

# Item Drop

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## version 2.0.1

requires: [uMMORPG](#) v1.194 and [TextMesh Pro](#)

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## ITEM DROP

### Description

Item Drop has been designed as an addon for [uMMORPG](#), which means that uMMORPG is required and must be installed first as well as [TextMesh Pro](#) (in Unity's top menu: Window > Package Manager). Item Drop allows you to drop items on the ground and modifies the way monsters drop loot to be individual items on the ground that can be picked up.



Items can be picked up and dropped only if a player state is set as idle or movement.

Item labels are displayed in World Space with automating repositioning and are using object pooling.

Only 2 draw calls for all item labels on the screen.

Go to the [table of contents](#) to find out information about all of the features.

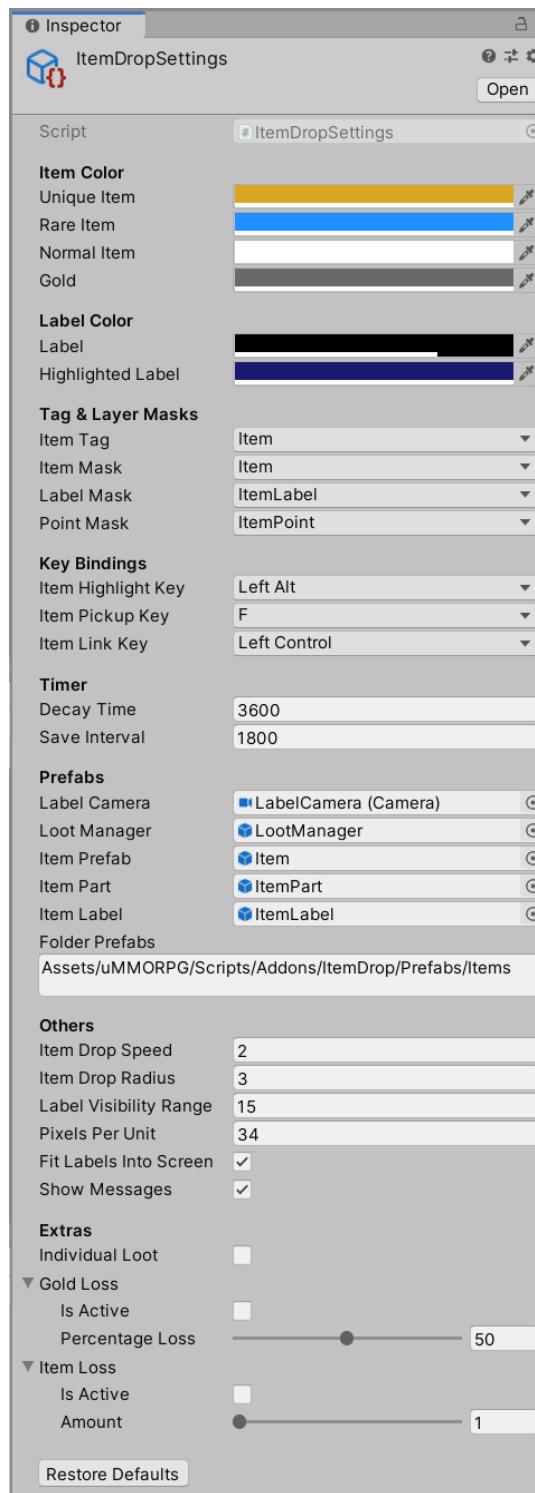
### Preparing for installation

Make sure you have TextMesh Pro installed, if not you can find it in Unity's top menu: Window > Package Manager. Then click on Window > TextMeshPro > Import TMP Essential Resources.

Only then can you safely download this addon. After that use the [Setup Wizard](#) or install this addon manually as described in the [Installation Manual](#).

**ItemDropSettings.asset** stores all settings related to this addon. Configure it after the installation is complete.

The default settings can be restored by clicking on the **Restore Defaults** button.



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## How to drop an item

You can drop items from the inventory and equipment by just drag an item and drop it on the ground. Your character will try to drop the item in front of him. If this position is obstructed, it is chosen randomly around your character. If not, the item will be dropped normally. If the item destination is already occupied by another item, it will be placed on top of it up to a height of 1.25f (counting from the player's position to the control point on the last item). If this value is exceeded, the item will be randomly dropped around your character.

Pet and mount items cannot be dropped.

Items dropped by players are always visible to everyone.

## How to pick up an item

Hold down the `LeftAlt` key to see all item names on the screen for items within range 15.

Hovering the cursor over an item's label will highlight it when all of them are forced to display by holding down the key.

Hovering the cursor over an item will highlight it and display the name and amount.

Click on an item or label to pick it up. You can also use the `F` key to pick the nearest item up within range 15.

Items can be picked up when you have enough space in your inventory, with the exception of Gold.

If the character is out of the pickup range, it will move closer automatically to pick the item up.

If items are placed on top of each other and one of them is taken from underneath, others will change their position.

## Gold sharing

All gold picked up can be shared among nearby party members.

The amount of gold is calculated by the formula from uMMORPG.

Use the `P` key and turn on the `Gold Auto Share` option in the panel just like in uMMORPG.

## MONSTER LOOT

### Description

Loot will be dropped on the ground in a small distance, randomly where there is an available position for players on the NavMesh around a killed monster.

Each player sees the same loot and can pick it up. However, you can turn on the [Individual Loot](#) option.

Loot dropped by monsters is not saved. After a certain amount of time it is destroyed and disappears. 60 minutes by default (Decay Time).

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## COMMANDS

### Description

If you want to save or delete all items instantly there are two functions for this in the PlayerItemDrop.cs script: CmdMsgSaveItems(); and CmdMsgDeleteItems(). These functions are intended for the admin and are not used anywhere by default.

## ITEM RARITY

### Description

Item name color based on the rarity of the item. There are three levels of item rarity: Basic, Rare and Unique.

Select the rarity (**Basic, Rare, Unique**) in the **ScriptableItem**.  
To choose a color go to **ItemDropSeettings.asset** in the Inspector window.

You can always add more rarity levels as described in the [\\*OPTIONAL STEPS](#).

## ITEM LINKING

### Description

Each player can link an item into chat. The item name will be visible in the message in color based on the rarity of the item and marked in bold, placed between two brackets.

Hover the cursor over a linked item to see an instant pop up box showing information about it.

Writing brackets [ and ] are disabled by default in the message input area, the exception is the method described below.

### How to link an item into chat

Hold down the **LeftCtrl** key and click on an item from the inventory. Item link will be added to the message input area of your chat, between two brackets. If an item link is already in the message input area and you will click on another item, that link will be replaced with a new one. This means that only one link is allowed for one message. Use the **Send** button and your item link will be already active in the sent message.

## ITEM SAVE CYCLE

### Description

Item is marked when its position changes (if it falls on the ground or on another item).

All items dropped by players that have been marked are saved every 30 minutes (Save Interval) and will be loaded from the database after server restart. After saving, the saved item is no longer marked, which means that it will not be taken into account during the next save cycle (unless its position changes again).

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## CORRECTION OF ITEM POSITION AND ROTATION

### Description

Additional fields to set in the ScriptableItem: Offset X, Offset Y, Offset Z for position and Rot X, Rot Y, Rot Z for rotation.

They have been added to correct the standard models from uMMORPG. If you prepared your models the right way\*, before import them to Unity engine, you should not need to change anything here but for the uMMORPG models it is necessary.

Everything is prepared in the script, so after the installation is completed, the position and rotation for each default item from uMMORPG will be automatically set appropriately.

**Unity engine uses different axis than most standard 3d modeling software which can cause problems with scale and rotation, especially for new users.**

*\*Scale Factor from your model should be 1 after import, blue arrow as front of your prefab, scale (1, 1, 1), rotation (0, 0, 0).*

## EXTRAS

### Individual Loot

All items dropped by monsters are assigned to the individual player. These items only appear on clients connected to the server and are automatically destroyed when the player logs out.

### Gold Loss

Characters drop a percentage of their gold when they die. The lost gold remains on the server and will not be destroyed until someone picks it up.

### Item Loss

Characters drop a random item of their inventory when they die. The lost item remains on the server and will not be destroyed until someone picks it up. You can choose the number of items to drop.

**ItemDropSettings.asset stores all settings related to this addon. The default settings can be restored by clicking on the [Restore Defaults](#) button.**

## SETUP WIZARD

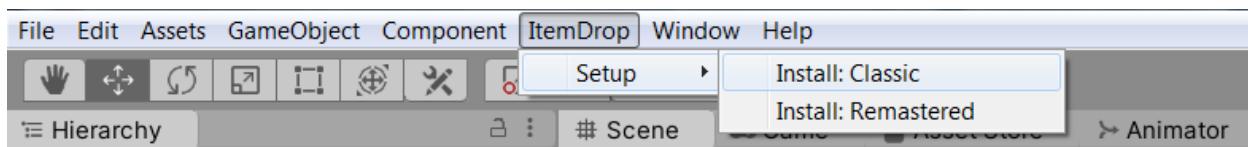
### Description

Version 2.0.0 comes with the Setup Wizard. Now you can install everything in a quick and easy way.

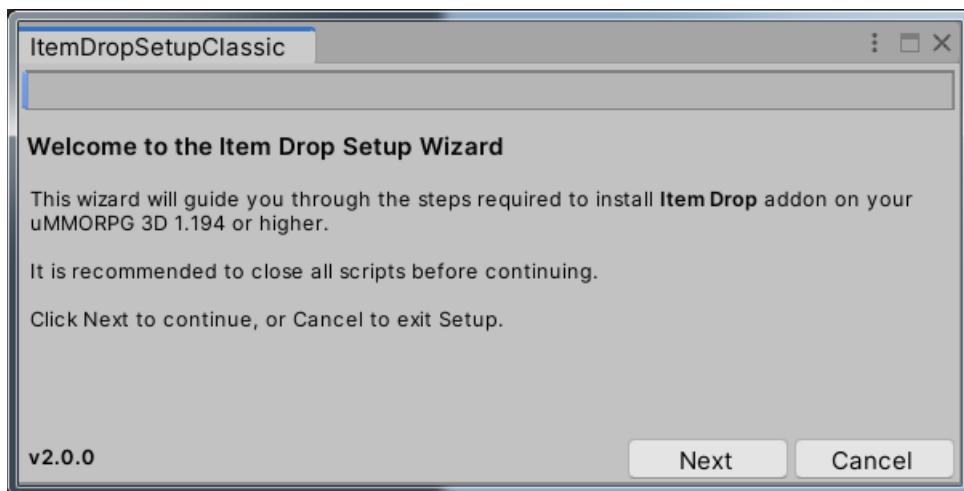
A few clicks to install the entire addon or uninstall as needed. Just click a button to replace or add code, components and prefabs. However, if you have previously made any changes that can conflict with the installer you must install this addon manually. See the [INSTALLATION MANUAL](#).

### How to install

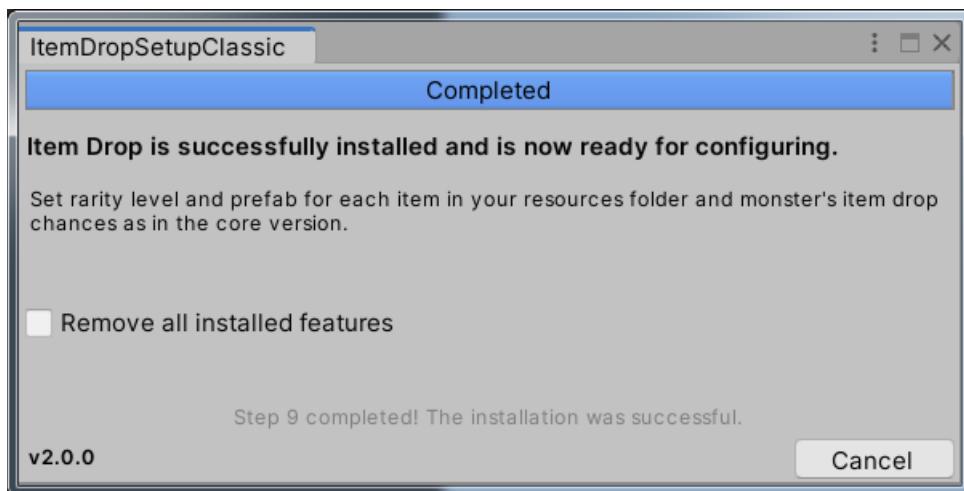
In Unity's top menu: ItemDrop > Setup click and choose the classic version of uMMORPG (Install: Classic).



This wizard will guide you through the steps required to install Item Drop addon on your uMMORPG 2D.



Follow the instructions displayed on the window and click **Finish** at the end. If everything works, you can skip the [INSTALLATION MANUAL](#).

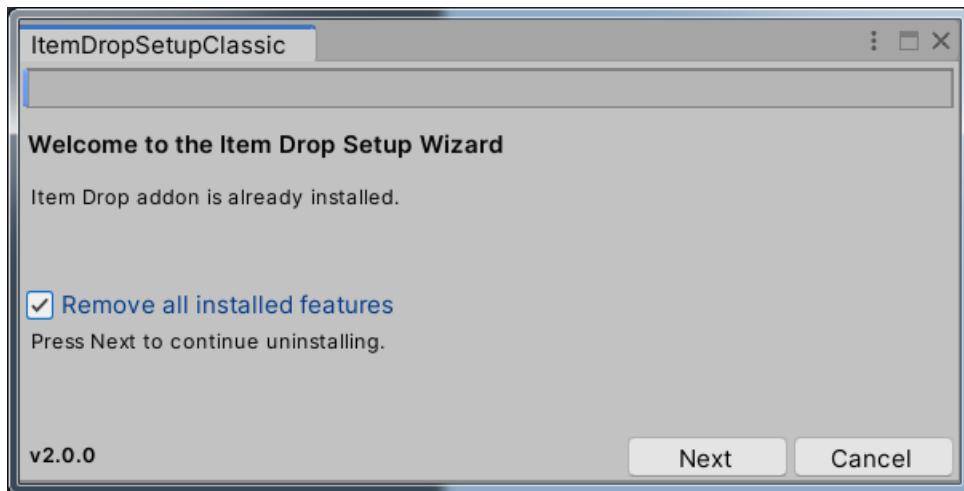


After the installation is completed, the ItemDropSettings.asset Inspector window will open automatically, where you can configure all the settings.

## How to uninstall

Open the Setup Wizard in the same way as for installation. In Unity's top menu: ItemDrop > Setup click and choose the classic version of uMMORPG (Install: Classic).

If this addon is already installed you can check “Remove all installed features”. Follow the instructions displayed on the window and click `Finish` at the end.



After uninstalling, you can safely remove the ItemDrop folder from your project:  
`Assets/uMMORPG/Scripts/Addons/ItemDrop`.

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## INSTALLATION MANUAL (uMMORPG 3D Classic)

### Step 1

Edit the [ScriptableItem.cs](#) Script in “Assets/uMMORPG/Scripts”

```
public virtual string Tooltip()
```

Comment this line

```
//tip.Replace("{NAME}", name);
```

and insert below

```
tip.Replace("{NAME}", GetTitle());
```

### Step 2

Edit the [Player.cs](#) Script in “Assets/uMMORPG/Scripts”

```
protected override void UpdateClient()
```

Comment these lines in if (state == “IDLE” || state == “MOVING”) part

```
/*
if (Input.GetKeyDown(cancelActionKey))
{
    agent.ResetPath(); // reset locally because we use rubberband movement
    CmdCancelAction();
}
*/
```

and insert below

```
if (Input.GetKeyDown(cancelActionKey))
{
    CancelAction();
}

if (Input.GetKeyDown(ItemDropSettings.Settings.itemPickupKey))
{
    if (!Utils.IsCursorOverUserInterface() && Input.touchCount <= 1)
    {
        FindNearestItem();
    }
}

if (EventMoveEnd())
{
    if (targetItem != null)
    {
        // check distance between character and target item
        if (AddonItemDrop.ClosestDistance(this, targetItem) <= 1.5f)
        {
            ItemPickup(targetItem);
        }
    }
}
```

```
void SelectionHandling()
```

Add these lines at the beginning

```
if (lockRaycast)
    return;
```

Comment these lines

```
/*
else if (entity is Monster && entity.health == 0 &&
    Utils.ClosestDistance(this, entity) <= interactionRange &&
    ((Monster)entity).HasLoot())
{
    UILoot.singleton.Show();
}
*/
```

Find these lines

```
Vector3 bestDestination = agent.NearestValidDestination(hit.point);
SetIndicatorViaPosition(bestDestination);

// casting or stunned? then set pending destination
if (state == "CASTING" || state == "STUNNED")
{
    pendingDestination = bestDestination;
    pendingDestinationValid = true;
}
else Navigate(bestDestination, 0);
```

and change to

```
if (hit.transform.CompareTag(ItemDropSettings.Settings.itemTag))
{
    if (state == "IDLE" || state == "MOVING")
    {
        if (hit.collider.TryGetComponent(out ItemDrop item))
        {
            SetTargetItem(item);
        }
    }
    else
    {
        Vector3 bestDestination = agent.NearestValidDestination(hit.point);
        SetIndicatorViaPosition(bestDestination);

        // casting or stunned? then set pending destination
        if (state == "CASTING" || state == "STUNNED")
        {
            pendingDestination = bestDestination;
            pendingDestinationValid = true;
        }
        else Navigate(bestDestination, 0);

        if (targetItem != null)
        {
            targetItem = null;
        }
    }
}
```

**void WASDHandling()**

Add these lines above // create direction, normalize in case of diagonal movement

```
if (targetItem != null)
{
    targetItem = null;
}
```

## Step 3

Edit the [UIChatEntry.cs](#) Script in “Assets/uMMORPG/Scripts/\_UI”

Add the following lines

```
public UIShowToolTip tooltip;

void Awake()
{
    tooltip = GetComponent<UIShowToolTip>();
}
```

```
public void OnPointerEnter(PointerEventData pointerEventData)
```

Add the following lines

```
string stringToCheck = message.Construct();
int start = stringToCheck.IndexOf("[");
int stop = stringToCheck.IndexOf("]");
if (stop > -1)
{
    string output = stringToCheck.Substring(start + 1, stop - start - 1);
    int key = output.GetStableHashCode();

    if (ScriptableItem.dict.TryGetValue(key, out var data))
    {
        Item item = new Item(data);
        tooltip.text = new ItemSlot(item).ToolTip();
    }
}
```

## Step 4

Edit the [UIChat.cs](#) Script in “Assets/uMMORPG/Scripts/\_UI”

Add the following lines

```
public bool itemLink;

void Start()
{
    messageInput.onValidateInput += delegate (string input, int charIndex, char addedChar) { return
MyValidate(addedChar); };
}

char MyValidate(char charToValidate)
{
    if (charToValidate == '[' || ']' == charToValidate)
    {
        if (!itemLink)
        {
            charToValidate = '\0';
        }
    }
    return charToValidate;
}
```

```
public void AddMessage(ChatMessage message)
```

Comment these lines

```
//go.GetComponent<Text>().text = message.Construct();
//go.GetComponent<UIChatEntry>().message = message;
```

and insert below

```
Text chatMessage = go.GetComponent<Text>();
chatMessage.text = message.Construct();

UIChatEntry chatEntry = go.GetComponent<UIChatEntry>();
chatEntry.message = message;

string stringToCheck = message.Construct();
int start = stringToCheck.IndexOf("[");
int stop = stringToCheck.IndexOf("]");
if (stop > -1)
{
    string output = stringToCheck.Substring(start + 1, stop - start - 1);
    int key = output.GetStableHashCode();

    if (ScriptableItem.dict.TryGetValue(key, out var data))
    {
        chatMessage.text = chatMessage.text.Replace(output, data.GetTitle());
        chatEntry.tooltip.enabled = true;
    }
}
```

## Step 5

Edit the [UINventory.cs](#) Script in “Assets/uMMORPG/Scripts/\_UI”

```
void Update()
```

Find and comment these lines

```
/*
if (itemSlot.item.data is UsableItem usable &&
    usable.CanUse(player, icopy))
    player.CmdUseInventoryItem(icopy);
*/
```

and insert below

```
if (Input.GetKey(ItemDropSettings.Settings.itemLinkKey))
{
    UIChat.singleton.itemLink = true;
    Item item = player.inventory[icopy].item;

    string stringToCheck = UIChat.singleton.messageInput.text;
    int start = stringToCheck.IndexOf("[");
    int stop = stringToCheck.IndexOf("]");
    if (stop > -1)
    {
        string output = stringToCheck.Substring(start + 1, stop - start - 1);
        stringToCheck = stringToCheck.Replace(output, item.name);
    }
    else
    {
        stringToCheck += $"[{item.name}]";
    }
    UIChat.singleton.messageInput.text = stringToCheck;
    UIChat.singleton.itemLink = false;
}
else
{
    if (itemSlot.item.data is UsableItem usable && usable.CanUse(player, icopy))
        player.CmdUseInventoryItem(icopy);
}
```

## Step 6

Edit the [Instance.cs](#) Script in “Assets/uMMORPG/Scripts”

```
void DestroyAllNetworkIdentitiesInInstanceBounds()
```

Find these lines

```
if (identity != null)
    NetworkServer.Destroy(identity.gameObject);
```

and change to

```
if (identity != null)
{
    if (identity.CompareTag(ItemDropSettings.Settings.itemTag))
    {
        if (identity.TryGetComponent(out ItemDrop item))
        {
            AddonItemDrop.DeleteItem(item.uniqueId);
        }
    }
    NetworkServer.Destroy(identity.gameObject);
}
```

## Step 7

Edit the [Monster.cs](#) Script in “Assets/uMMORPG/Scripts”

```
protected override void UpdateClient()
```

Comment these lines

```
/*
if (LootIndicator != null)
{
    // only set active once. we don't want to reset the particle
    // system all the time.
    bool hasLoot = HasLoot();
    if (hasLoot && !LootIndicator.isPlaying)
        LootIndicator.Play();
    else if (!hasLoot && LootIndicator.isPlaying)
        LootIndicator.Stop();
}
*/
```

## Step 8

Edit the following chat prefabs in “Assets/uMMORPG/Prefabs/UI”

SlotChatMessageGuild.prefab

SlotChatMessageInfo.prefab

SlotChatMessageLocal.prefab

SlotChatMessageParty.prefab

SlotChatMessageWhisper.prefab

Add the [UIShowTooltip.cs](#) component in the Inspector window, and then disable this component.

The [Tooltip Prefab](#) field is empty, you have to assign a prefab. To do this, click [Select GameObject](#) and change the category to [Assets](#). Find and click on the [Tooltip.prefab](#).

---

## Step 9

Edit the `Item.prefab` in “Assets/uMMORPG/Scripts/Addons/ItemDrop/Prefabs”

Click on the Inspector window Tag list, then Add Tag `Item` and set it on this prefab.

Create three new Layers. Click on the Inspector window Layer list, then Add Layer `Item`, `ItemPoint` and `ItemLabel`.

Set Layer `Item` on this prefab (select “No, this object only”).

Open this prefab and in Prefab Mode click on the child object and set Layer `ItemPoint` for it.

Drag and drop `Item.prefab` from “Assets/uMMORPG/Scripts/Addons/ItemDrop/Prefabs” to the NetworkManager Registered Spawnable Prefabs.

## Step 10

Edit the `ItemPart.prefab` in “Assets/uMMORPG/Scripts/Addons/ItemDrop/Prefabs”

Set Layer `Item` on this prefab.

## Step 11

Edit the `ItemLabel.prefab` in “Assets/uMMORPG/Scripts/Addons/ItemDrop/Prefabs”

Set Layer `ItemLabel` on this prefab (select “Yes, change children”).

## Step 12

Drag and drop `LootManager.prefab` from “Assets/uMMORPG/Scripts/Addons/ItemDrop/Prefabs” to the World scene.

## Step 13

Edit the `Loot` in “World/Canvas/Loot” on the World scene.

Disable the `UILoot.cs` component.

## Step 14

Edit the `MiniMap Camera`’s Inspector window/Camera/Culling Mask on the World scene.

Uncheck `Item`, `ItemPoint` and `ItemLabel` layers from the Culling Mask list, then make sure `Item` and `ItemPoint` are selected in your main camera while `ItemLabel` must be unchecked.

## Step 15

Edit the Project Settings from Unity’s main menu  
“Edit/Project Settings/Player/Configuration/Scripting Define Symbols”

Insert `;ITEM_DROP_C` at the end and push the `Enter` button.

Now all lines of code related with the classic version are active.

## Step 16

Configure the `ItemDropSettings.asset` in  
“Assets/uMMORPG/Scripts/Addons/ItemDrop/Resources”

Click the `Restore Defaults` button (at the bottom in the Inspector window) to set Tags and Layers you added in step 9 and set all prefabs for the default items from uMMORPG. Your project will also be saved.

`ItemDropSettings.asset` stores all settings related to this addon. You can configure it however you want.

You will also find three additional options here:

**Individual Loot** All items dropped by monsters are assigned to the individual player. These items do not have a unique ID and only appear on clients connected to the server and are automatically destroyed when the player logs out.

**Gold Loss** Characters drop a percentage of their gold when they die. The lost gold remains on the server, has a unique ID and will not be destroyed until someone picks it up.

**Item Loss** Characters drop a random item of their inventory when they die. The lost item remains on the server, has a unique ID and will not be destroyed until someone picks it up. You can choose the number of items to drop.

## Step 17

Set rarity level and prefab for each Scriptable Item in “Assets/uMMORPG/Resources/Items”.

## Step 18

Edit all monster prefabs in “Assets/uMMORPG/Prefabs/Entities/Monsters”

Set `Loot Gold min` and `Loot Gold max` as in the core version. Add items, but remember to not add the `Gold` Scriptable Item!

## \*OPTIONAL STEPS

You can easily add more rarity levels.

## Step 19

Edit the `ItemDropSettings.asset` in “Assets/uMMORPG/Scripts/Addons/ItemDrop/Resources”

Add this line

```
public Color magicItem; // choose a color in the Inspector window
```

## Step 20

Edit the `AddonItemDrop.cs` Script in “Assets/uMMORPG/Scripts/Addons/ItemDrop/Scripts”

```
public enum Rarity
```

Insert here

```
Magic,
```

---

```
public string GetTitle(int stack = 1)
```

Insert the following lines into the same place as other colors

```
case Rarity.Magic: color = ItemDropSettings.Settings.magicItem; break;
```