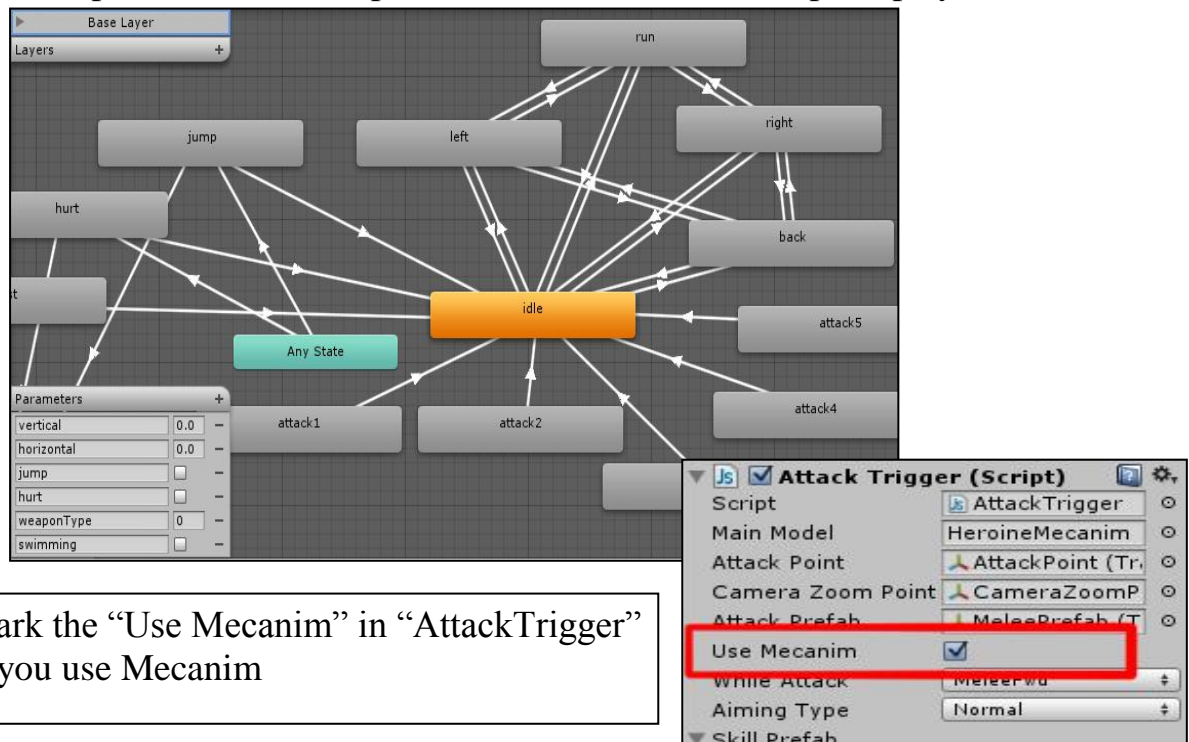This script will add all components that is needed to setup the player.



--------------------------------------------------------------------------------
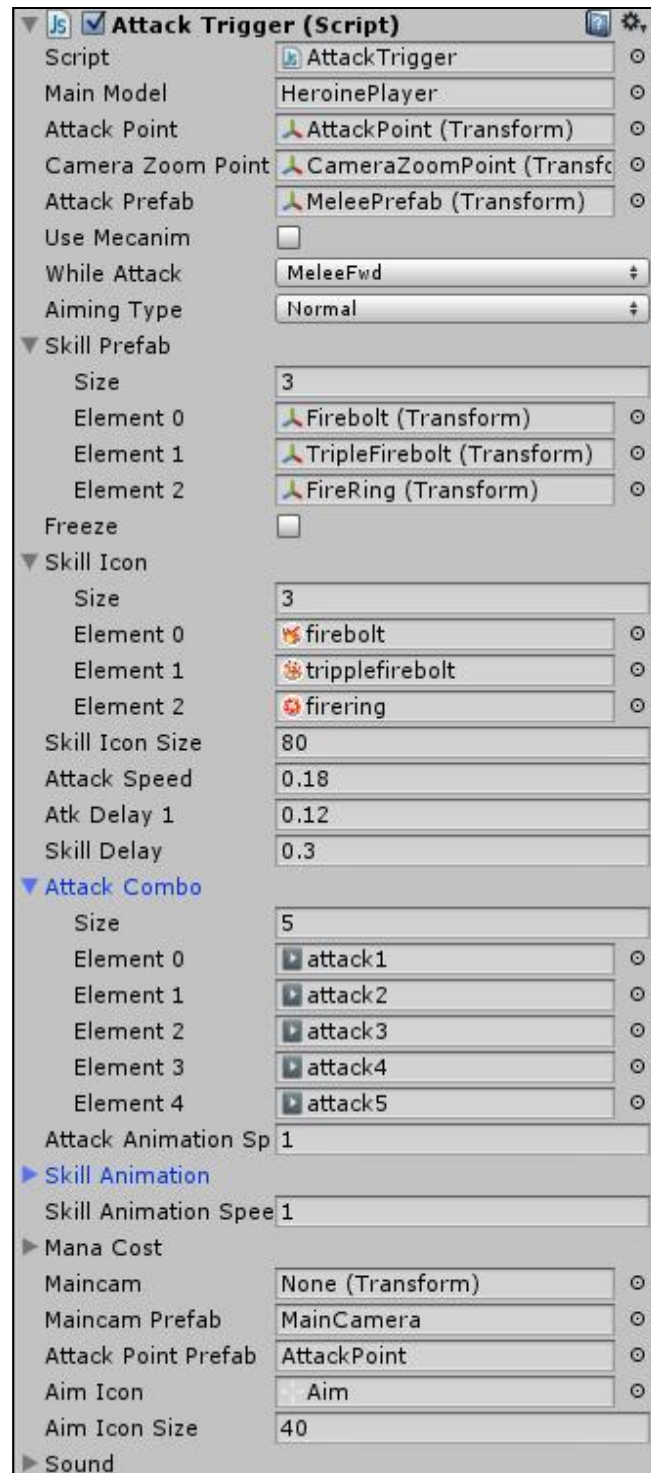
# If you use Mecanim Animation

Attach the "PlayerMecanimAnimation" Script to your character.
This script will add all components that is needed to setup the player.



Mark the "Use Mecanim" in "AttackTrigger"
If you use Mecanim

After that Let configurations the variable for the scripts

| Main Model | - | Character's Main Model |
|---|---|---|
| Attack Point | - | The bullet's start point |
| Attack Prefab | - | Store the bullet's variable from "normal attack" in this example, we use MeleePrefab (It locate in Prefab/Skill) which the in fight attack |
| Use Mecanim | - | Use it if you use Mecanim Animation |
| Skill Prefab | - | Store the bullet's variable from "skill" |

| | | |
|---|---|---|
| Freeze | - | If you mark on this, the character will freeze |
| Skill Icon | - | The skill icon's graphic |
| Skill Icon Size | - | The skill icon's graphic the show in the screen |
| Attack Speed | - | The normal attack's speed |
| Attack Delay | - | The normal attack's delay |
| Skill Delay | - | The skill's delay |
| Attack Animation | - | The normal attack animation name. Max Combo depend on Size of Attack Animation |
| Skill Animation | - | The skill animation's name |
| Mana Cost | - | The MP's require for skill |
| Maincam | - | Use as camera's reference. If you weren't set this, the system will find it from Tag MainCamera. |
| Aim Icon | - | Target Icon |
| Aim Icon Size | - | Target Icon's size |
| While Attack | | - MeleeFwd = Move forward a little when attack |
| | | - Immobile = Can't move while attacking |
| | | - WalkFree = Can walk freely while attacking |

Now, you can move your character as you like. Next, we will set the character animation in the "PlayerAnimation" script to your character ( Your model must split animation first before start this step)
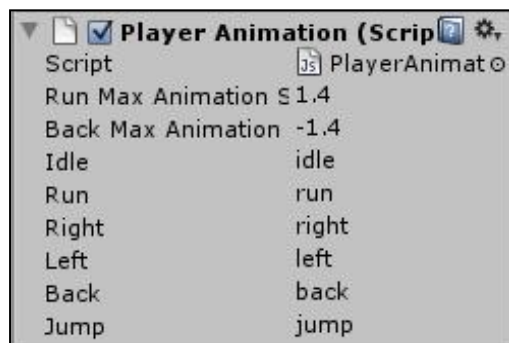


The details are following

Run Max Animation – The animation's speed when character run

Back Max Animation – The animation's speed when character backward

| | | |
|---|---|---|
| Idle | - | The animation's name when character is within Idle pose |
| Run | - | The animation's name when character run forward |
| Right | - | The animation's name when character run right side |
| Left | - | The animation's name when character run left side |
| Back | - | The animation's name when character run backward |
| Jump | - | The animation's name when character jump |

Now, test the project to see your character various pose while it moves. Next is the heart of our tutorial "The Status system"

First, drag "status's script" to the character. This script will store all of player's basic data such as Level, HP, MP, EXP, Attack and Defend
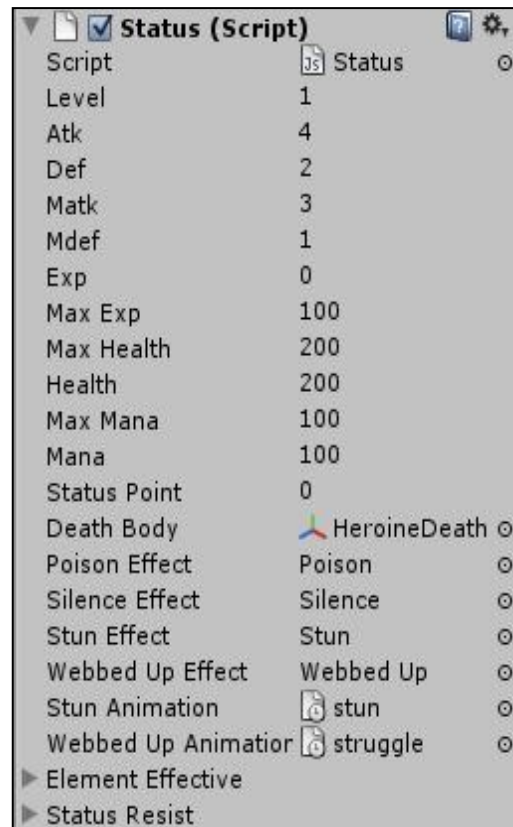


These variable's names are self explanation. However, the Death body's variable is different. When the character is dead, the system will spawn this prefab. So, you have to create the prefab that shows your character's death pose and put in the death body variable. Now, the script can work perfectly.

     - Poison Effect , Silence Effect and Stun Effect is the prefab
Use when character suffer by those status ailment.

     - Elemental Effective use to make elemental defence more value more damage you take from that element

     - Status Resist is the resistance of status ailment.

Next, drag "Status Window's script" into your character. This script can show the character's status by press the C button. In addition, you can upgrade your character's status when your character is level up. This script have a variables name "Text style" and "Text Style 2". Its use for set the font.
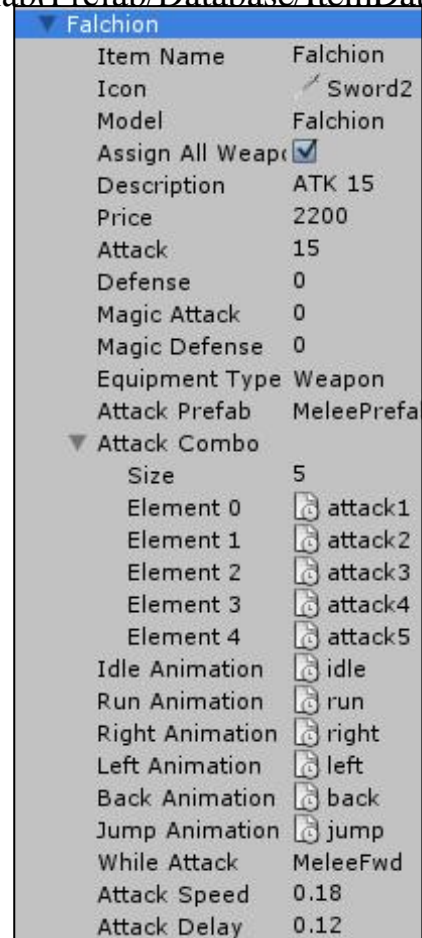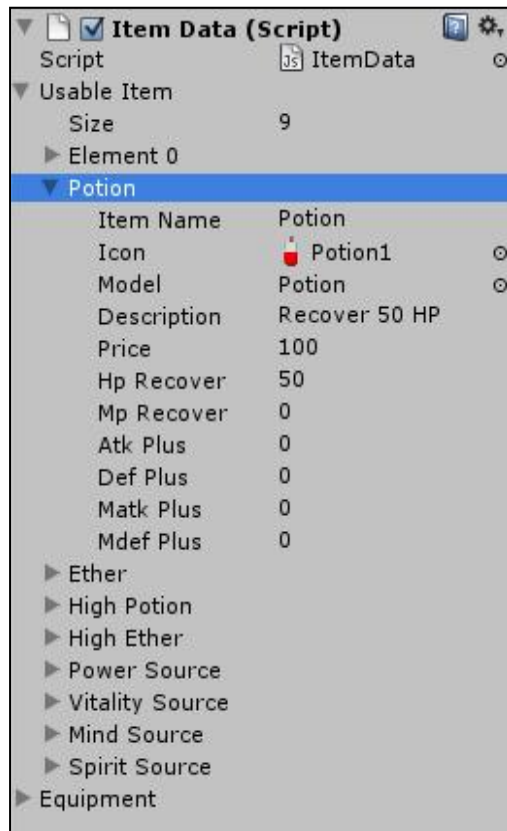
The next important one is HP. Drag it to your character.
The configurations are following.



| Max HP Bar | - | The Max HP gauge bar graphic |
|---|---|---|
| HP Bar | - | The HP bar graphic |
| MP Bar | - | The MP bar graphic |
| EXP Bar | - | The EXP bar graphic |
| Max HP Bar Position | - | The Max HP gauge bar's position |
| HP Bar Position | - | The HP bar's position |
| MP Bar Position | - | The MP bar's position |
| EXP Bar Position | - | The EXP bar's position |
| Level Position | - | The Level's position |
| Max HP Bar Width | - | The HP bar's width |
| Max HP Bar Height | - | The HP bar's height |
| Bar Height | - | The HP and MP bar's height |
| EXP Bar Height | - | The EXP bar's height |
| Text Style | - | The level number's text style |
| HP Text Style | - | The HP and MP's text style |
| Bar Multiply | - | The HP bar's width when the character's hp is 100%  by multiple with 100. For example, if the gauge width is 160 pixel. You have to multiple by 1.6. if the gauge width is 300 pixel. You have to multiple by 3. |
| Player | - | Incase that you didn't set this, the system will automatically find the object from "Player" Tag |

# Items and Inventory

You can use "ItemDatabase" prefab(Prefab/Database/ItemDatabase) As a Database

```
▼ 🗋 ☑ Item Data (Script)          ▣ ⚙,
  Script              JS ItemData          ⊙
▼ Usable Item
    Size                9
  ▶ Element 0
  ▼ Potion
      Item Name       Potion
      Icon            🔴 Potion1           ⊙
      Model           Potion               ⊙
      Description     Recover 50 HP
      Price           100
      Hp Recover      50
      Mp Recover      0
      Atk Plus        0
      Def Plus        0
      Matk Plus       0
      Mdef Plus       0
    ▶ Ether
    ▶ High Potion
    ▶ High Ether
    ▶ Power Source
    ▶ Vitality Source
    ▶ Mind Source
    ▶ Spirit Source
  ▶ Equipment
```

```
▼ Falchion
    Item Name       Falchion
    Icon            ╱ Sword2
    Model           Falchion
    Assign All Weap(☑
    Description     ATK 15
    Price           2200
    Attack          15
    Defense         0
    Magic Attack    0
    Magic Defense   0
    Equipment Type  Weapon
    Attack Prefab   MeleePrefa
  ▼ Attack Combo
      Size            5
      Element 0     🎞 attack1
      Element 1     🎞 attack2
      Element 2     🎞 attack3
      Element 3     🎞 attack4
      Element 4     🎞 attack5
    Idle Animation  🎞 idle
    Run Animation   🎞 run
    Right Animation 🎞 right
    Left Animation  🎞 left
    Back Animation  🎞 back
    Jump Animation  🎞 jump
    While Attack    MeleeFwd
    Attack Speed    0.18
    Attack Delay    0.12
```

You can add new item data by edit Size in "Usable Item" and "Equipment"

The Element number is an ID of your item. It very important to use with the Shop and Inventory

# Equipment

Assign All Weapons –    If your character carry more than 1 weapon
                        (ex. Dual sword). When you swap weapon
                        It will swap all weapon mesh.

Attack Combo -          Change Player Attack Animation when equip
                        this weapon

Idle , Run , Right , Left , Jump Animation - Change Player movement
                                    animation when equip this weapon

While Attack        - MeleeFwd = Move forward a little when attack
                    - Immobile = Can't move while attacking
                    - WalkFree = Can walk freely while attacking

# Inventory

      The Inventory script will attach to the player character. This script Contain variable of Item ID. The reference of the item ID is from ItemDatabase
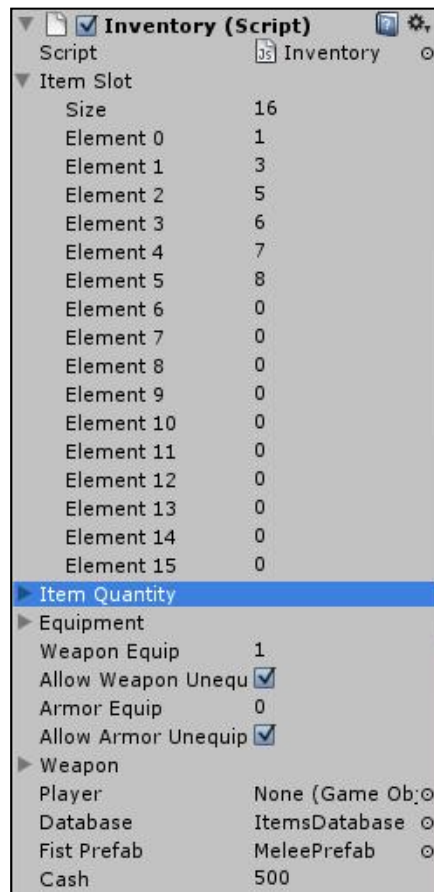


| | | |
|---|---|---|
| Item Slot | - | Store the Item ID |
| Item Quantity | - | Store quantity of the items |
| Equipment | - | Store the Equipment ID |
| Weapon Equip | - | ID of your equipped weapon |
| Allow Weapon Unequip | - | If uncheck this You cannot unequip your weapon |
| Armor Equip | - | ID of your equipped armor |
| Allow Armor Unequip | - | If uncheck this You cannot unequip your Armor |
| Database | - | Reference of ItemData (Prefab/Database/ItemDatabase) is the default |

# Pickup Items

You can add the item to your Inventory by create new game Object
And then attach "Item" Script mark on the "Is Trigger" in Collider
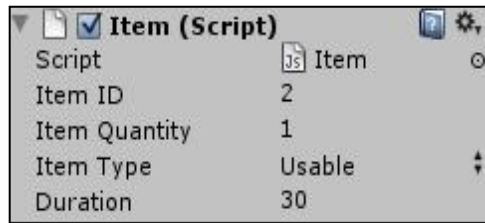




| | | |
|---|---|---|
| Item ID | - | ID of item |
| Item Quantity | - | Quantity of the item |
| Item Type | - | Type of the item(Usable and Equipment) |
| Duration | - | Duration of this object to stay in the world |
| | | If = 0 the object will not destroy until player |
| | | Pick it up |

# Add Cash

You can add the cash to your Inventory by create new game Object
And then attach "Add Cash" Script mark on the "Is Trigger" in Collider
(same as Item)
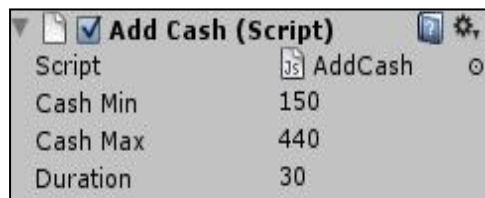


| | | |
|---|---|---|
| Cash Min | - | Minimum of cash to add |
| Cash Max | - | Maximum of cash to add |
| Duration | - | Duration of this object to stay in the world |
| | | If = 0 the object will not destroy until player |
| | | Pick it up |

This Script will calculate random range of "Cash Min" and "Cash Max"
To add

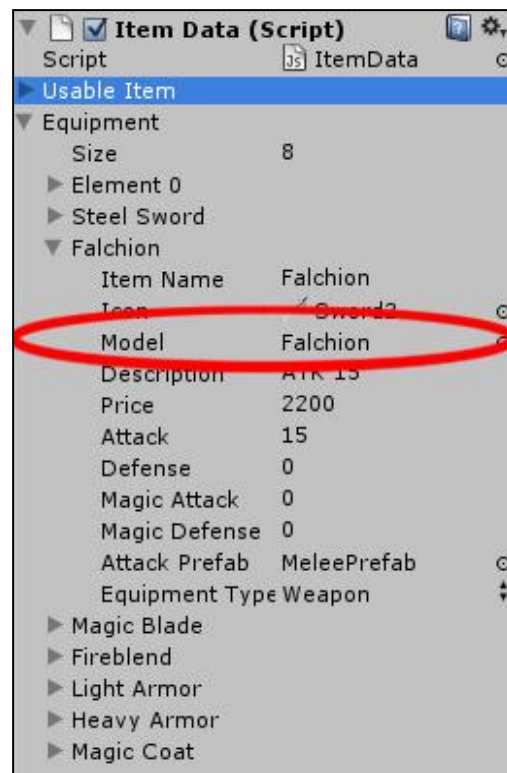# How to Swap Weapon's Model with this kit



First Assign the main weapon's model in the characters to Weapon Variable in Inventory Script (If your character have more than 1 weapon (Ex. Twin Swords) you should assign all of them too)
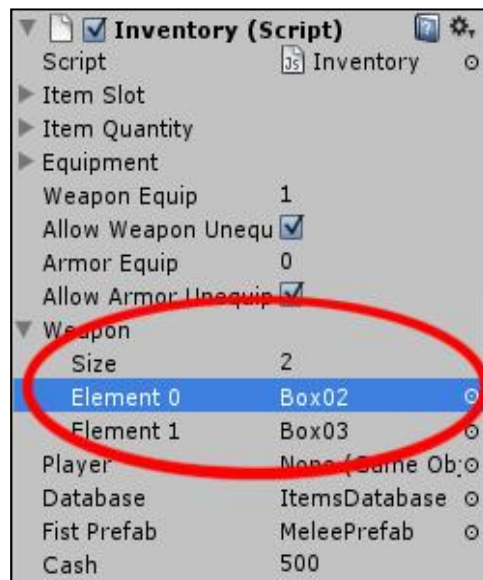
Then in the "ItemDatabase" of the weapon Assign weapon model To the "Model" variable
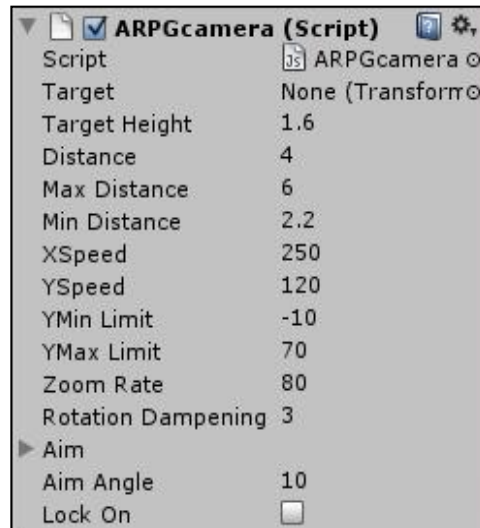


When you equip the weapon. If you do both step collectly. The system will swap Weapon Model.

# Main Camera

Every time when create new scene. The system will create the Main Camera. If you want to make a new camera, make it by select GameObject/Create Other/Camera and set Tag to MainCamera. After that, drag ARPGcamera's script into the camera.



| | | |
|---|---|---|
| Target | - | The camera's target. If it don't have any target, the system will find it from Tag Player. |
| Target Height | - | The camera's height from the target |
| Distance | - | The camera's length |
| Max Distance | - | The farthest camera's length |
| Min Distance | - | The shortage camera's length |
| Xspeed | - | The camera's speed in X axis |
| Yspeed | - | The camera's speed in X axis |
| Ymin Limit | - | The lowest camera's angle |
| Ymax Limit | - | The highest camera's angle |
| Zoom Rate | - | The Zoom's speed |
| Rotation Dampening | - | The camera's delay |
| Aim Angle | - | Set the aim to the target by reference from AttackTrigger |
| Lock On | - | If you mark on this, the character will always head toward the camera |

In addition, you can use LockMouse script into anyplace on the stage to hide the mouse cursor. The list of camera's components are following.
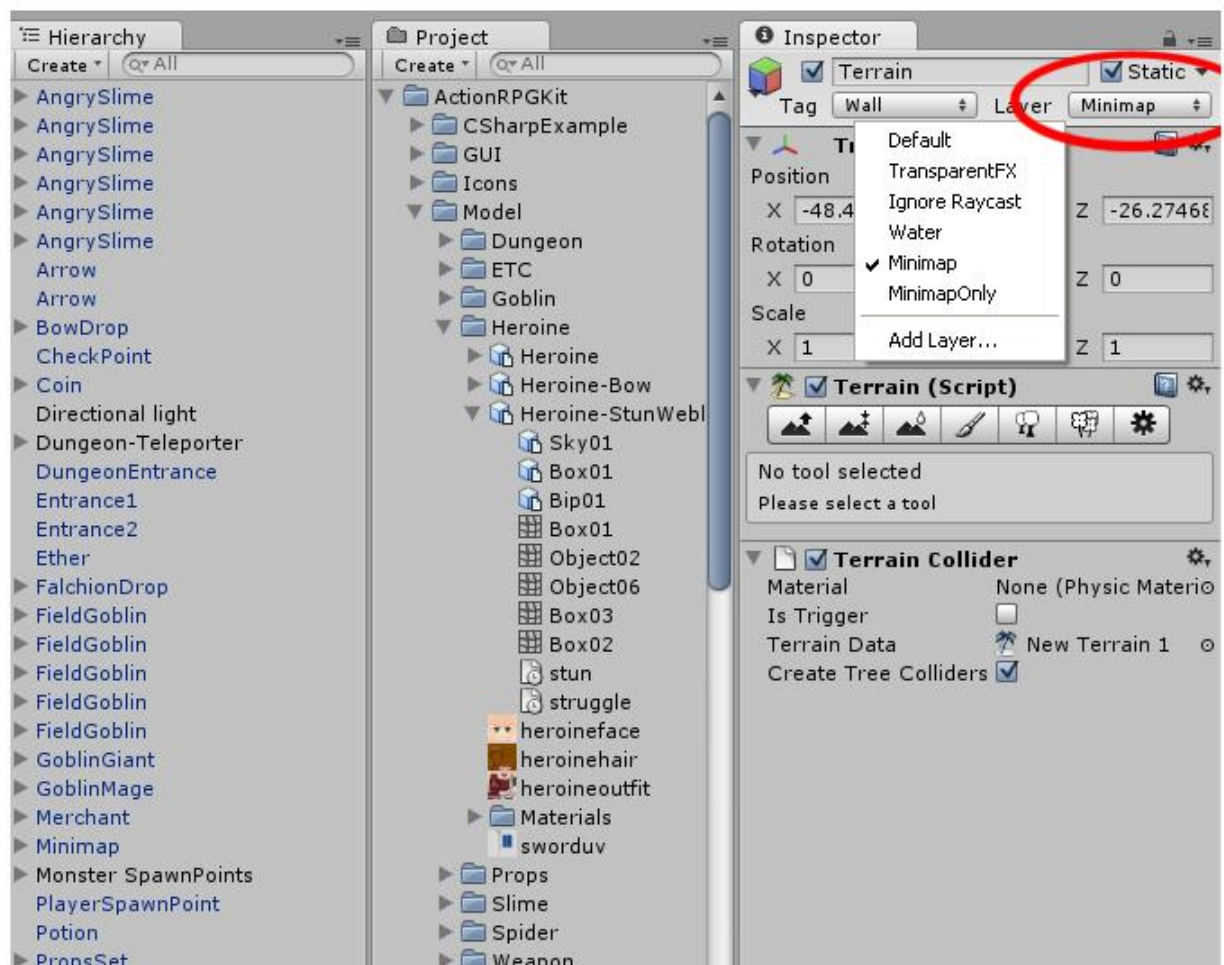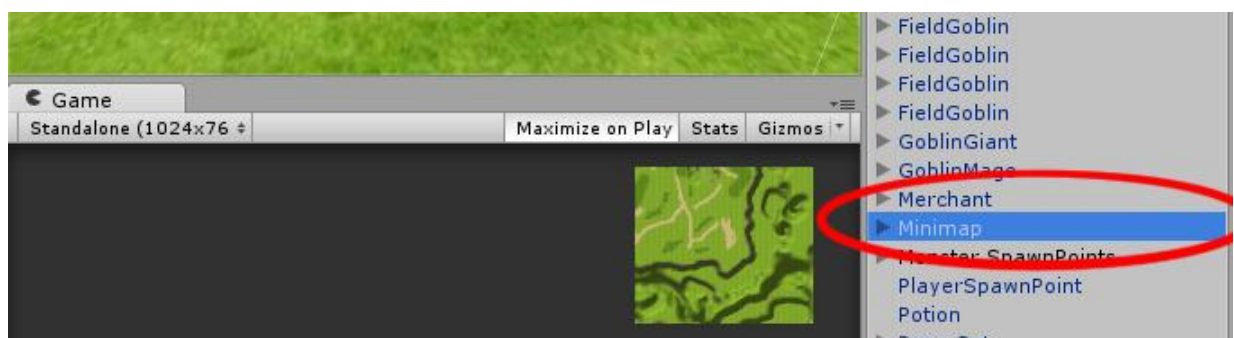- ARPGcamera
- LockMouse

# Minimap

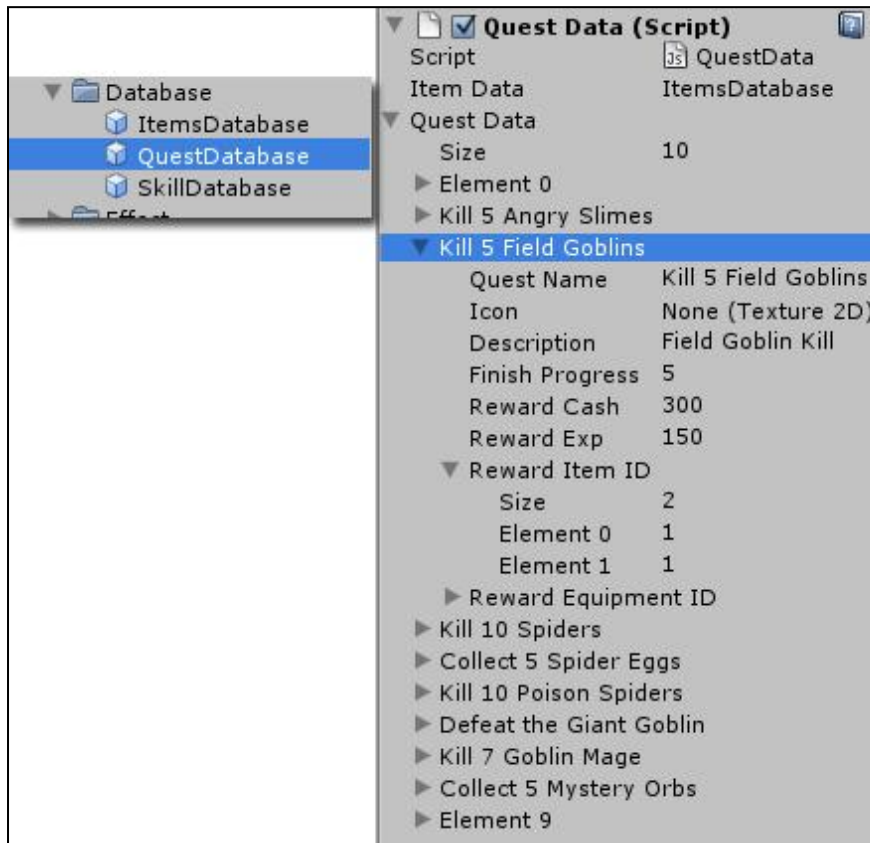First you have to drag "Minimap" from "Prefab Folder" to the scene you want to show the minimap.

Then you can change the Layer of the object you want to show in Minimap
- "Minimap" Layer will make the object show in minimap.
- "MinimapOnly" Layer will make the object show in minimap only and not show in the scene
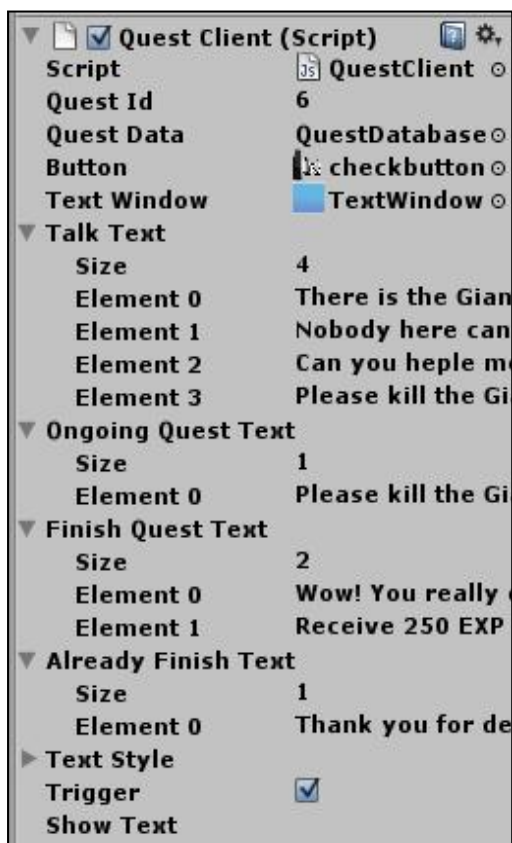
# How to Create Quests

## Quest Data



You can add new quest in Database folder (Prefab/Database /QuestDatabase)

-Finish Progress
ex. If your quest is kill 5 Goblins you should set Finish Progress to 5
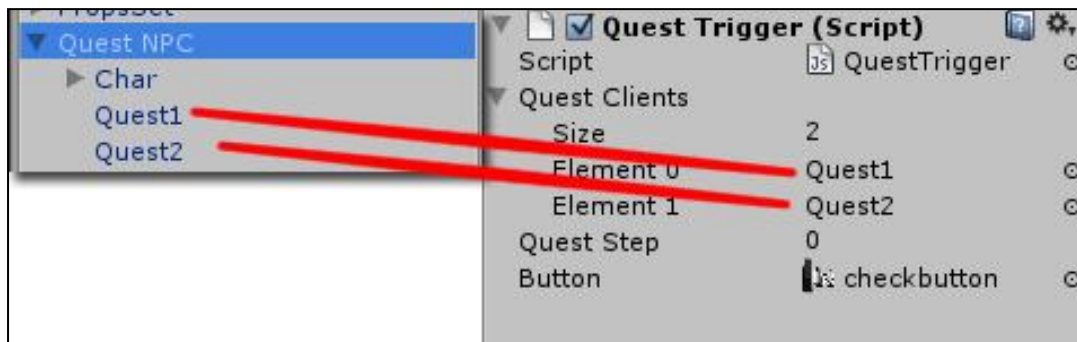
## Quest Client



Quest Client script is for Quest NPC

- Quest ID = ID of quest (match to the QuestData)
- Quest Data = Database of the quest

# Quest Trigger



Quest Trigger Script is for NPC who have more than 1 quest.
For example it will start with quest in Element0. When you finish the quest it will activate new quest until all of quest you
Assign to the "QuestClients" variable.

Quest will be the GameObject and must contain the "Quest Client" script
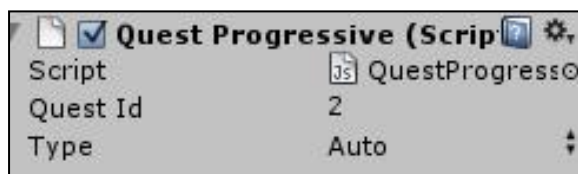


# Quest Progressive

This script use for increase the progress of your quest status.
For example you can assign it to the Monster's Death Prefab
or Item

Quest ID    -    ID of the quest you want to increase.
Type    -    Auto = Automatic increase your quest stat
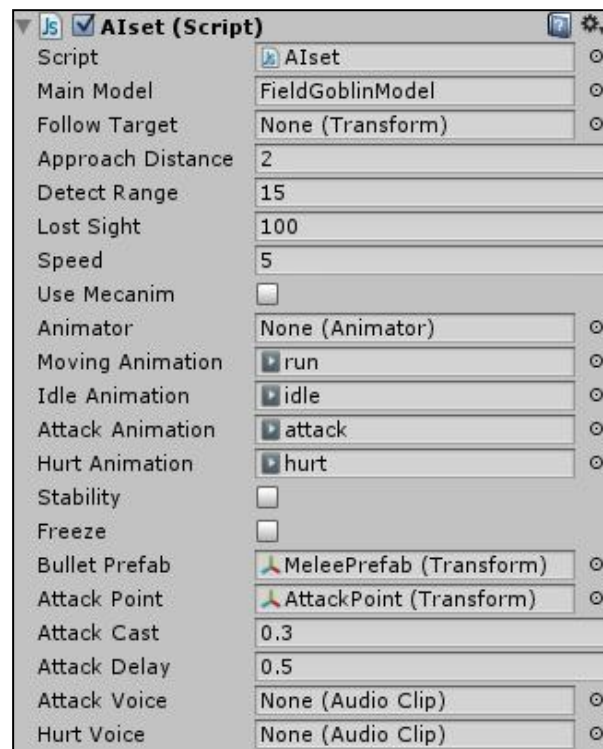    -    Trigger = You must collide the object to increase quest stat

# Quest Stat
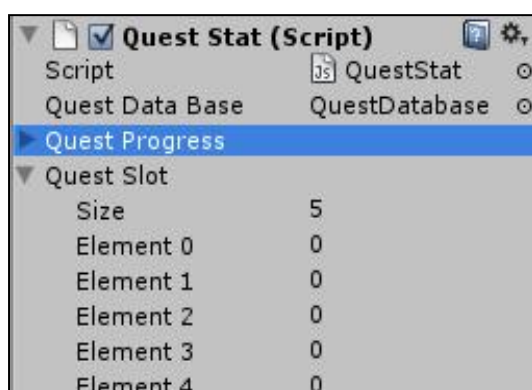


Attach to the player for save variable of
The quests.

# How to Create Monster

    After we import the monster's model and split the animation. Set the tag to Enemy and drag script CharacterController and Status as same as Player. In addition, The CharacterMotor will help you for calculate the gravity's motion suitable for the monster that walk on the ground.

    The main point that make the monster attack the player is Aiset script. Drag this script into the monster to use it.

| Js ✓ AIset (Script) | | |
|---|---|---|
| Script | AIset | ⊙ |
| Main Model | FieldGoblinModel | ⊙ |
| Follow Target | None (Transform) | ⊙ |
| Approach Distance | 2 | |
| Detect Range | 15 | |
| Lost Sight | 100 | |
| Speed | 5 | |
| Use Mecanim | ☐ | |
| Animator | None (Animator) | ⊙ |
| Moving Animation | ▶ run | ⊙ |
| Idle Animation | ▶ idle | ⊙ |
| Attack Animation | ▶ attack | ⊙ |
| Hurt Animation | ▶ hurt | ⊙ |
| Stability | ☐ | |
| Freeze | ☐ | |
| Bullet Prefab | MeleePrefab (Transform) | ⊙ |
| Attack Point | AttackPoint (Transform) | ⊙ |
| Attack Cast | 0.3 | |
| Attack Delay | 0.5 | |
| Attack Voice | None (Audio Clip) | ⊙ |
| Hurt Voice | None (Audio Clip) | ⊙ |

| | | |
|---|---|---|
| Follow Target | - | The enemy's target. If it doesn't have, the enemy will aim the Player Tag. |
| Main Model | - | Main Model for play animation |
| Approach Distance | - | The closest distance between enemy and target |
| Detect Range | - | The enemy's detect range |
| Lost Sight | - | The length that enemy will stop to follow the target |
| Speed | - | Enemy's speed movement |
| Use Mecanim | - | Use it if you use Mecanim Animation |
| Moving Animation | - | The Enemy walking animation's name |
| Idle Animation | - | The Enemy idle pose animation's name |
| Attack Animation | - | The Enemy attack animation's name |
| Hurt Animation | - | The Enemy hurt animation's name |
| Stability | - | If you mark on this, The enemy will not flinch by the attack from character |
| Freeze | - | If you mark on this, the enemy will freeze |

| Bullet Prefab | - | Store the enemy bullet's variable |
| Attack Point | - | The enemy bullet's starting point |
| Attack Cast | - | The time before enemy attack |
| Attack Delay | - | The delay after enemy attack |

From now on, we can create monster. The main components that use for monster are below.

- CharacterController
- CharacterMotor (Optional)
- Status
- Aiset

> When enemy dead. Status Script will spawn it's Death Body Prefab
> In the Death Body Prefab you should attach the "GainEXP" Script to it.
> The Player will gain EXP when monster's death prefab is spawn

# Enemy Drop Items

When enemy dead. Status Script will spawn it's Death Body Prefab In the Death Body Prefab you should attach the "GainEXP" Script to it. The Player will gain EXP when monster's death prefab is spawn
Attach the "DropItem" Script to the monster's death prefab when monster's death prefab is spawn. It will be random Drop the item from the script
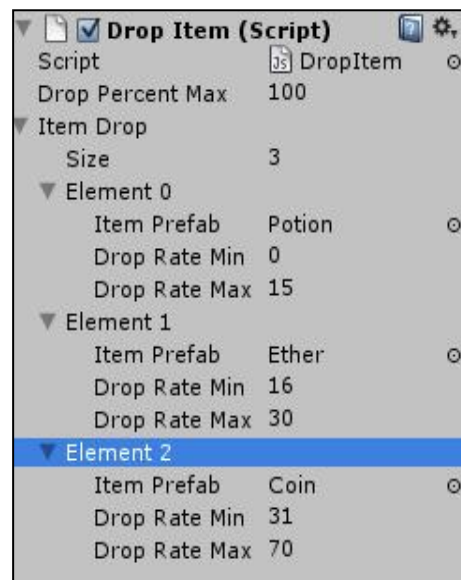
# Enemy Respawn



Attach to the enemy's death prefab like "DropItem" script

Enemy          -          Prefab of the Enemy to respawn

Point Name  -          Name of all respawn point the monster will random
                              Respawn at the position of object with the same name
                              As this variable

Delay           -          Delay after enemy death until it respawn

Random Point -    Random variance of the respawn position a little

# How to Create Skill(Database)

You can use "SkillDatabase"prefab(Prefab/Database/SkillDatabase)
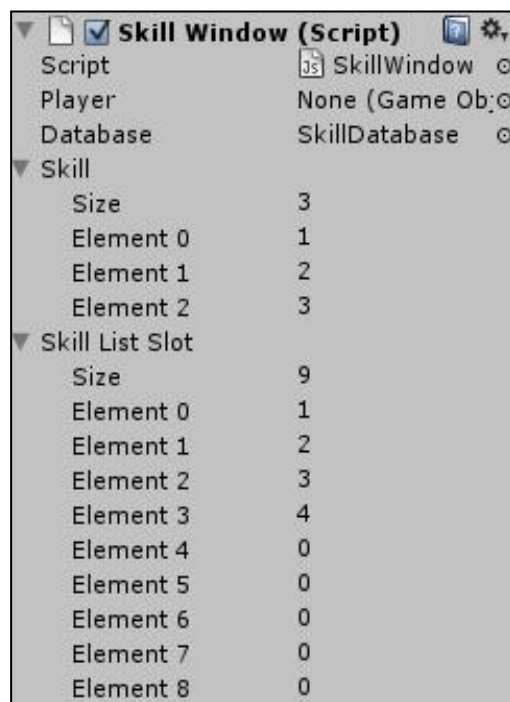As a Database
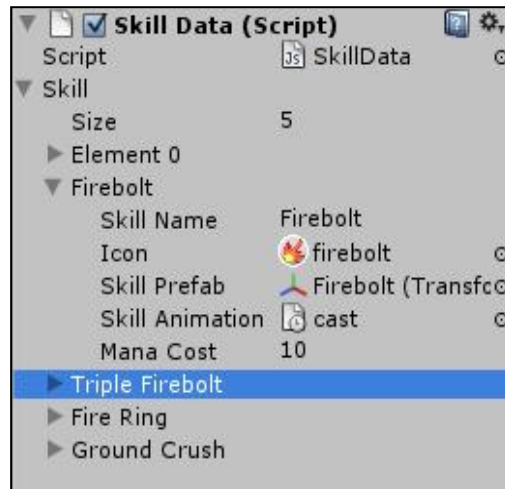


You can add new skill data by edit Size in "Skill" variable

The Element number is an ID of your skill. It very important to use with the Skill Window

# Skill Window

The Skill Window script will attach to the player character.
This script Contain variable of Skill ID. The reference of the skill ID is from SkillDatabase

# How to Create Skill(Bullet)

Now we can make both player and monster. Let's create the attack skill for them. In this example we will make a bullet. After you make a bullet model for use in this skill, mark on the Is Trigger
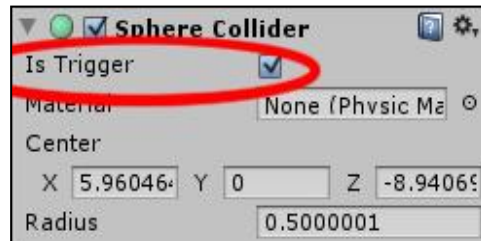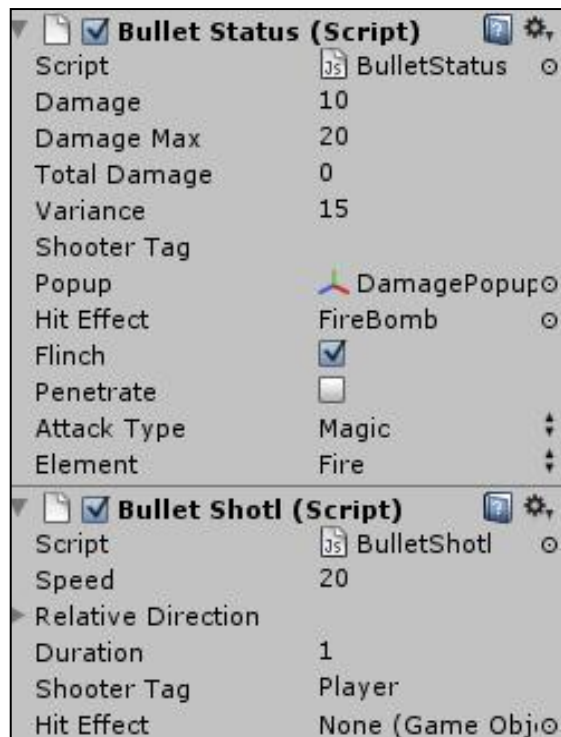


After that, mark on Rigidbody at Component/Physics/Rigidbody and mark Use Gravity off for doesn't calculate the gravity.
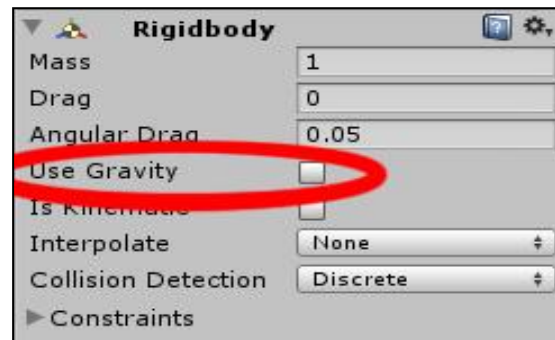


Then, drag the Bullet Shotl script and BulletStatus script into the bullet. In BulletStatus, you can set the impact and damage of the bullet

| Damage | - | The bullet's lowest Damage |
| Damage Max | - | The bullet's highest Damage |
| Variance | - | The damage variance |
| Popup | - | Store Prefab for show the damage on screen. In this example, we use DamagePopup from Prefab folder |
| Hit Effect | - | The Bullet hit effect |
| Flinch | - | If you mark on this, when the target will flinch after impact with bullet |
| Penetrate | - | Bullet will not destroyed when hit the enemy |
| Attack Type | - | Physic = Physic Attack<br>Magic = Magic Attack |
| Element | - | Element of this bullet |

In the BulletShotl script, there are only 2 main variable. The speed and duration for setting the bullet speed and the bullet's remain time. When the bullet were shoot from Tag Player. The target will become Tag Enemy. In contrast, if the bullet were shoot from the enemy. The player will become the target. When the bullet hit the object with "Wall" tag, the bullet will disappear. The components that use for skill are below.

- BulletStatus
- BulletShotl
- Collider / Is Trigger
- Rigid Body / uncheck Use Gravity

# Abnormal Status
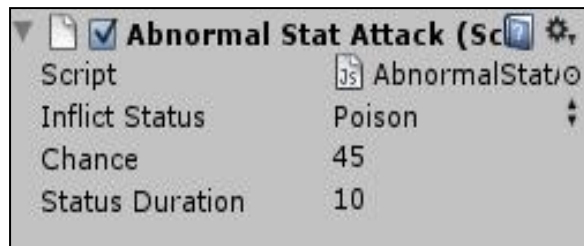


Attach to the Skill Prefab or Attack Prefab.

| | | |
|---|---|---|
| Inflict Status | - | What kind of Status to inflict to target |
| Chance | - | Chance of success rate |
| Status Duration | - | Duration of abnormal status |

# Advance Status

In status script, you can modify various functions such "How much the skill point and max HP will increase when the character level up". Looking in the example below.

function LevelUp


statusPoint += 5;

You can set 5 to other number as you want, when your character is level up, it will get the skill point same as the setting variable.

maxExp = 1.25 * maxExp;

When Level up, character max EXP will extend by 25%

maxHealth += 20;
maxMana += 10;

Same as above, you can set them as you want.

function OnDamage and OnMagicDamage

When the damage occur, this function will be called. You can adjust the status calculate formula as much as you want