Adding power supply in to SGK2

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Introduction

In SGK2 you can find two types of BP to draft goodies: the campfire and the workbench. In both game asset you can specify the fuel to use to craft objects. In the standard implementation of SGK the fuel is uniquely the Wood resource. Now, if in the campfire this is reasonable, I find using the Wood in a workbench is somewhat not appropriate.

In my game I would like to use a sort of power supply to use as energy source of the workbench. In this document I would describe how I have implemented a power supply for my game.

The problem

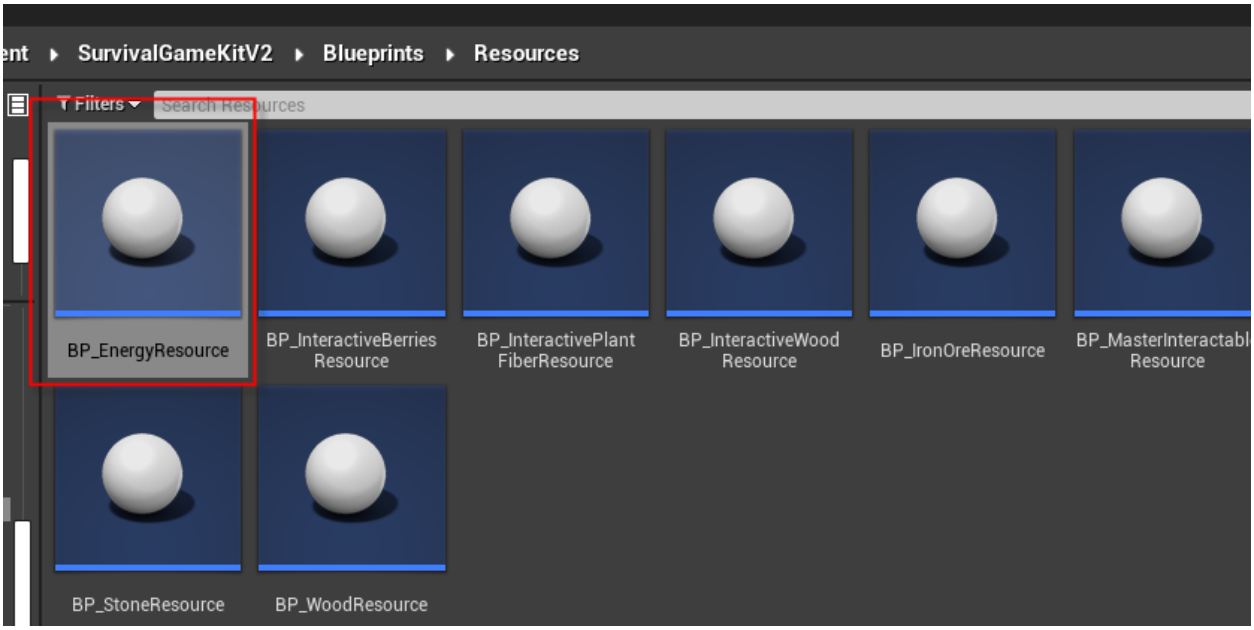
Using a piece of wood in the campfire is easy and straight. For each cooking time you "consume" a piece of wood till it is completely consumed and it is the removed from the inventory of the Campfire.

The problem with the power supply is that the "energy" is INSIDE an actor and the Workbench, in this case, must access the Power Supply actor, a battery for example, and drain an amount of resource from that Power Supply. When the power supply is exhausted, it should be not destroyed but more probably recuperated and recharged in some way.

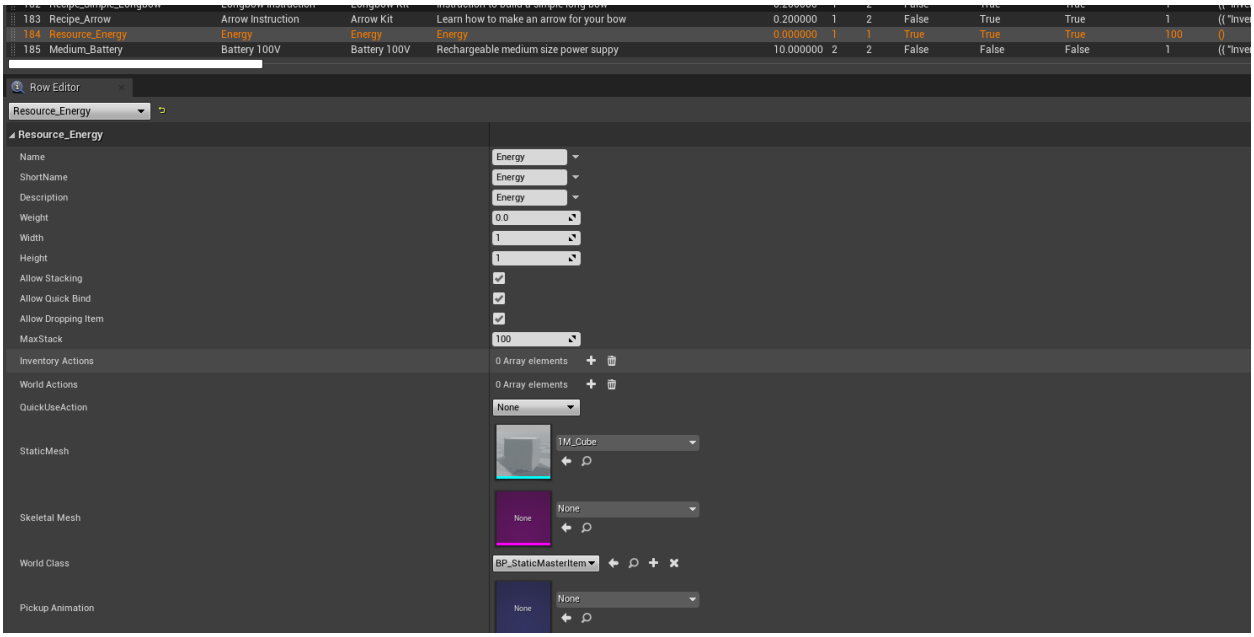
Note: this is not a complete tutorial so I will just describe the main steps and display the final blueprint. This means you need to have some familiarity with SGK2 otherwise you can find some difficulties to complete the implementation

Add the energy resource

First, add the energy Resource in Resources.

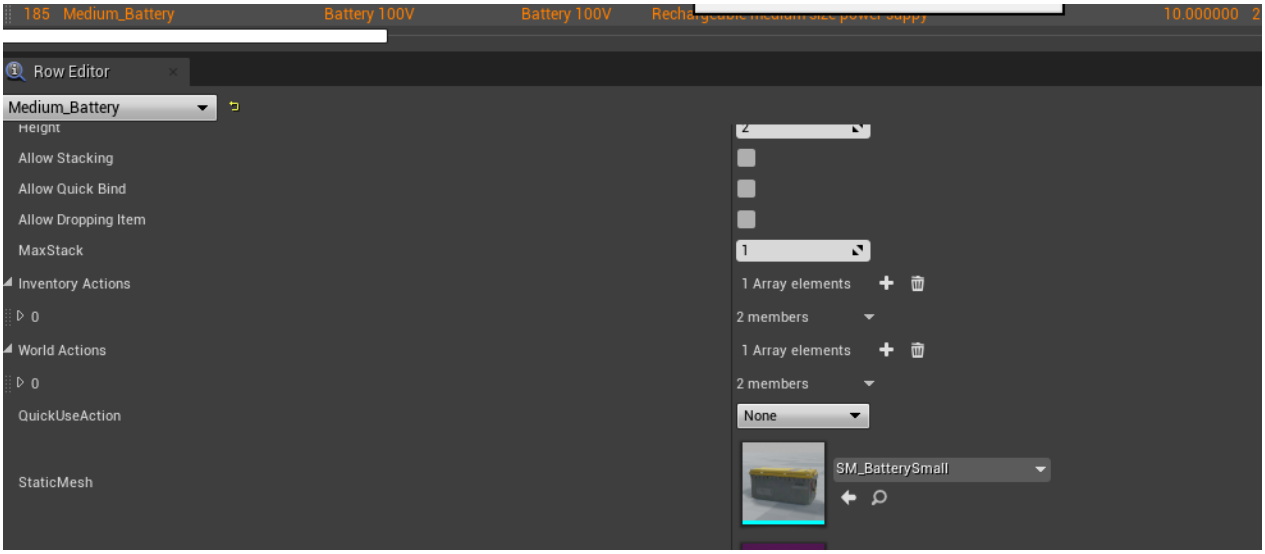


In the ItemList add an item for the Energy. Do not forget to setup the fuel time to some value. The fuel time is the amount of energy used during the crafting.

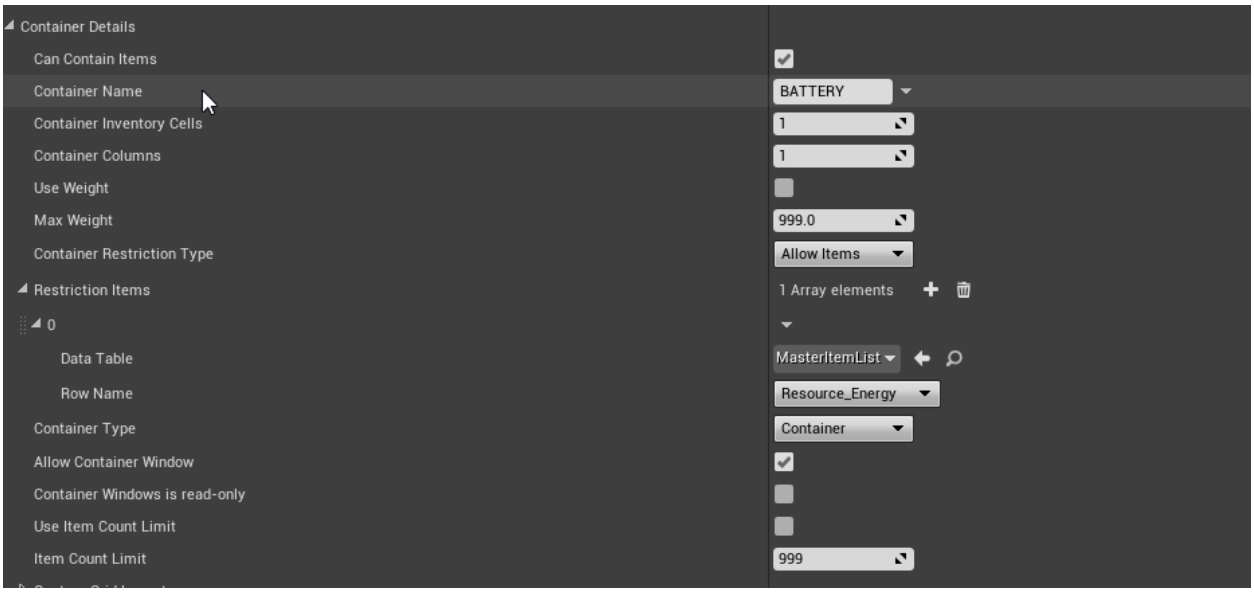


Add a battery in the Item List

Add an Item of type Battery in the ItemList. I bought a package with some solar panel and battery from the Marketplace but you can use of course any model for that.

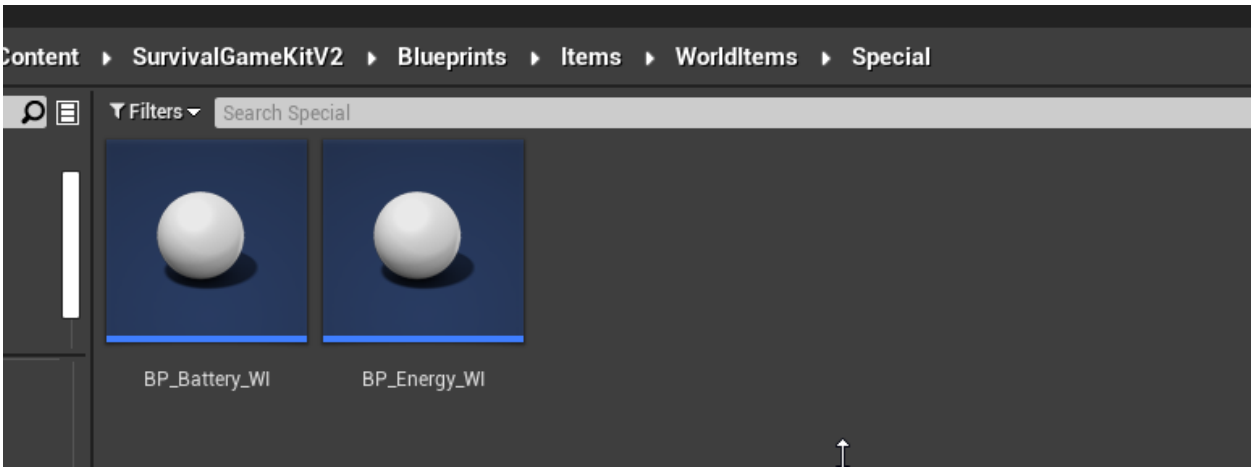


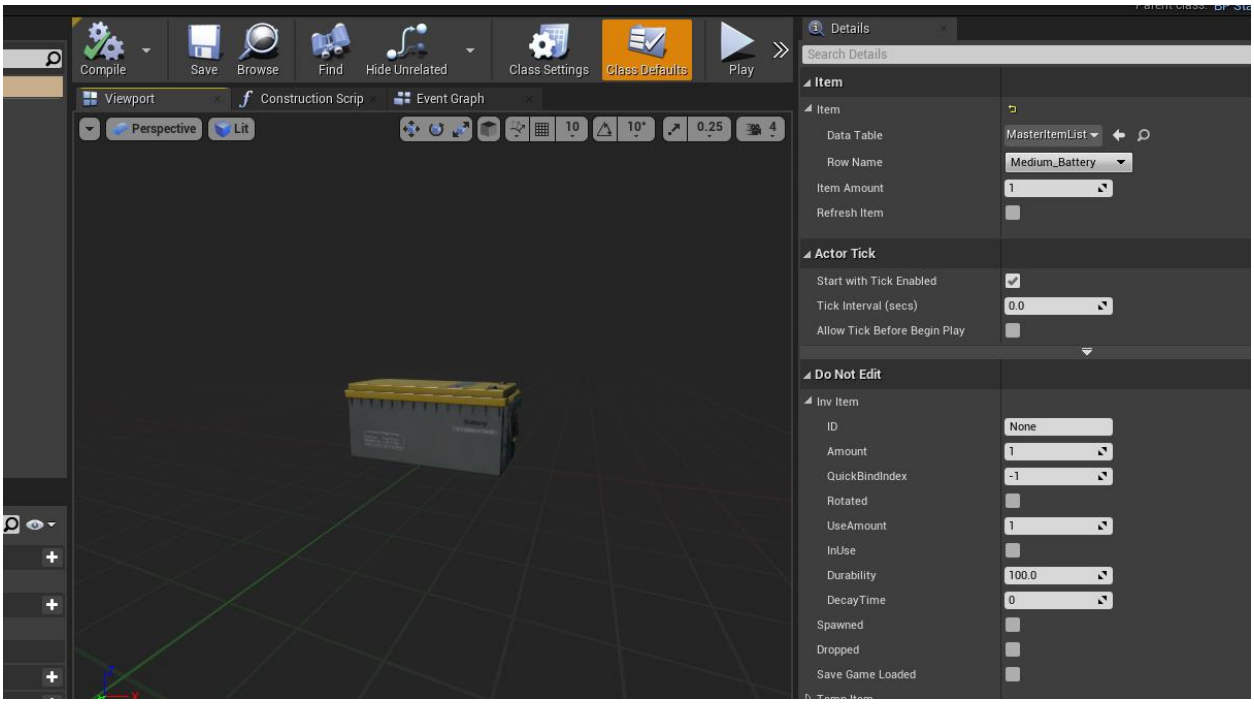
Ensure the Contained details is as follow. Please note that the property CONTAINER WINDOS IS READ ONLY is not available in the standard package as I have added it for my purposes. The battery will have one only cell to contain the Energy.

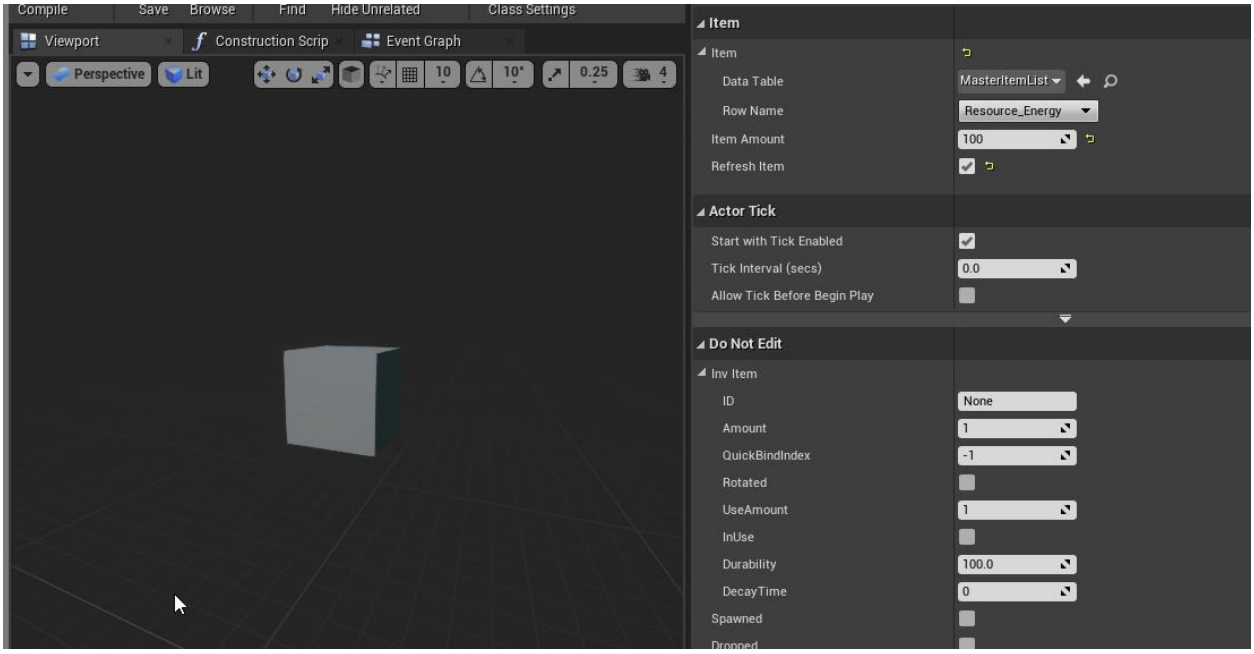


Items

Add an BP item of type Energy and another of type Battery



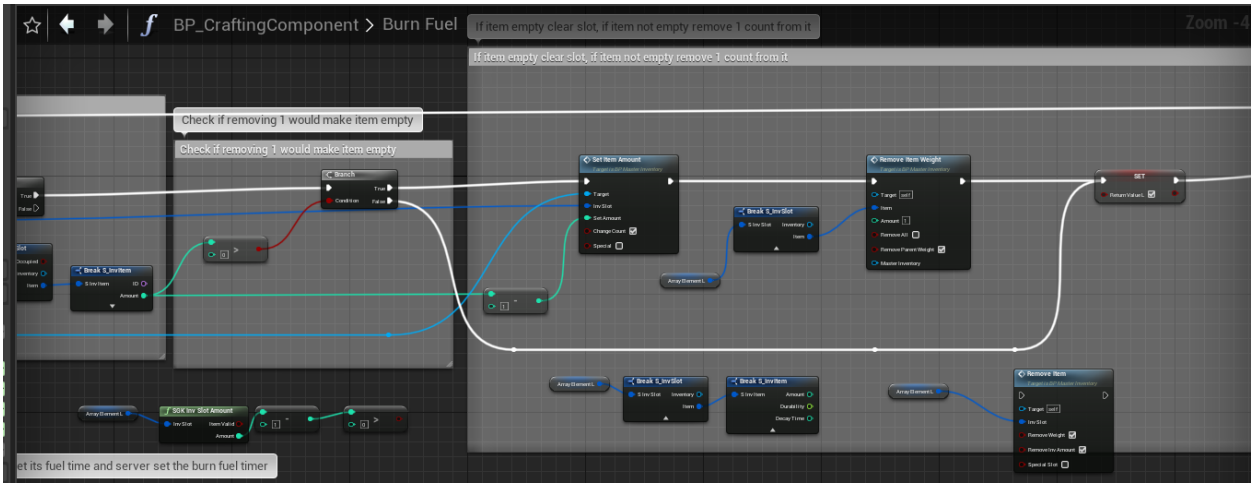




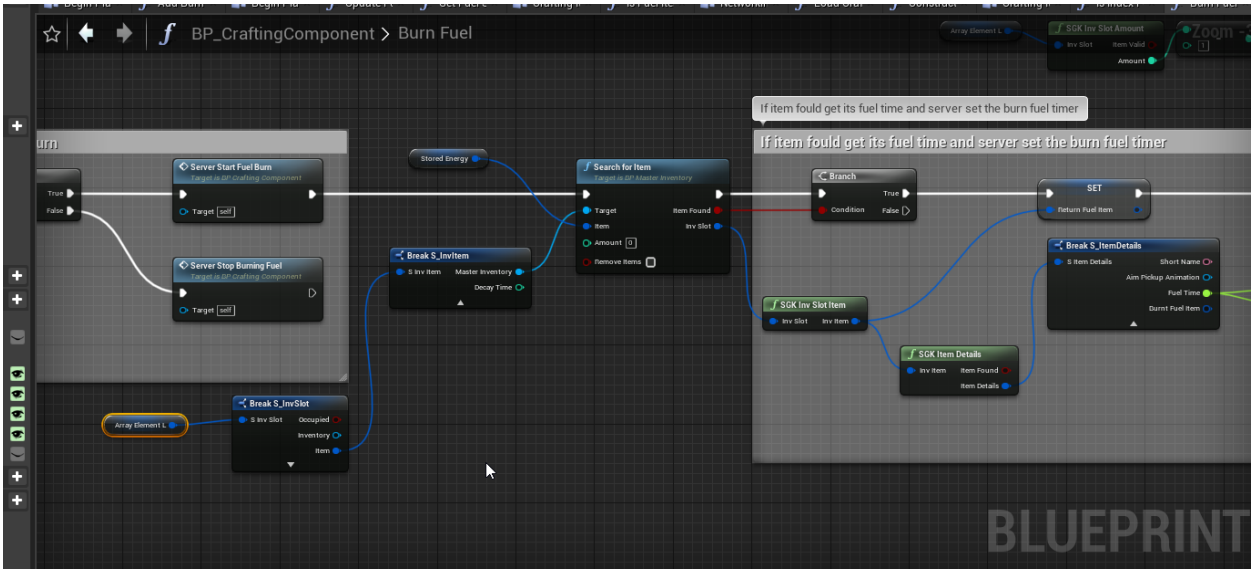
A little clarification here: you should not 'manage' the Charge of the Energy like any other Inventory item: you should not be allowed to move it from the Power Supply to your inventory, you should not move around nor drop somewhere. This item should be managed by the system and created back when you recharge the battery in some way.

BP_CraftingComponent

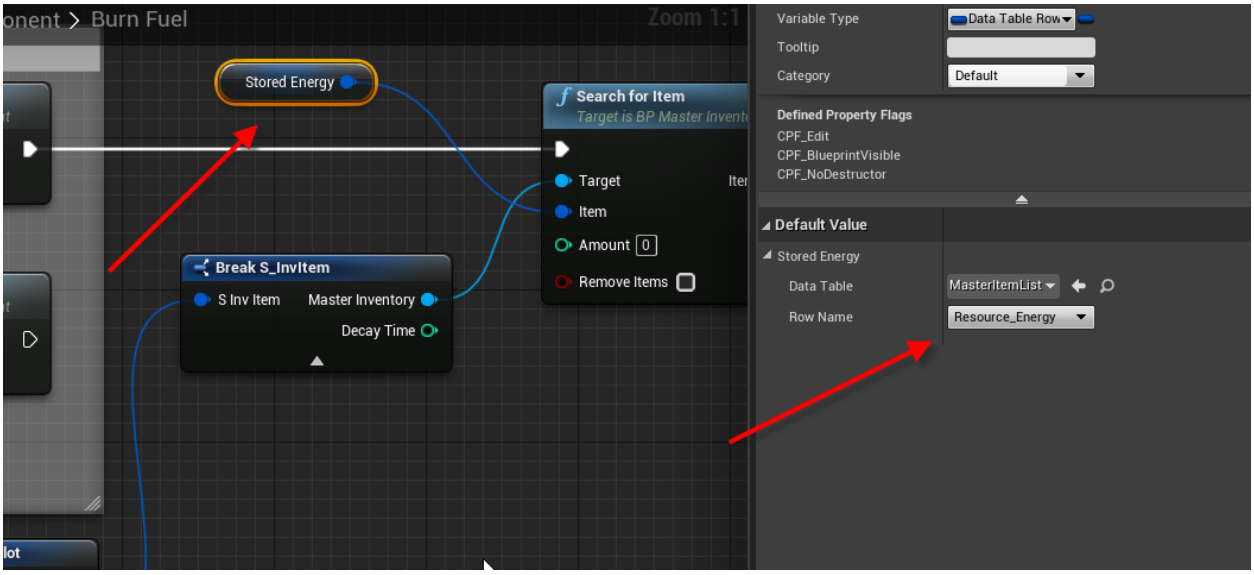
Go in the crafting component and change the BP as follow. This part will ensure that the battery is not removed when discharged.



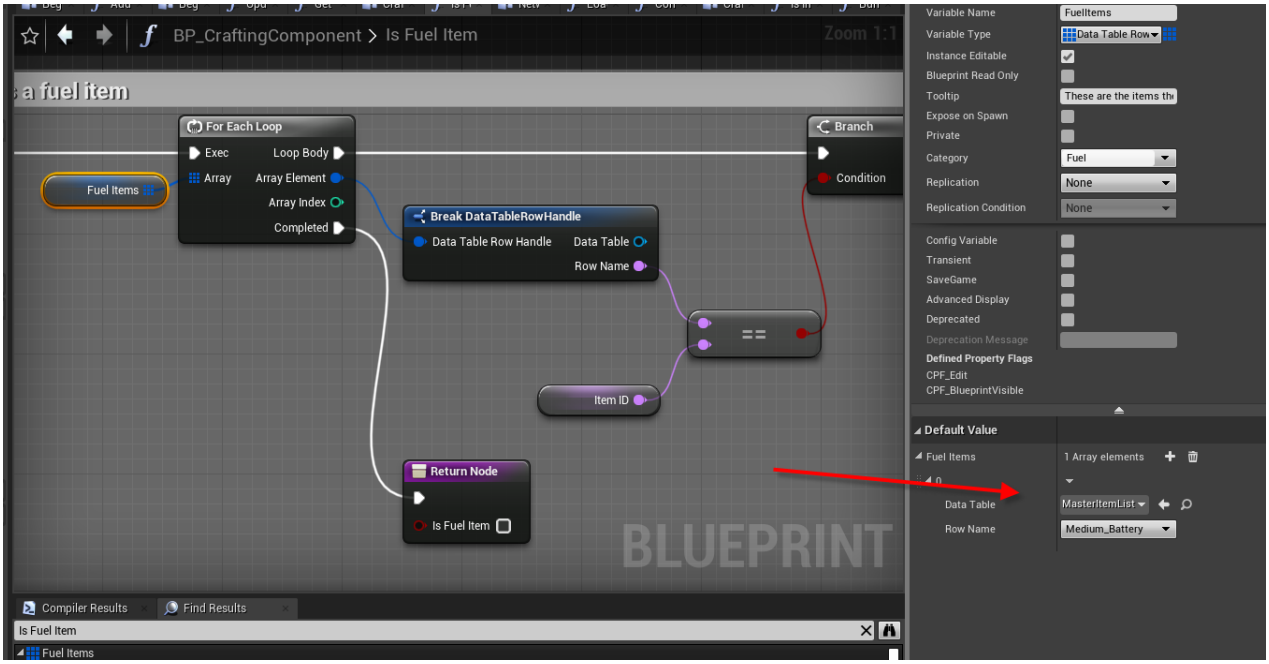
In the same BP, changed as follow:



This is the part that will subtract the energy to the Power Supply during the crafting. Ensure that the new local variable called Stored Energy is setup as follow:



Now go in the function IS FUEL ITEM and setup as follow:



The Fuel Items is an array and you should put here all items of type Power Supply that you will add in your game. In this way your workbench will work with different type of power supply (may be batteries of different charge and power)

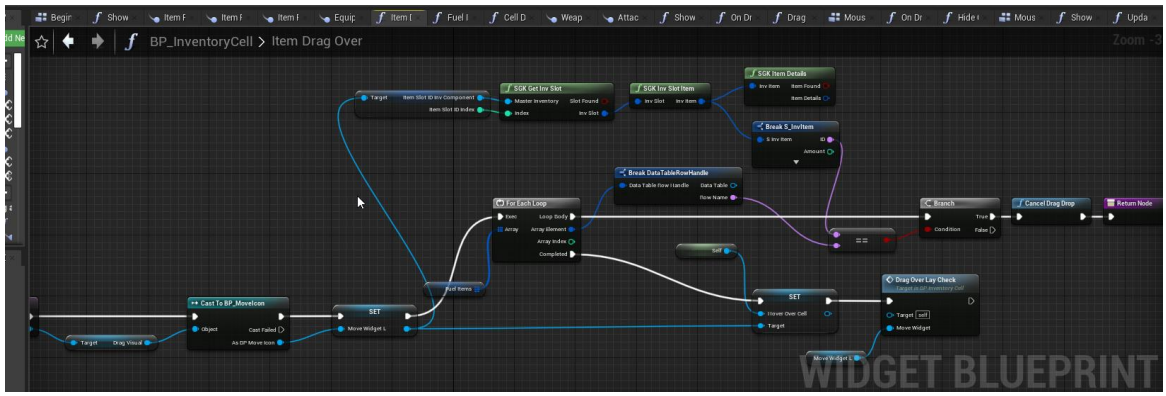
Result

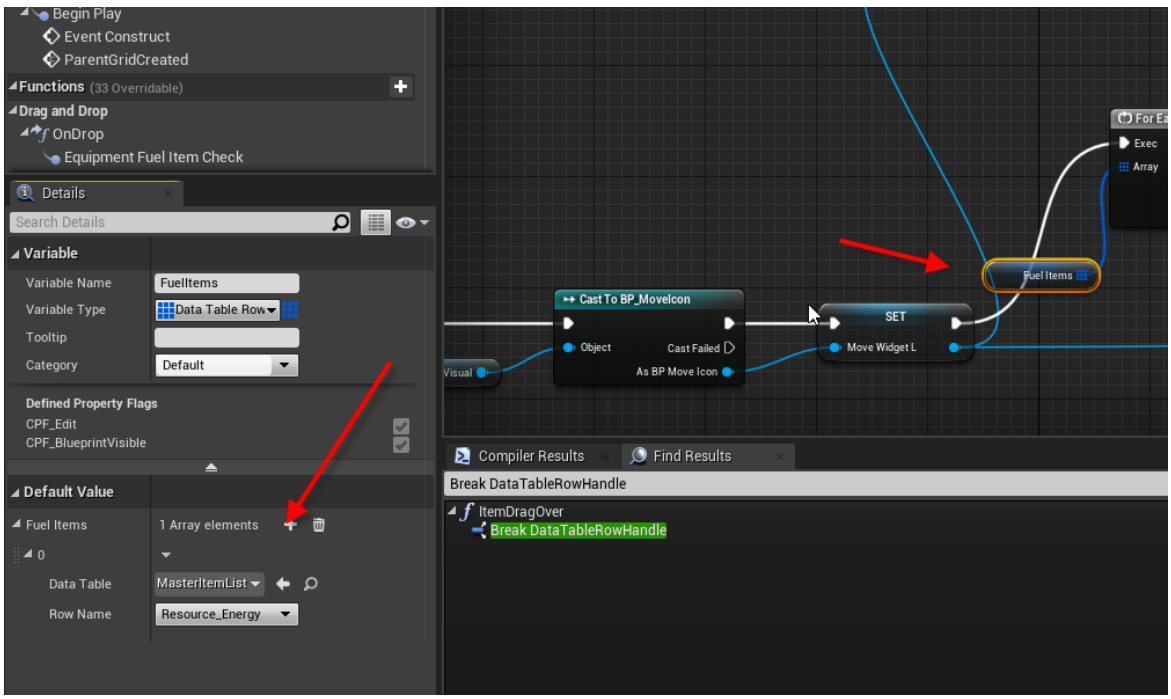
Drop in the game an item of battery and try to use it in the Workbench inventory:

Please note I have changed the mesh of the workbench to something a bit more modern…

Make the energy not droppable

As anticipated, we should not be allowed the move of the “enery item” from the Battery inventory. This means that we should stop the Drag&Drop when the item is the energy. This looks complicated but in fact it is a really simple modification in the correct place:





The Item Drag Over is the function that is used to drag an item from an inventory to another. In this function we check that the dragged item is of type of energy. In this case, we simple cancel the dragging action. When you will try to move the Energy item, the dragging action will be canceled and you cannot move this ‘item’ around.