

Survivors Roguelike Template Documentation

WORK IN PROGRESS



[Play the Demo](#)

Marketplace:

<https://www.unrealengine.com/marketplace/en-US/product/survivors-roguelike-multiplayer-game-template>

Discord: [Monster Tooth Studios Discord](#)

Spawning System

Overview

The spawning system is managed in **BP_Game_Manager** and pulls data from two data tables **DT_ExampleSpawn** for base enemies that spawn every 7 seconds by default and **DT_ExampleEliteSpawn** for elite enemies that spawn at specific times

During the setup of **BP_Game_Manager**, all data is pulled in from the data table and copied into either **EnemySpawns** or **EliteSpawns** which are arrays of **ST_EnemySpawnType**.

The screenshot displays a 'Data Table' window with a search bar and a table of enemy spawn data. Below it is the 'Row Editor' for the 'Runner' row, showing the configuration for each column.

Row Name	Enemy	Allowed Wave	Health	Damage	Soul	Elite?	Scale HP to level?
1 Runner	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Enemies/0	0	15.000000	10.000000	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Gamepla	False	False
2 Runner_0	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Enemies/1	1	15.000000	10.000000	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Gamepla	False	False
3 Spike	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Enemies/1	1	20.000000	12.000000	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Gamepla	False	False
4 Biohazard	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Enemies/2	2	30.000000	12.000000	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Gamepla	False	False
5 Spike_0	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Enemies/2	2	20.000000	12.000000	BlueprintGeneratedClass/Game/SurvivorsTemplate/Blueprints/Gamepla	False	False

Property	Value
Enemy	BP_Base_Enemy
Allowed Wave	0
Health	15.0
Damage	10.0
Soul	BP_Soul
Elite?	<input type="checkbox"/>
Scale HP to level?	<input type="checkbox"/>

The minute, or **Wave Index**, controls which units are pulled from an array to be spawned.

Creating a new spawn list for base or Elite enemies

Edit **DT_ExampleSpawn** directly, create a copy, or create a new data table using **ST_EnemySpawnType** as its base structure.

Populate the data table with your new data.

Enemy: Class reference of BP_Base_Enemy - used for enemy skeletal mesh and animations

Allowed Wave: Wave when this unit is allowed to spawn in

Health: Max Health of your unit

Damage: Damage done to player on overlap

Soul: Class reference of BP_Soul - used to give players XP on pickup

Elite?: Bool to determine if chest should drop on death

Scale HP to level?: Bool to determine if this units max health will be multiplied by the current character level

Note:

If you created a new Data Table - be sure to update to the correct Data Table on the **BP_Game_Manager** in your map

Characters

Adding Characters

1. Add new entry to **DT_AvailableCharacters**
 - a. Select a starting ability for the new character from the dropdown.
 - b. Select a skeletal mesh for the character.
 - c. Click the default locked checkbox to lock the character in the lobby screen
(Leave it unchecked to have the character default to unlocked in the lobby)
 - d. Set an unlock cost for the character
 - e. Fill out the character description that will be displayed in the lobby
 - f. Enter a character name

Data Table

Search

Row N:	Starting Ability	CharacterSK	DefaultLocked	UnlockCost	Description	CharacterName
1	Char1 Hammer	SkeletalMesh'/Game/SurvivorsTemplate/Demo/Characters/Mannequins/	False	0	Starting Ability: Hammer	Lena Dyere
2	Char2 Frost Bolt	SkeletalMesh'/Game/SurvivorsTemplate/Demo/Characters/Mannequins/	True	10	Starting Ability: Frost Bolt	Osborn Winfielde
3	Char3 Lightning	SkeletalMesh'/Game/SurvivorsTemplate/Demo/Characters/Mannequins/	True	100	Starting Ability: Lightning	Eadwulf Fury
4	Char4 Fireball	SkeletalMesh'/Game/SurvivorsTemplate/Demo/Characters/Mannequins/	True	100	Starting Ability: Fireball	Leroc Dodrothoc

Row Editor Data Table Details

Char1

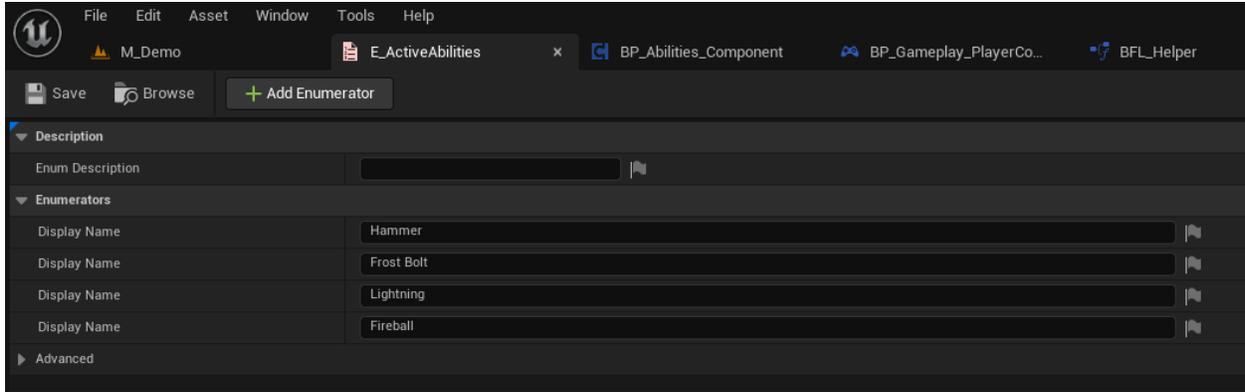
Char1

Starting Ability	Hammer
CharacterSK	SKM_Quinn_Simple
DefaultLocked	<input type="checkbox"/>
UnlockCost	0
Description	Starting Ability: Hammer
CharacterName	Lena Dyere

Adding Abilities

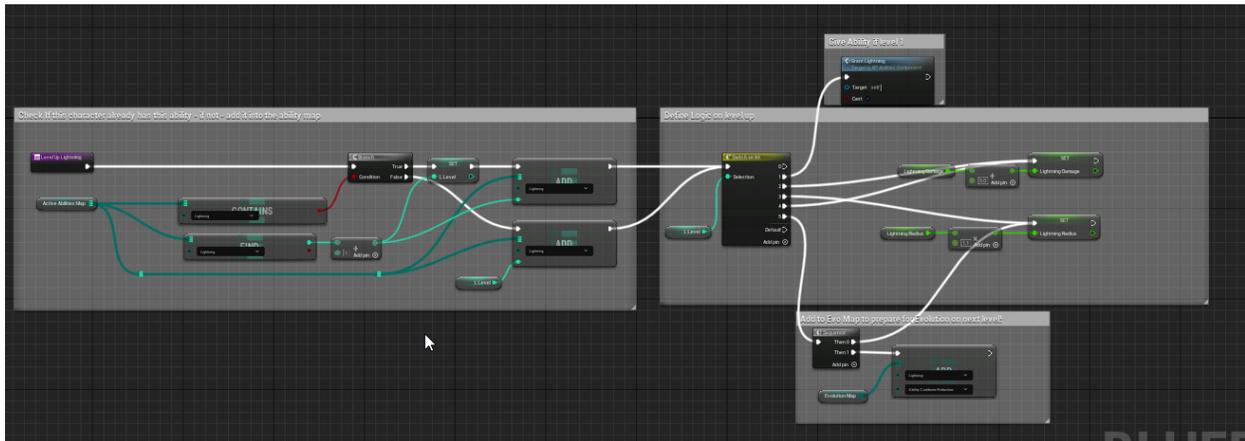
Active Abilities

1. Add ability to **E_ActiveAbilities**

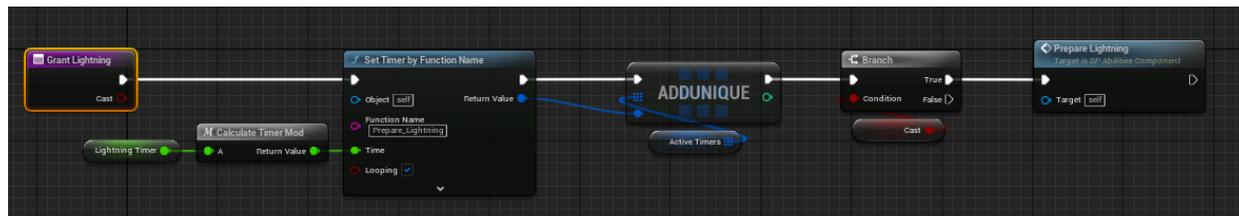


2. In **BP_Abilities_Component**

- a. Create **LevelUp(YourAbility)** and **Grant(YourAbility)** functions (base it on existing levelup and grant functions)
 - i. Create variables that drive your ability then can increase on level up
- b. Update **ALL** Enums (in levelup and grant functions) to your new ability

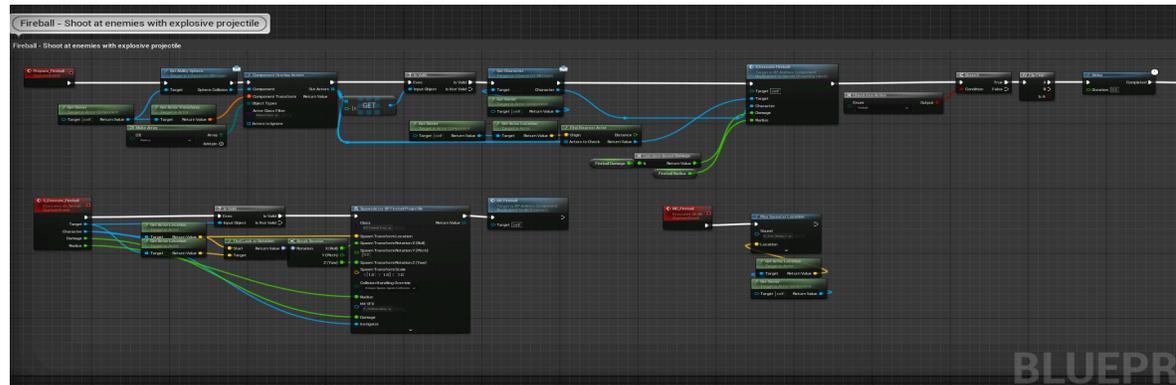


- c. Select Passive ability that you want to unlock the Evolution of your new ability in the “Add to evo map” section
- d. In **Grant_YourAbility** change the function name called in the Set Timer by Function Name node to **Prepare_YourAbility**



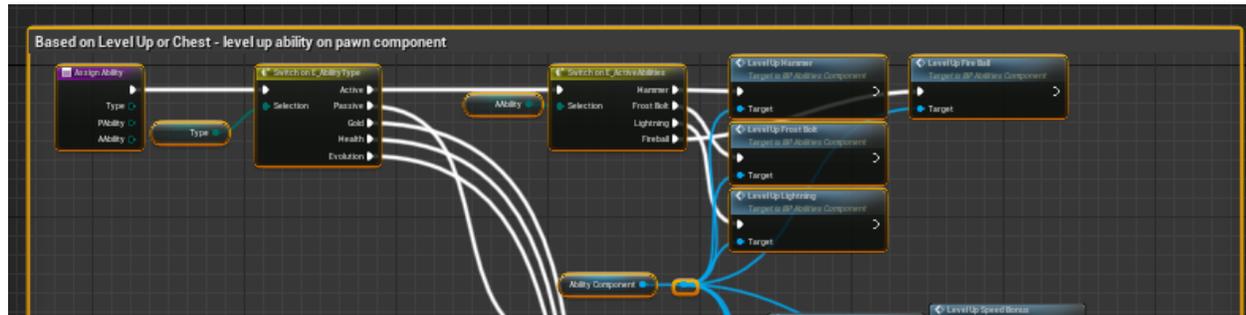
- e. In **Levelup_YourAbility** call **Grant_YourAbility** on the first option of the switch
3. Create your new ability logic in the **Abilities Graph** of the **BP_Abilities_Component**
- a. Create **Prepare_YourAbility** event
 - b. Create **S_Execute_YourAbility** event

c. Create **MC_YourAbility** event



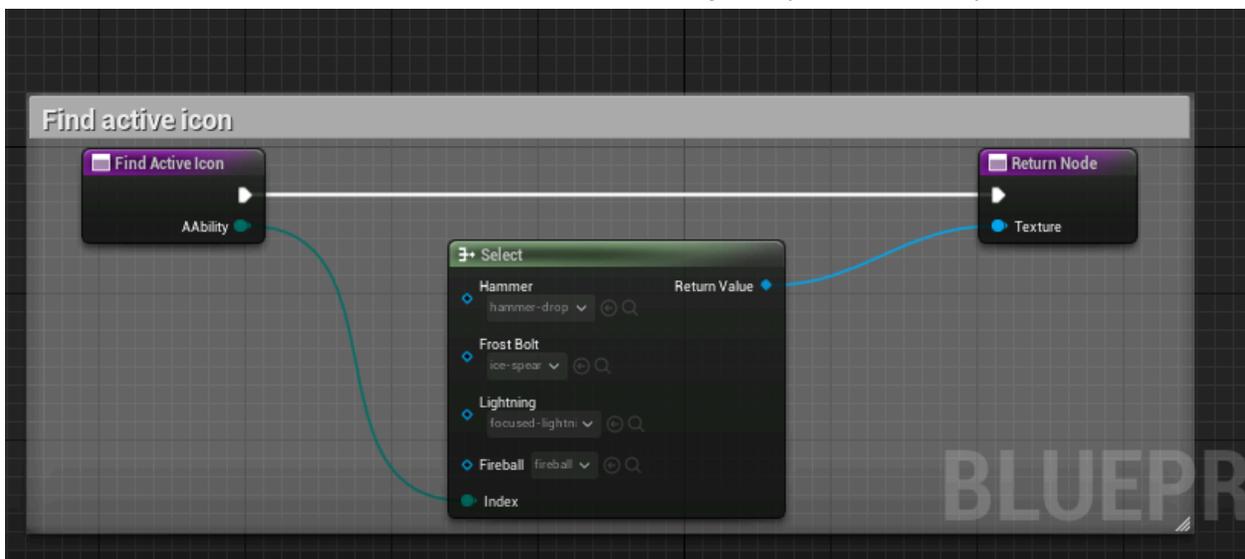
4. In **BP_Gameplay_Playercontroller**

- a. Set correct Level up Function in **Assign Ability** function - where the enum should be updated



5. In **BFL_Helper**:

- b. Update **FindActiveIcon** with a new image for your new ability Enum

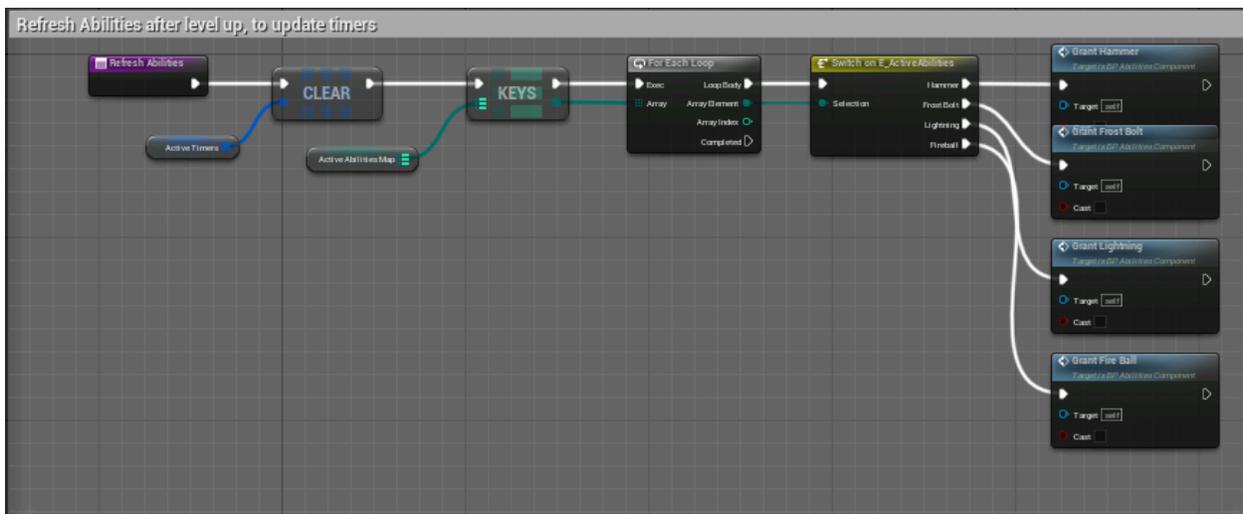


6. Update **DT_ActiveAbilities** for description of ability level up

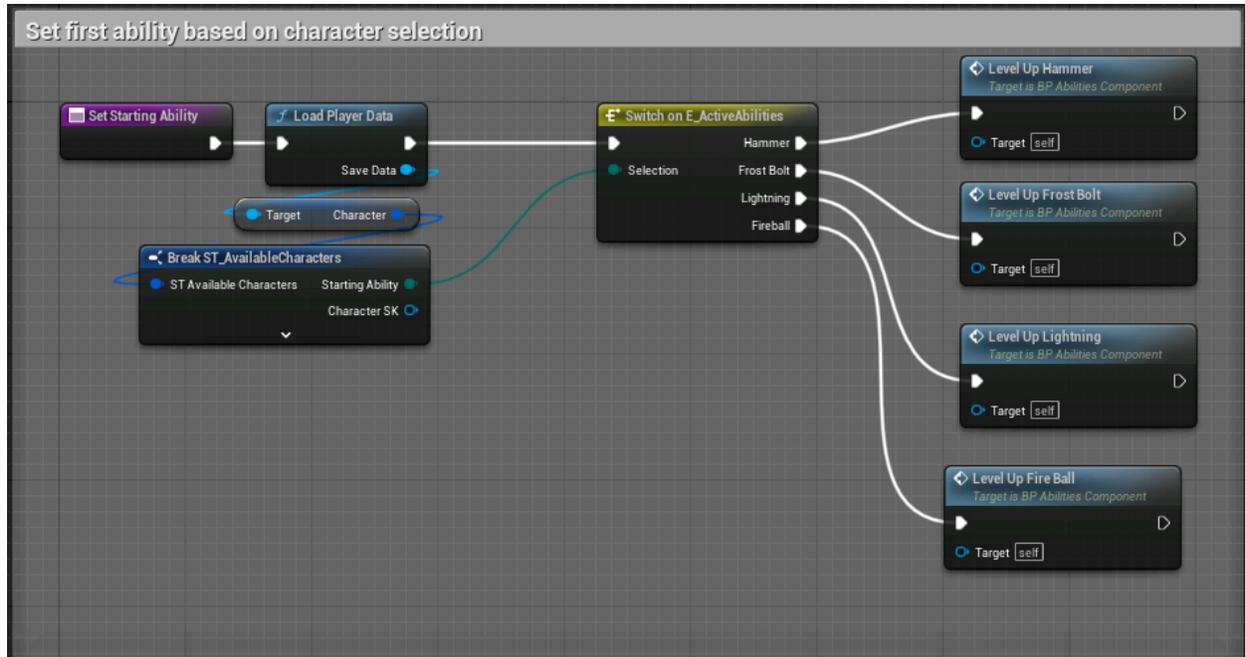
- c. Row Name must be Enumeration name with no spaces
- d. **Note:** -1 number is for the abilities evolution description

Row Name	Level Up Text
1 Hammer1	Damages all enemies in small radius
2 Hammer2	Base damage up by 5
3 Hammer3	Base area up by 10%
4 Hammer4	Base damage up by 5
5 Hammer5	Base area up by 10%
6 Hammer-1	15% Crit chance
7 FrostBolt1	Fire at nearest enemy
8 FrostBolt2	Fires 1 more projectile
9 FrostBolt3	Cooldown reduced by 10%
10 FrostBolt4	Damage increased by 5
11 FrostBolt5	Fires 1 more projectile
12 FrostBolt-1	Fires with no delay
13 Lightning1	Fire at random enemies
14 Lightning2	Damage increased by 5
15 Lightning3	Strike radius increased by 10%
16 Lightning4	Damage increased by 5
17 Lightning5	Strike radius increased by 10%
18 Lightning-1	Delayed strike after first one
19 FireBall1	Shoot Fireball that explodes on nearest enemy
20 FireBall2	Damage increased by 5

7. Add **Grant_YourAbility** to the **RefreshAbilities** Function in **BP_Abilities_Component**

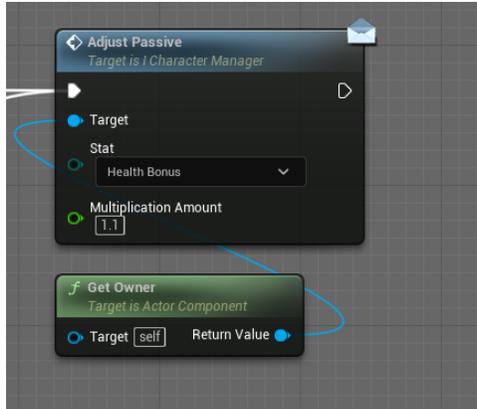


8. Add **LevelUp_YourAbility** to the **SetStartingAbility** function in **BP_Abilities_Component**



Passives

1. Add your spell to **E_PassiveAbilities**
2. In **BP_Abilities_Component**
 - a. Create a LevelUp function for your new ability - using LevelUpMaxHealth as example
 - b. Update **ALL** Enums to your new ability
 - c. If changes are ability related, change variables directly in component
 - d. If changes are character related, we will change variables via an interface call to owner and update interface in **step 4**



e.

3. In **BP_Gameplay_Playercontroller**

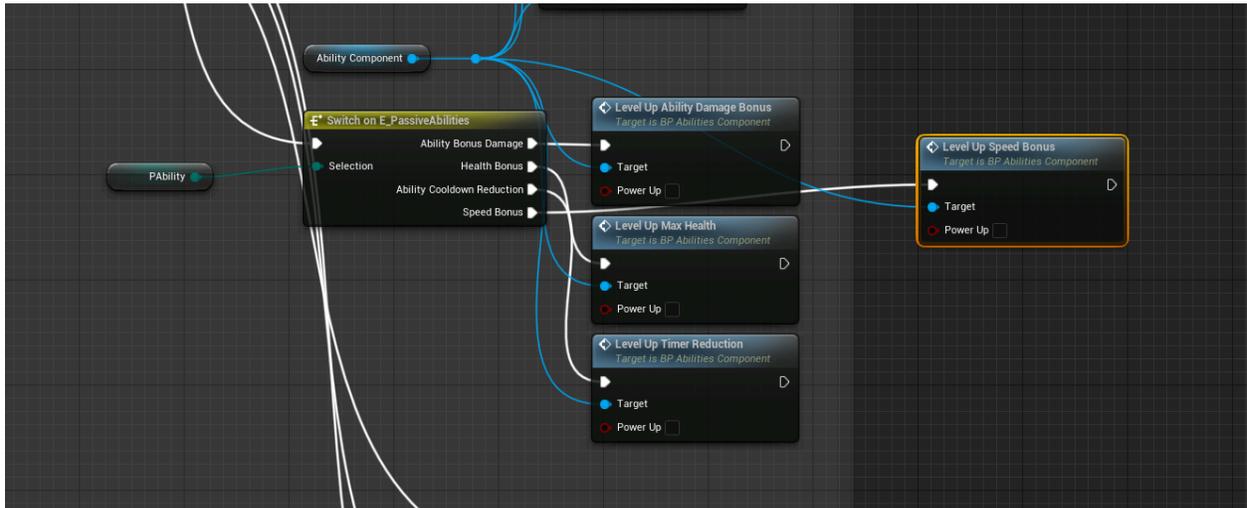
- a. Set correct Level up Function in **Assign Ability** function - where the enum should be updated

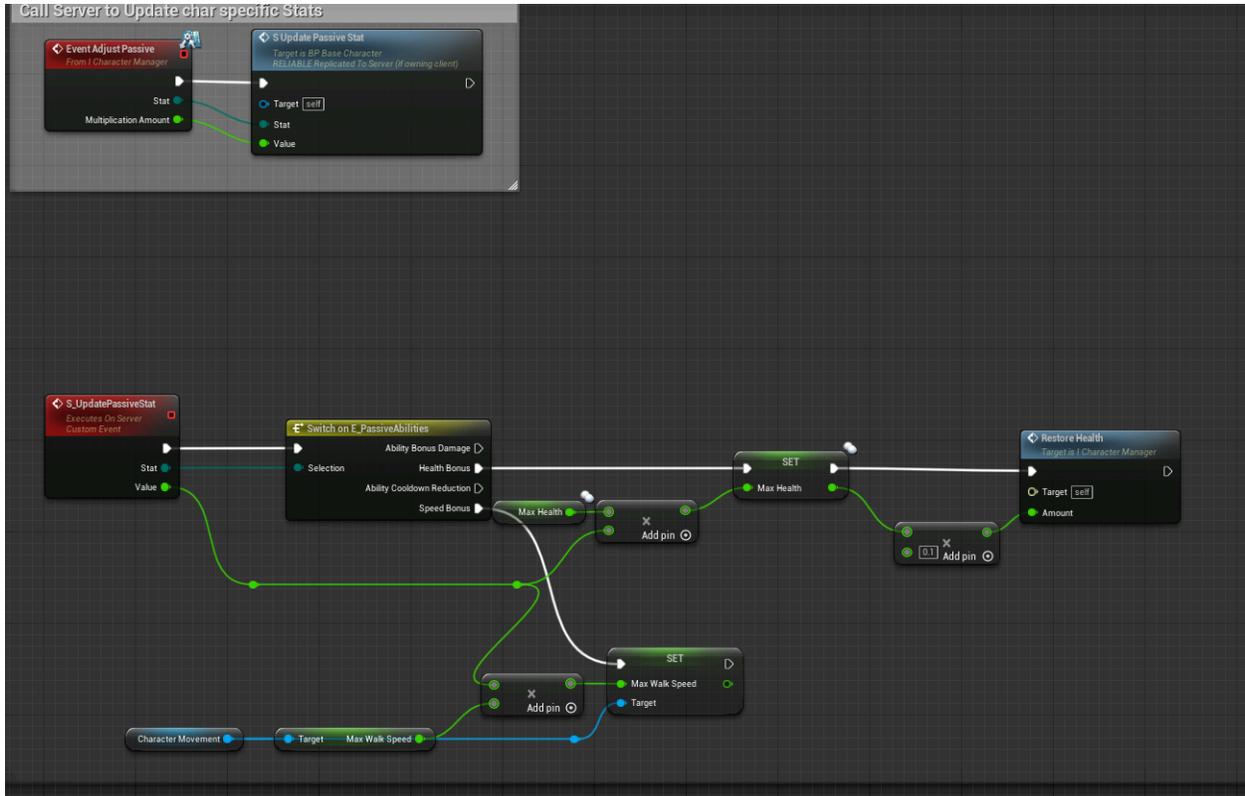
i.

4. If your passive modifies values in your **Character Pawn** - In **Your Character Blueprint** (See example **BP_Base_Pawn**)

- a. Ensure **Event Adjust Passive** interface is implemented

i. Have it Server Cast to update based on passive



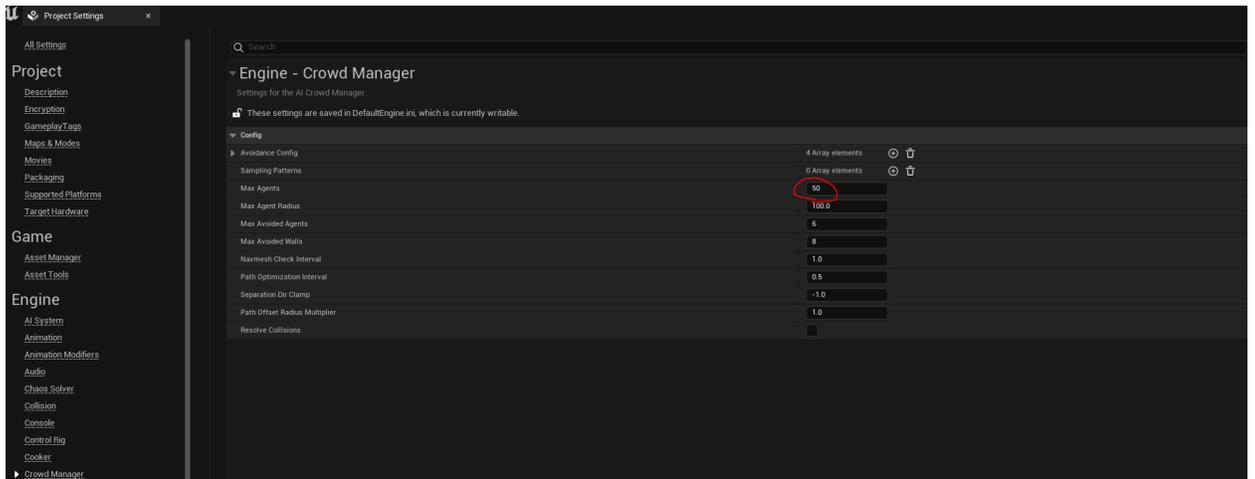


5. In **BFL_Helper**:
 - a. Update **FindPassiveIcon** with a new image for your new passive Enum
6. Update **DT_PassiveAbilities** for description of passive level up
 - a. Row Name must be Enumeration name with no spaces
 - e.

FAQ

Setting Max Enemies past 50

- Survivors Roguelike Template uses UE5 Crowd Control to help with unit collisions - you will need to increase the Max Agents to your new max enemies in Game Manager



- in project settings>Crowd Manager> set to max unit count