

Multiplayer Action RPG Template (Ver 1.07)

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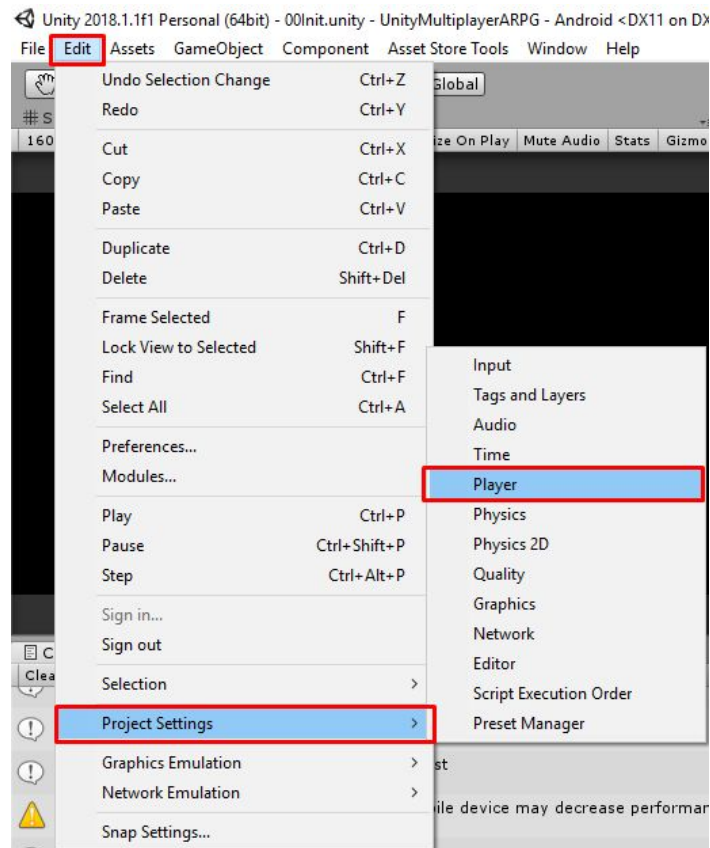
MMO Mode ->

<https://docs.google.com/document/d/1Z7x96xgmt-CgFXJSH9Wfg3oaDOC81p6ImpdTh2flDPo/edit?usp=sharing>

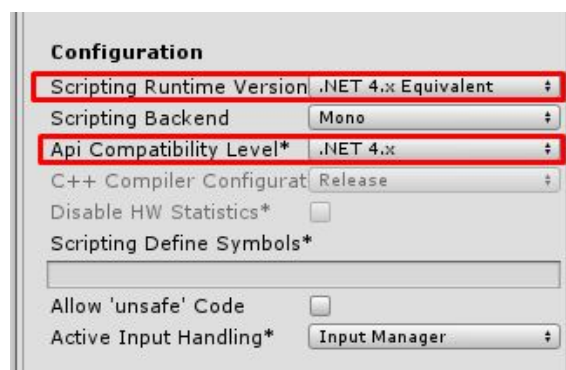
Getting Started

After import the package, you have to set **Scripting Runtime Version** to **.NET 4.x Equivalent** and **Api Compatibility Level** to **.NET 4.x**

Click menu Edit -> Project Settings -> Player

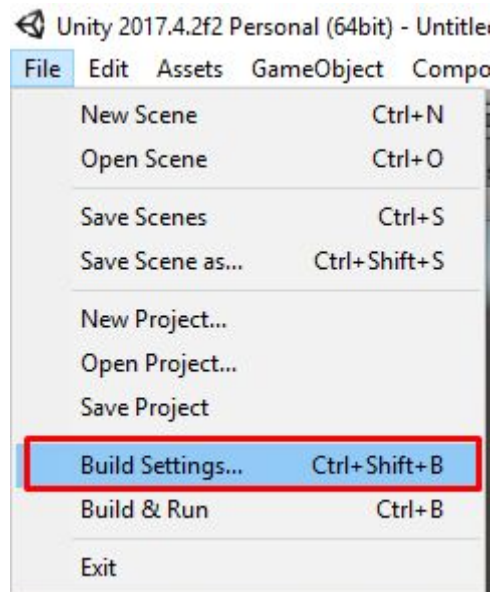


Then set **Scripting Runtime Version** to **.NET 4.x Equivalent** and **Api Compatibility Level** to **.NET 4.x**

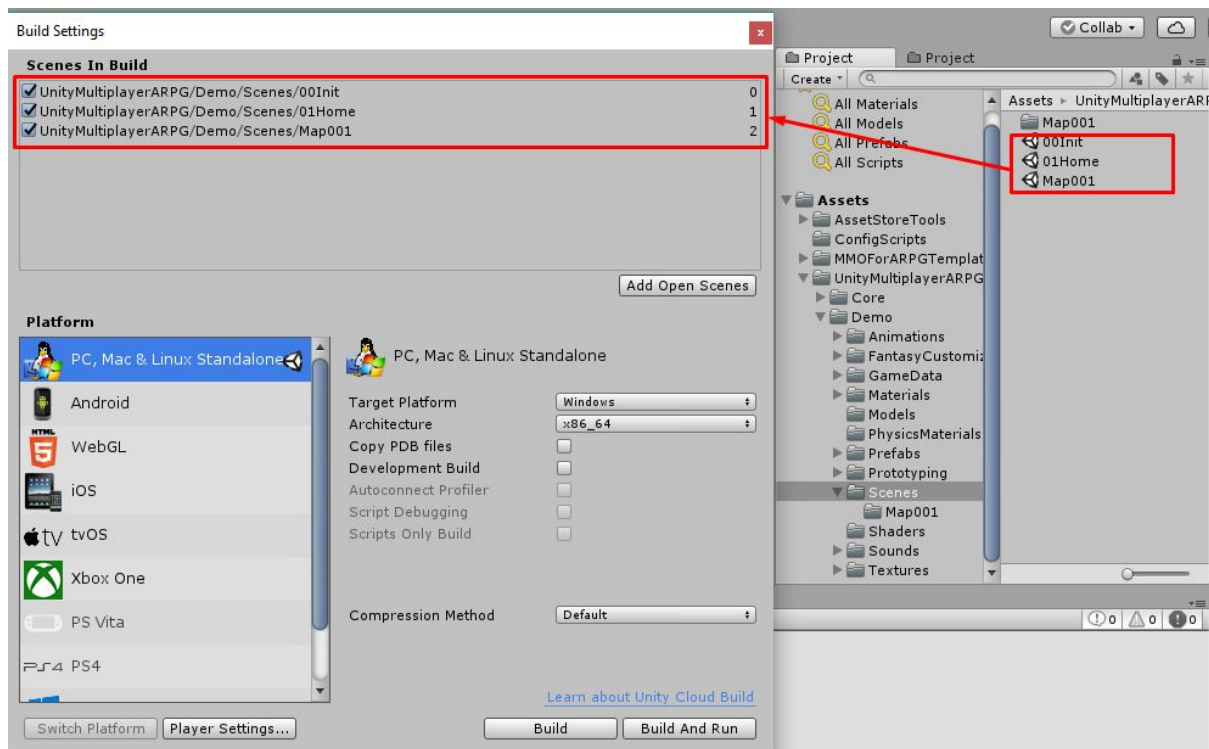


Then close the editor and reopen the project again

Then we're going to build the test demo click menu **File -> Build Settings**



Then drag **00Init**, **01Home**, **Map001** scenes to **Build Settings** dialog



Then press **Build** to build it

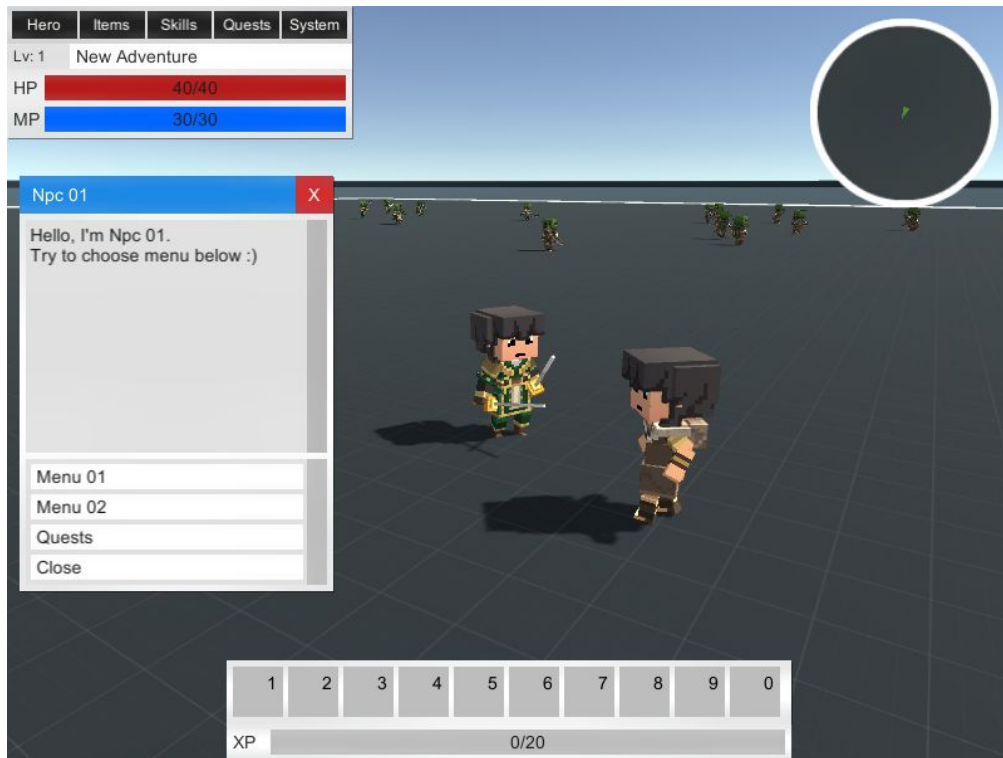
Now you can try a game, create your first character



Then start game



You can move character by clicking on the ground, you can click on npc to talk, attack monster, pick up an items, rotate camera by right drag



- Press C to toggle Character dialog
- Press I to toggle Inventory dialog
- Press T to toggle Skill tree dialog
- Press Q to toggle Quest list dialog
- Press Esc to toggle System menu (including respawn menu when dead)

When you kill monster, your character will gain XP, collect XP to level up

When level up, your character will gain Statpoint and Skillpoint

You can use Statpoint to increase attributes, in this Demo there are:

- **Strength** increase your character attack damage while equip sword, 2-hand sword and also increase limit inventory weight
- **Dexterity** increase evasion and accuracy
- **Vitality** increase max HP
- **Intelligence** increase max MP

Character Stats

This project is prepared following stats:

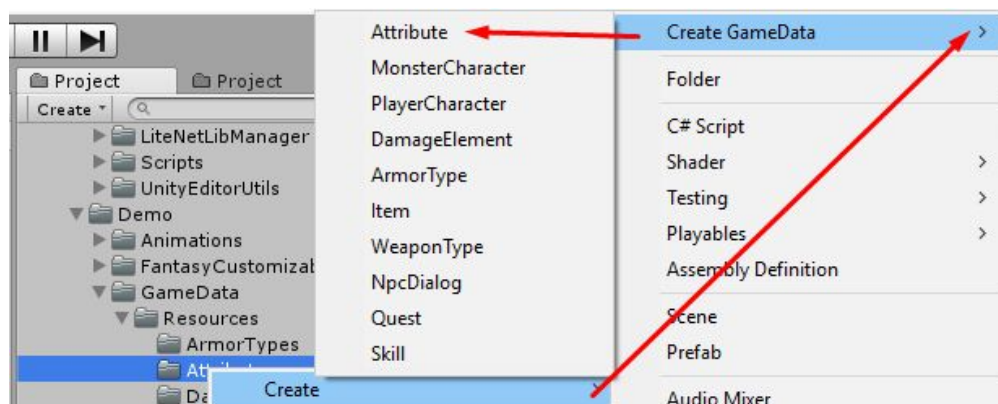
- **Hp** as all we know if this value = 0, character will die
- **Mp** required to use skills
- **Armor** reduce receiving damage from enemies
- **Accuracy** add chances to hit enemies
- **Evasion** add chances to evade enemies
- **Cri Rate** chances to occurs critical damage
- **Cri Dmg Rate** when critical damage occurs, damage will multiply with this value
- **Block Rate** chances to block damage
- **Block Dmg Rate** when blocking, damage will reduce by this rate
- **Move Speed** increase character move speed
- **Atk Speed** increase character attack speed
- **Weight Limit** increase inventory weight limit

Attributes

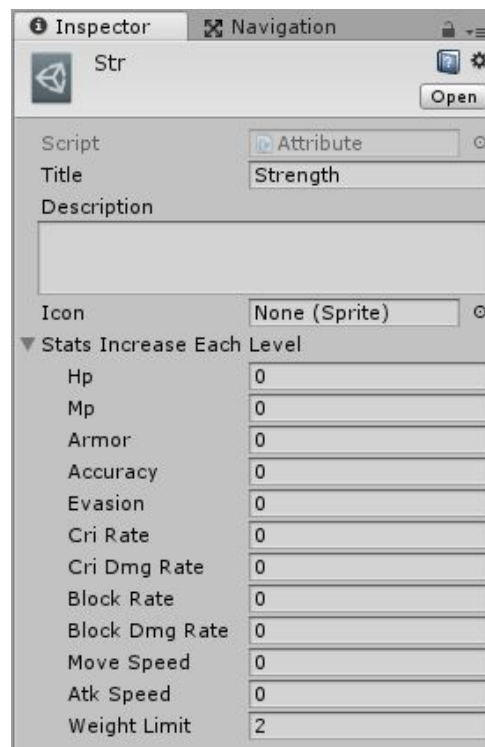
With this project you can define any attributes as you wish, attributes will affect to character stats, requirements, weapon damage effectiveness and skill damage effectiveness

About weapon damage effectiveness and skill damage effectiveness we can define which attribute can increase damage, so we may define Intelligence increase magic spell damage, Strength increase sword, axe, spear damage

You can create new attribute by right click in **Project** tab select **Create -> Create GameData -> Attribute**



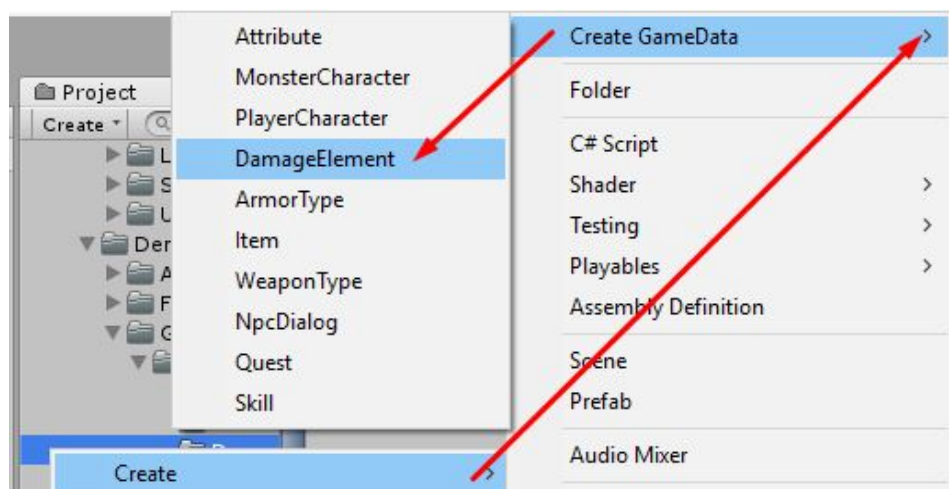
You have to create it in **Resources** folder, then define its name which must be unique (Not same as other attribute data) then define its data as you wish



Damage Elements and Resistances

With this project you can define any damage element as you wish, armor will not affect to elemental damage only resistance can reduce it

You can create new attribute by right click in **Project** tab select **Create -> Create GameData -> Damage Element**



You have to create it in **Resources** folder, then define its name which must be unique (Not same as other damage element data) then define its data as you wish

Items

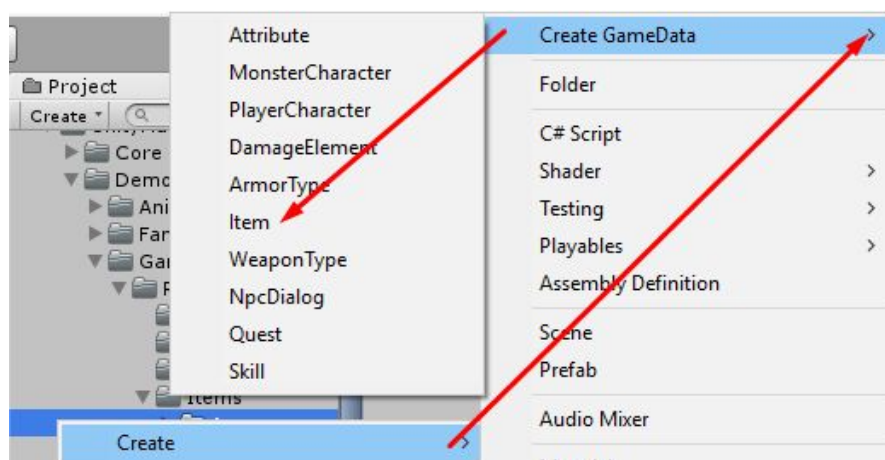
With this project you can create Item as following types:

- **Junk**, generic item that can do nothing, can sell only
- **Armor**, character equip armor items to reduce attack damage and also receive another bonus
- **Weapon**, character equip weapons to increase attack damage and also receive another bonus
- **Shield**, character equip shield at off-hand to reduce attack damage and also receive another bonus
- **Potion**, character can consume this to regenerate HP, MP and also can receives another buffs

For generic item data you can set following data:

- **Item Type**, type of items like as explained above
- **Drop Model**, model which will present in the ground when drop
- **Sell Price**, price when sell to Npc
- **Weight**, weight
- **Max Stack**, max amount that can stack

You can create new attribute by right click in **Project** tab select **Create -> Create GameData -> Item**



You have to create it in **Resources** folder, then define its name which must be unique (Not same as other item data) then define its data as you wish

Equipment Items

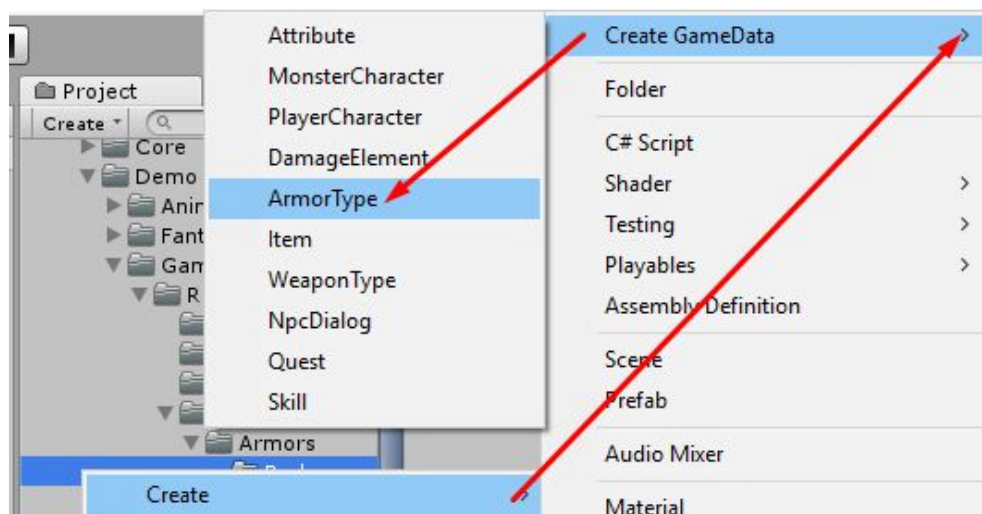
Armor, weapon and shield are equipment item, equipment item can set following data:

- **Max Level**, max level that can level up to
- **Equipment Models**, An socket name and model which will appear when equipped by character
- **Requirement**, requirement to equip this item
- **Increase Attributes**, increasing attributes when equip this item
- **Increase Resistances**, increasing resistances when equip this item
- **Increase Damages**, increasing damages when equip this item
- **Increase Stats**, increasing character stats when equip this item
- **Max Durability**, Equipment durability, If this set to 0 it will not broken
- **Destroy If Broken**, If this is **TRUE**, your equipment will be destroyed when durability = 0

Armor Items

For armor item it is required armor type data

You can create new armor type by right click in **Project** tab select **Create -> Create GameData -> ArmorType**



You have to create it in **Resources** folder, then define its name which must be unique (Not same as other armor type data) then define its data as you wish

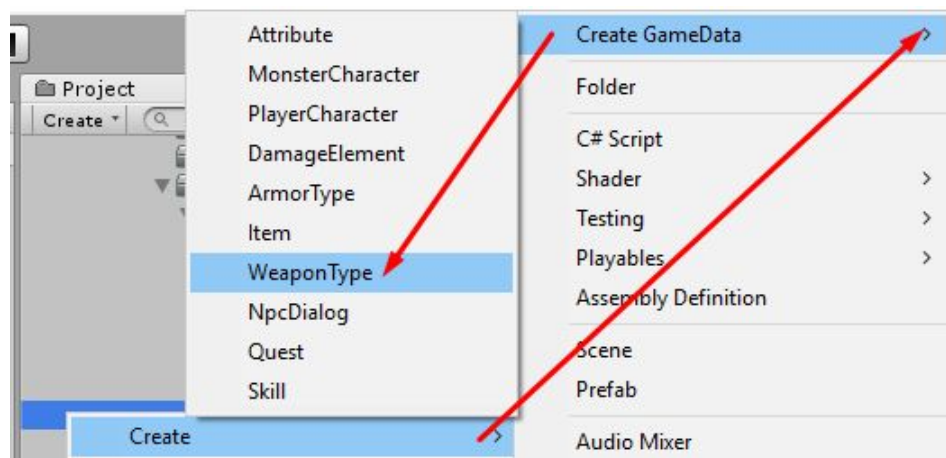
We will use the armor type file name to define which position this item will be equipped to

Weapon Items

For weapon item you can set **Damage Amount**, **Sub Equipment Models** for weapons that can equip at off-hand (or left-hand)

Weapon item is required weapon type data

You can create new weapon type by right click in **Project** tab select **Create -> Create GameData -> WeaponType**



You have to create it in **Resources** folder, then define its name which must be unique (Not same as other weapon type data) then define its data as you wish

Weapon type data have following data:

- **Equip Type**, There are: **One Hand** - can equip in right hand only, **One Hand Can Dual** - can equip to any hand, **Two Hand** - require two hand to equip it
- **Damage Info**, There are: **Melee** and **Missile**
- **Effectiveness Attributes**, Attributes that can increase attack damage
- **Right Hand Attack Animations**, Animation data when attacking while equip this weapon at right hand
- **Left Hand Attack Animations**, Animation data when attacking while equip this weapon at left hand

About damage info, as described above there are 2 types there are melee and missile

For melee damage, you can set **Hit Distance** it is distance from character position to hit enemy and **Hit Fov** it is FOV in front of character position to hit enemy

For missile damage, you can set **Missile Distance** is distance that this missile can travel to, **Missile Speed** is move speed to target and **Missile Damage Entity** is entity which will appear in game scene to apply damage when hit to target

About attack animation you can set following data:

- **Clip**, the animation clip when attacking enemy
- **Trigger Duration Rate**, rate of **Clip** length to launch damage entity or melee damage hit target
- **Extra Duration**, extra duration after played animation clip, may use this to play idle animation before next attack
- **Audio Clips**, randoming sound effects, it will playing once while attack animation is playing
- **Override Data**, override data for this attack animation data for target model, override it when you want another model plays different animation clip

Potion Items

For potion item you can set **Buff**, about buff you can set following data:

- **Duration**, duration for applying this buff
- **Recovery Hp**, recovery Hp within duration
- **Recovery Mp**, recovery Mp within duration
- **Increase Stats**, increasing character stats
- **Increase Attributes**, increasing attributes
- **Increase Resistances**, increasing resistances
- **Increase Damages**, increasing damages
- **Effects**, effects that will playing while this buff is applying

Skills

With this project you can define any skills as you wish, for each skill you can set following data:

- **Skill Type**, there are Active which can attack, buff characters, Passive which can buff characters, Craft Item which can craft an items
- **Cast Animations**, randoming animations that playing before attack target or buff, if it's attack skill and this is empty it will play weapon attack animation
- **Max Level**, max level of this skill
- **Available Weapons**, skill can use when equip weapon in this available weapon types, if this is empty every weapon types is available
- **Consume Mp**, require Mp to use this skill
- **Cool Down Duration**, cool down for this skill before use it again next time
- **Requirement**, requirement to level up this skill
- **Skill Attack Type**, how this skill attack to target if it's Normal it will override weapon's damage info, attribute effectiveness and damage amount
- **Weapon Damage Inflictions**, damage inflictions based on weapon damage amount
- **Additional Damage Amounts**, damage amounts that will be increasing while attacking target
- **Is Debuff**, if this is TRUE damage receiver will receive debuff
- **Debuff**, debuff which will be applied to attacking characters
- **Skill Buff Type**, how buff will be applied to characters
- **Buff**, buff which will be applied to characters
- **Crafting Item**, which item you want to craft when use this skill
- **Craft Requirements**, an items an amount that required to craft the item

About cast animation you can set following data:

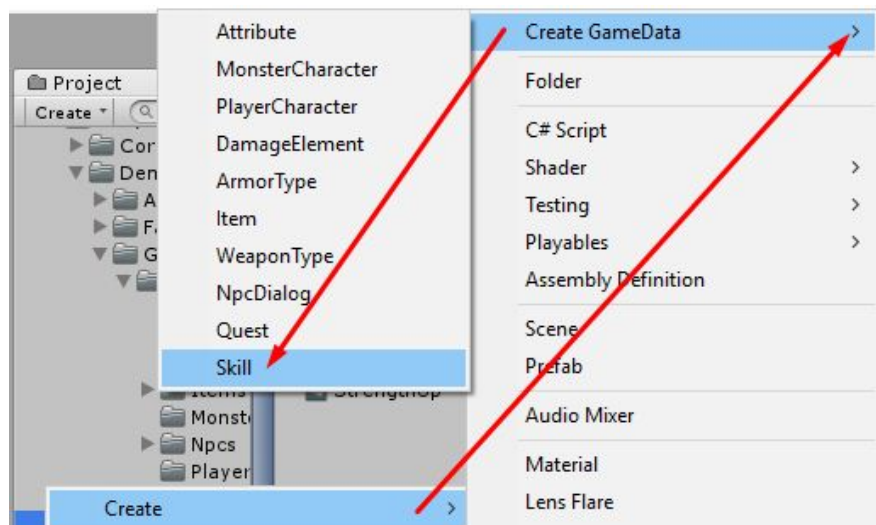
- **Clip**, the animation clip when casting spell or attacking target
- **Trigger Duration Rate**, rate of **Clip** length to launch damage entity or melee damage hit target
- **Extra Duration**, extra duration after played animation clip, may use this to play idle animation before next attack
- **Audio Clips**, randoming sound effects, it will playing once while casting animation is playing

- **Override Data**, override data for this cast animation data for target model, override it when you want another model plays different animation clip

About buff you can set following data:

- **Duration**, duration for applying this buff
- **Recovery Hp**, recovery Hp within duration
- **Recovery Mp**, recovery Mp within duration
- **Increase Stats**, increasing character stats
- **Increase Attributes**, increasing attributes
- **Increase Resistances**, increasing resistances
- **Increase Damages**, increasing damages
- **Effects**, effects that will playing while this buff is applying

You can create new skill by right click in **Project** tab select **Create -> Create GameData -> Skill**



You have to create it in **Resources** folder, then define its name which must be unique (Not same as other skill data) then define its data as you wish

Quests

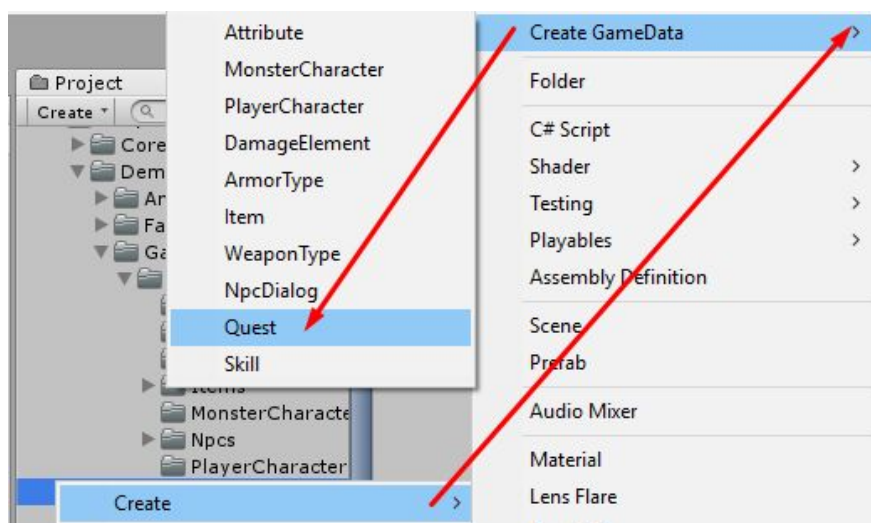
With this project you can define any quests as you wish, for each quest you can set following data:

- **Tasks**, each task you can set its type set it to **Kill Monster** if you want player to kill monster to complete quest and set it to **Collect Item** if you want player to collect item to complete quest

- **Reward Exp**, exp that character will gain when complete the quest
- **Reward Gold**, gold that character will gain when complete the quest
- **Reward Items**, items that character will gain when complete the quest
- **Can Repeat**, if this is **TRUE**, this quest will able to start repeatedly

You can set **Quest** in **Npc** dialog to make it available to receive and complete it

You can create new quest by right click in **Project** tab select **Create -> Create GameData -> Quest**



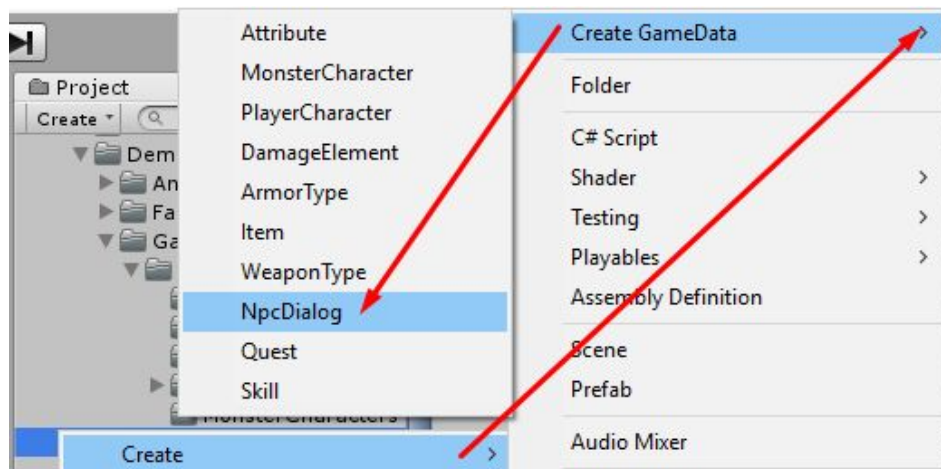
You have to create it in **Resources** folder, then define its name which must be unique (Not same as other quest data) then define its data as you wish

Npcs

You have to create Npc dialogs to make Npc able to talk to player, each Npc dialog you can set following data:

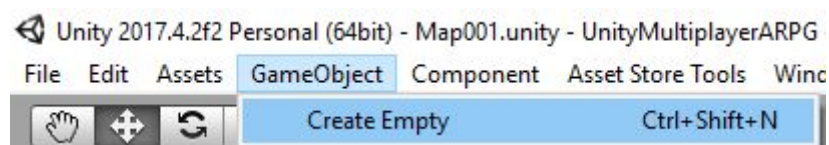
- **Type**, type of this dialog
- **Menus**, choices to next dialog, you also can set conditions to show the menu

You can create new quest by right click in **Project** tab select **Create -> Create GameData -> NpcDialog**

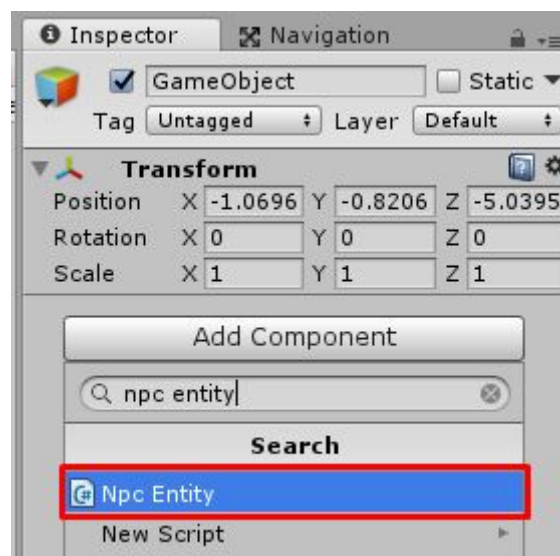


You have to create it in **Resources** folder, then define its name which must be unique (Not same as other npc dialog data) then define its data as you wish

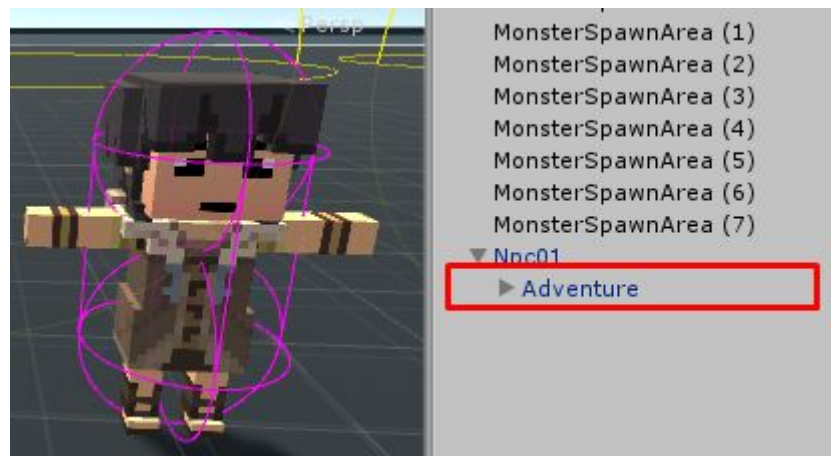
Then you have to create **Npc Entity** in game scene to make it appear in game scene and able to interact by create empty game object



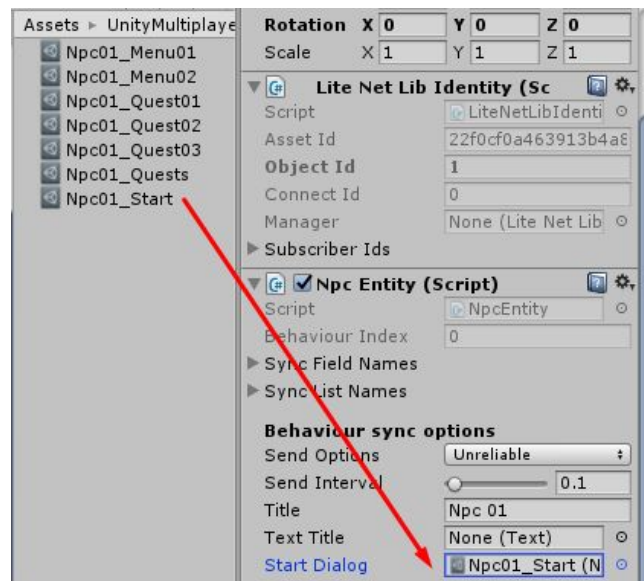
Then add **Npc Entity** component



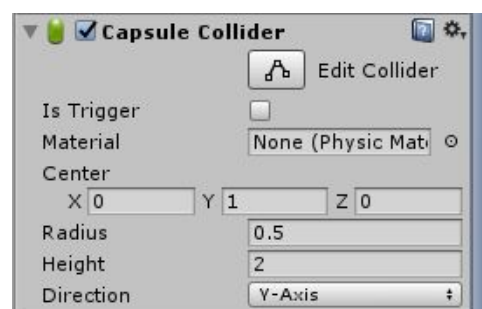
Then add character model as its child this model will appear in gameplay



Then set created npc dialog to **Start Dialog**, this dialog will be first dialog when talking to this Npc



Then add collider to make it able to interact by players, it can be any collider

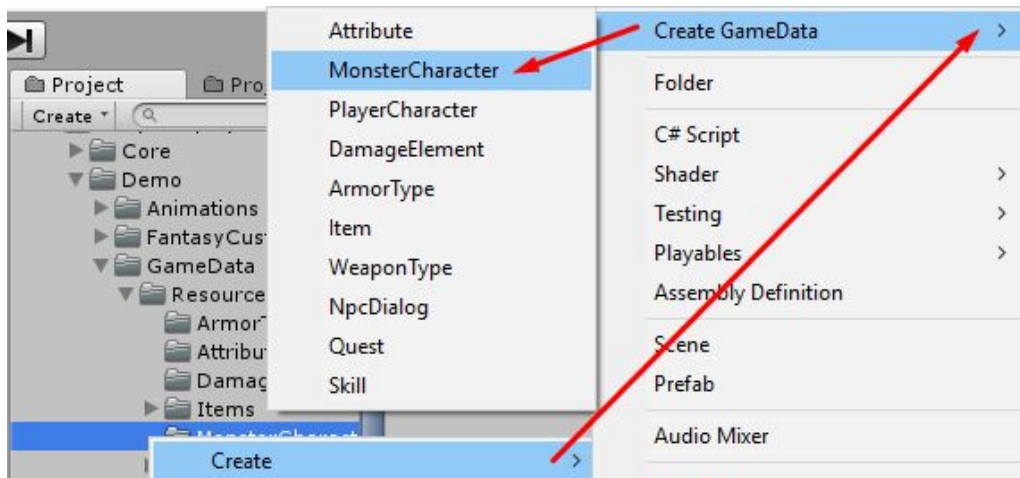


Monster Characters

You have to create Monster character data to define its data such as stats and attributes, each Monster character you can set following data:

- **Model**, character model which will appear in game see at character model section for more information
- **Attributes**, monster's attributes
- **Stats**, monster's stats
- **Resistances**, monster's resistances
- **Characteristics**, set it to **Normal** monster will not attack player when nearby, **Aggressive** monster will attack player when nearby and **Assist** monster will attack player when another monster which have same **Ally Id** have been attacked by the player
- **Immovable**, Set this to **TRUE** to make monster don't move
- **Wander Move Speed**, move speed while wandering (Not chasing player)
- **Ally Id**, this will work with Assist characteristic only, to detect ally
- **Visual Range**, range to see enemies
- **Dead Hide Delay**, delay before hide this monster after dead
- **Dead Respawn Delay**, delay before respawn this monster after dead
- **Attack Animations**, randoming attacking animations
- **Damage Info**, information of how character attacking
- **Damage Amount**, attack damage
- **Random Exp Min**, exp that character will gain when kill the monster
- **Random Exp Max**, exp that character will gain when kill the monster
- **Random Gold Min**, gold that character will gain when kill the monster
- **Random Gold Max**, gold that character will gain when kill the monster
- **Random Gold Items**, items that character will gain when kill the monster

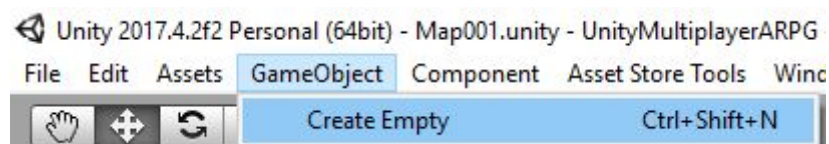
You can create new monster character by right click in **Project** tab select **Create -> Create GameData -> MonsterCharacter**



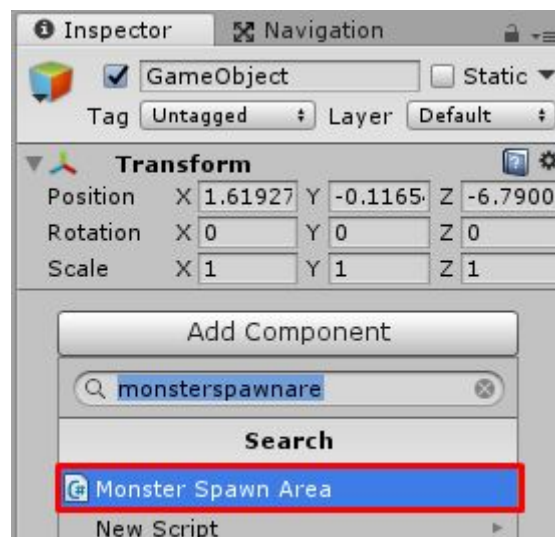
You have to create it in **Resources** folder, then define its name which must be unique (Not same as other monster character data) then define its data as you wish

Monster Spawn Area

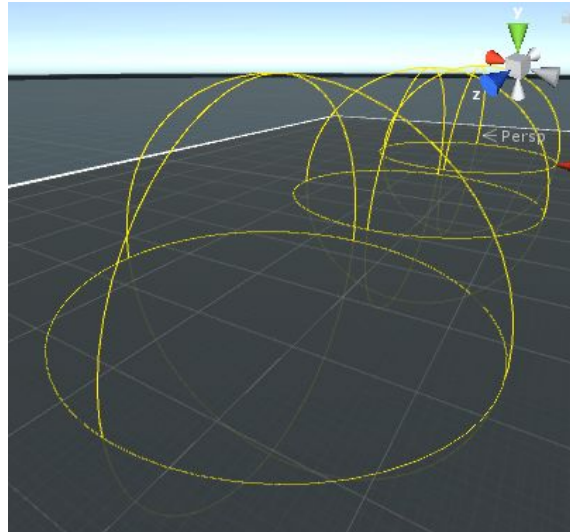
After created Monster character data, we'll use it to spawn in game scene when game started, you have to create **Monster Spawn Area** in game scene by create empty game object



Then add **Monster Spawn Area** component



Then set created Monster character to **Database** then set **Level**, **Amount** and **Random Radius** you can see area which monster will be spawned in the Scene

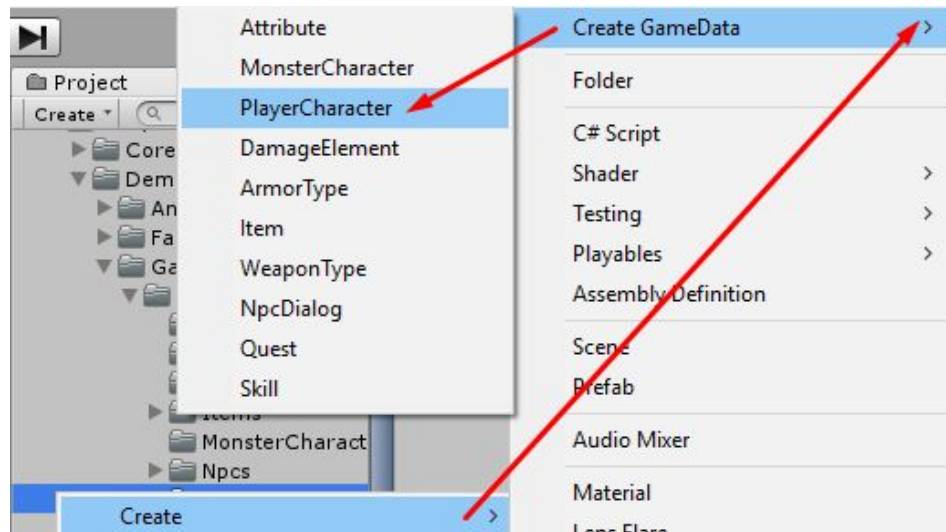


Player Characters

You have to create Player character data to define its data such as stats and attributes, each Player character you can set following data:

- **Model**, character model which will appear in game see at character model section for more information
- **Attributes**, character's attributes
- **Stats**, character's stats
- **Resistances**, character's resistances
- **Skill Levels**, character's skills with start level
- **Right Hand Equip Item**, character will equip this item after created immediately
- **Left Hand Equip Item**, character will equip this item after created immediately
- **Armor Items**, character will equip this item after created immediately

You can create new player character by right click in **Project** tab select **Create -> Create GameData -> PlayerCharacter**



You have to create it in **Resources** folder, then define its name which must be unique (Not same as other player character data) then define its data as you wish

Character Model

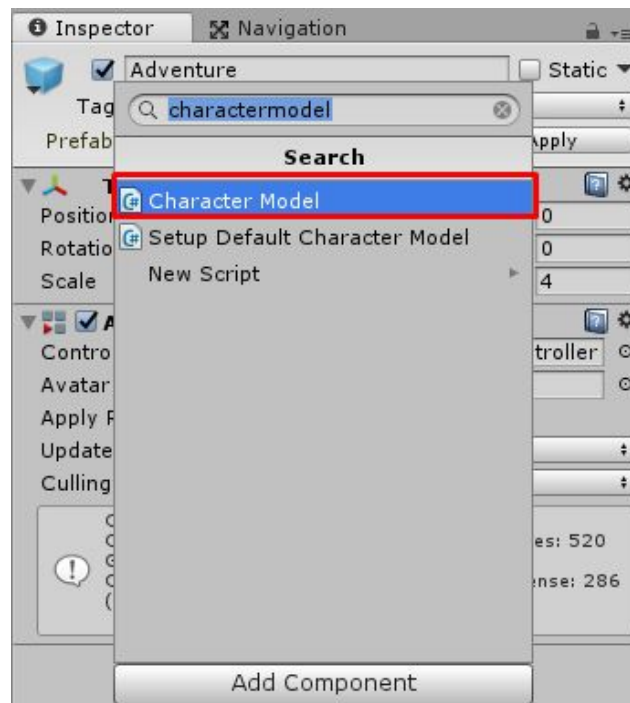
Character model will be used to present in game scene to let player know where the character is and interact on it

To create new Character Model, I recommend you to do it in empty scene

You can do it by drag you animated mesh which you want to make it as character model into the scene



Then add **Character Model** component

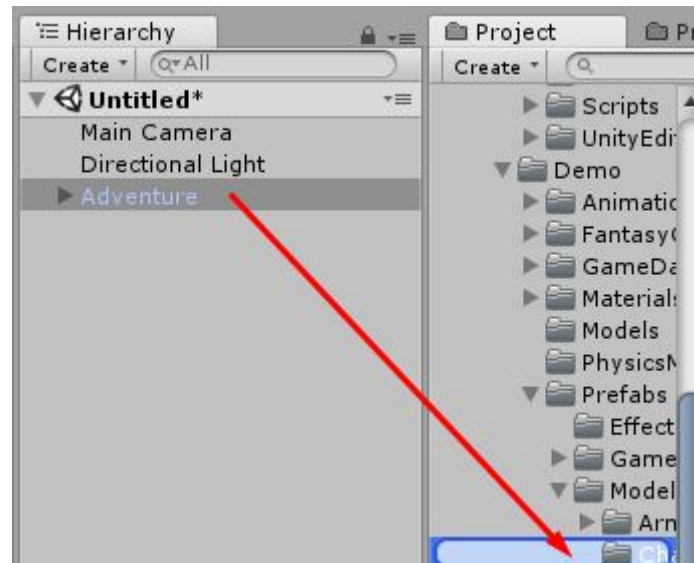


Then set following data:

- **Animation Type**, type of animation system for this model you can use Animator or Legacy Animation but you have to add Animator or Animation component to use it
- **Animator Controller**, choose the animation controller for this character model, I recommend you to create it based on my animator controller which located at **/Assets/UnityMultiplayerARPG/Demo/Animations/** its name is **CharacterAnimationController**
- **Legacy Animation Data**, data for legacy animation system there clip for idle, move, jump, fall, hurt and dead with each fade length
- **Center**, collider center, you can see how collider is in the scene it's draw as magenta capsule
- **Radius**, collider radius, you can see how collider is in the scene it's draw as magenta capsule
- **Height**, collider height, you can see how collider is in the scene it's draw as magenta capsule
- **Melee Damage Transform**, this is transform where melee damage will launch
- **Missile Damage Transform**, this is transform where missile damage will launch
- **Combat Text Transform**, this is transform where combat text (Damage amount, Heal amount) will instantiate to

- **Equipment Containers**, collection of socket name and transform where equipment models will instantiate to
- **Effect Containers**, collection of socket name and transform where game effects will instantiate to

After set all of them, then drag it to **Project** tab to make it as prefab, then we can use it to set to Monster character and Player character



With Fantasy Customizable Pack, you can create new character easily try it!!

(<https://www.assetstore.unity3d.com/#!/content/68910?aid=11001>
GeN)

Another Settings

There are another settings you can changes, In **00Init** scene there are game object named **GameInstance** which contains **Game Instance** component which you can set following settings:

- **Gameplay Rule**, gameplay configs which can be created via menu Create -> Create GameplayRule, for now there are only 1 kind of gameplay rule is SimpleGameplayRule
- **Network Setting**, network settings which can be created via menu Create -> Create NetworkSetting
- **Player Character Entity Prefab**, prefab of player character entity, you may create new prefab based on Demo's prefab which changes some settings such as rigidbody, controller
- **Monster Character Entity Prefab**, prefab of monster character entity, you may create new prefab based on Demo's prefab which changes some settings such as rigidbody, controller, nav mesh agent
- **Item Drop Entity Prefab**, prefab of item drop entity, you may create new prefab based on Demo's prefab which changes some settings such as rigidbody, controller, animation
- **Ui Scene Gameplay Prefab**, this is prefab of gameplay UI, you may create new prefab based on Demo's prefab which changes appearance of dialogs
- **Ui Scene Gameplay Mobile Prefab**, this is prefab of gameplay UI, you may create new prefab based on Demo's prefab which changes appearance of dialogs when running on mobile platform
- **Default Weapon Item**, default weapon item when character is not equipped any item, for example Unarmed weapon with damage amount 1-1
- **Default Hit Effects**, effects that instantiates when character received damage
- **Exp Tree**, Exp tree, max level of character will be size of this array
- **Player Tag**, tag of player object we may use it to make game better performance while search for an player objects
- **Monster Tag**, tag of monster object we may use it to make game better performance while search for an monster objects

- **Npc Tag**, tag of Npc object we may use it to make game better performance while search for an Npc objects
- **Item Drop Tag**, tag of item drop object we may use it to make game better performance while search for an item drop objects
- **Character Layer**, layer of character object we may use it to make game better performance while search for an character objects
- **Item Drop Layer**, layer of item drop object we may use it to make game better performance while search for an item drop objects
- **Increase Stat Point Each Level**, amount of stat point that character will gain when level up
- **Increase Skill Point Each Level**, amount of skill point that character will gain when level up
- **Item Appear Duration**, Duration before item disappear
- **Pick Up Item Distance**, Distance that character can pick up item
- **Drop Distance**, Distance that character will drop item randomly around its position
- **Conversation Distance**, Distance that player character can interact to Npc
- **Level Up Effect**, Game effect which will instantiate in game scene when level up
- **Start Items**, An items that will be added when create character
- **Home Scene**, Home scene the scene which manage characters
- **Start Scene**, Game scene the scene which playing the game
- **Start Position**, Position in game scene which new character will be placed to
- **Other Scene**, Another game scenes which available for players to play, now it available for MMO mode only
- **Min Character Name Length**, minimum character name length
- **Max Character Name Length**, maximum character name length
- **Use Mobile In Editor**, force the game running as mobile platform you may set it to TRUE to test mobile UIs

Document Changelog

1.07

- Add legacy animation instruction
- Add override action animation data instruction

- Remove gameplay camera, minimap camera and target prefabs from Another setting section because they have been moved to Player Character Controller

1.06

- Remove ECS setup, it's not required

1.05

- Add instruction about equipment durability
- Add instruction about other scenes in **Another settings** section

1.04

- Remove **Move Speed Multiplier** from **Another settings** because it have not been used, Now it use Character's base move speed stats as base move speed to calculate animation speed multiplier instead
- Add steps to setup package to support **ECS**

1.03

- Add guide to set **Scripting Runtime Version** to **.NET 4.x Equivalent** and **Api Compatibility Level** to **.NET 4.x** before build

1.02

- Change player character's Skills to Skill Levels, now you can set start Skill Levels
- Add skill's type
- Add skill's crafting item
- Add skill's craft requirements

1.01

- Add description about **Gameplay Rule** at **Another Settings** section
- Add description about **Network Setting** at **Another Settings** section
- Add description about **Ui Scene Gameplay Mobile Prefab** at **Another Settings** section
- Add description about **Use Mobile In Editor** at **Another Settings** section