

# UAI Creator – Guide

Welcome

This is the official guide for the Unity tool UAI Creator.

Make sure to use the newest version of the guide, which can be found at:

<https://github.com/DevOelgaard/UnityUtilityAiSystem/tree/master>

This tool is currently a prototype and by no means ready for production. You are free to use it as you see fit but be aware that it isn't a priority to make the updates backwards compatible at this point.

Feedback is much welcomed, you can reach me at: [DevOelgaard@gmail.com](mailto:DevOelgaard@gmail.com).

Thank you for trying the UAI Creator.

# 1 Quick Start

This chapter helps you get started with a simple 'hello world' example.

This guide was made for Unity version 2021.2.10f1 on Windows, if you are running a different version or system, the guide might not be 100% accurate.

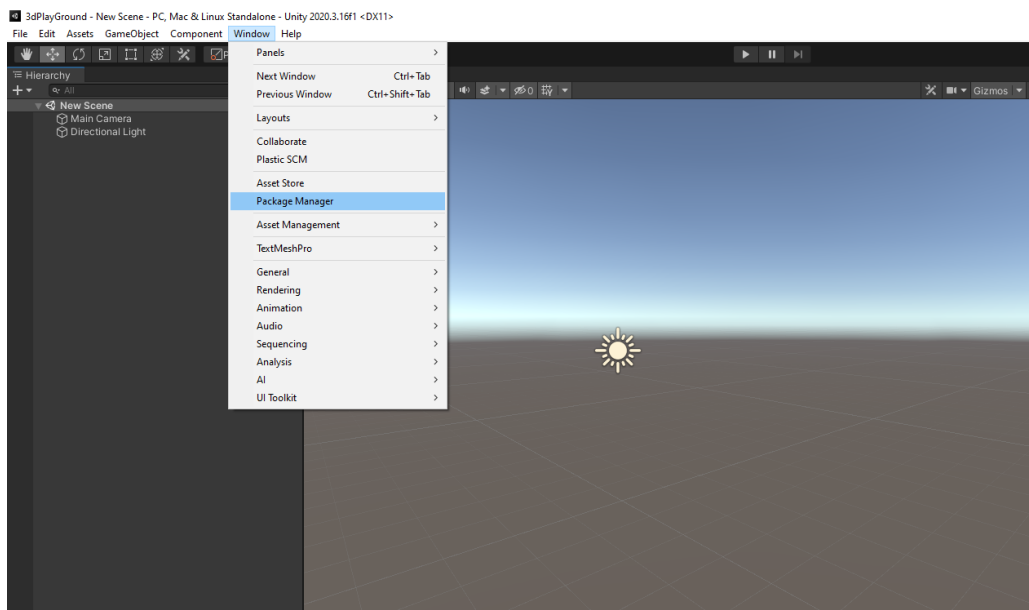
## Unity version:

Make sure your Unity version is >2021.2.10f1.

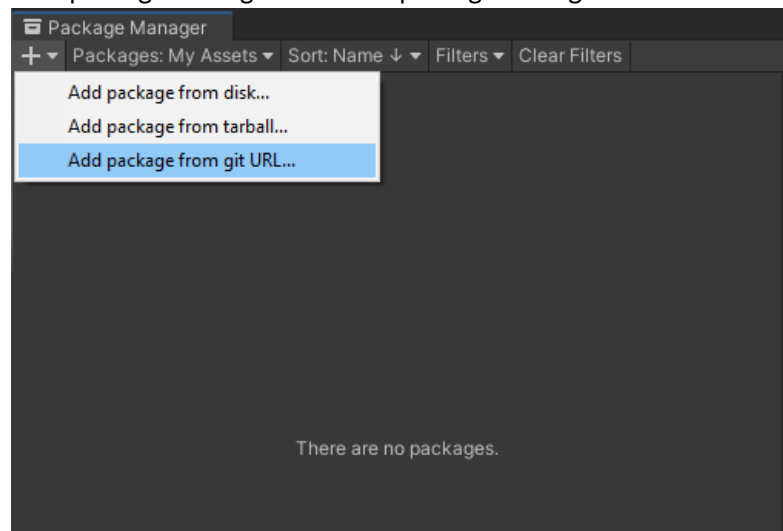
Follow this Link to get the newest Unity version: <https://unity3d.com/get-unity/update>.

## 1.1 Installation

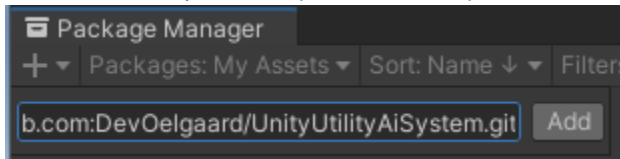
1. Open Package Manager: Window -> Package Manager



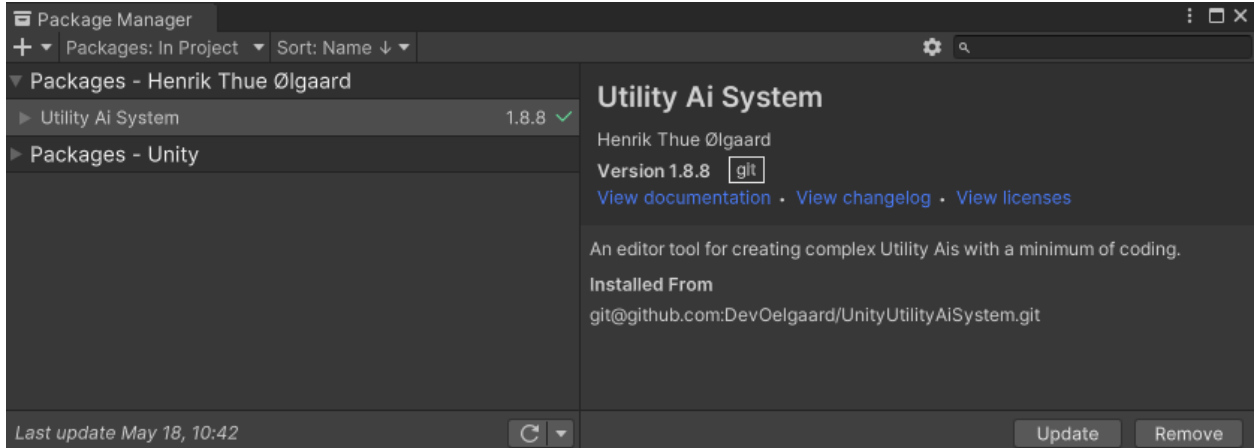
2. In top-left corner of package manager: + -> Add package from git URL...



3. Add one of the following links and press 'Add'
  - a. HTTPS: <https://github.com/DevOelgaard/UnityUtilityAiSystem.git>
  - b. SSH: <git@github.com:DevOelgaard/UnityUtilityAiSystem.git> (Requires SSH Key)
  - c. For help See: <https://docs.unity3d.com/Manual/upm-git.html#Git-HTTPS>



4. The package is now installed and ready for use.



## 1.2 Hello World

### 1.2.1 Code

1. Create a new C# script anywhere in your assets folder and name it "PrintTxt.cs" and open it in your favorite IDE.
2. Place the following code inside the PrintTxt.cs file

```
using System.Collections.Generic;
using UnityEngine;

public class PrintTxt : AgentAction
{
    // Here you define the parameters to be shown in the various UIS
    protected override List<Parameter> GetParameters()
    {
        return new List<Parameter>
        {
            // The format is: new Parameter(ParameterName,
            // The Parameter supports all primitive types and some
            // others like Unity.Color
            new Parameter("Text to print", "")
        };
    }

    // Called the first time the action is selected
    public override void OnStart(IAiContext context)
    {
        PrintText(context);
    }

    // Called at each successive selection of the action
    public override void OnGoing(IAiContext context)
    {
        PrintText(context);
    }

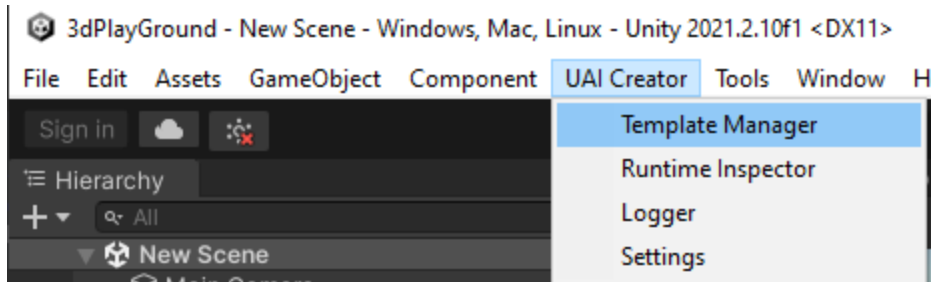
    private void PrintText(IAiContext context)
    {
        var text = GetParameter("Text to print").Value as string;

        var agent = context.Agent as AgentMono;

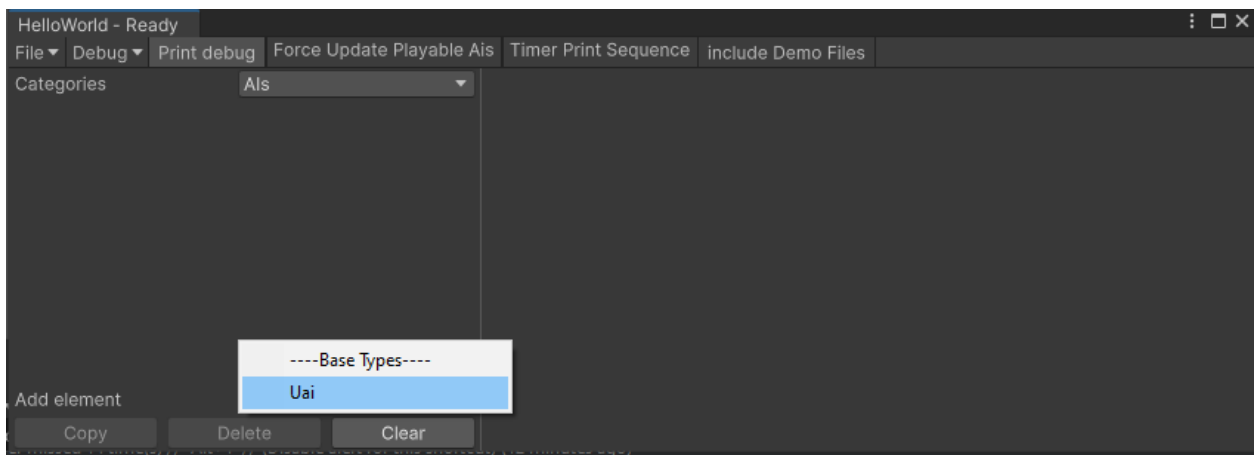
        Debug.Log(agent.name + ": " + text);
    }
}
```

### 1.2.2 UAI Template

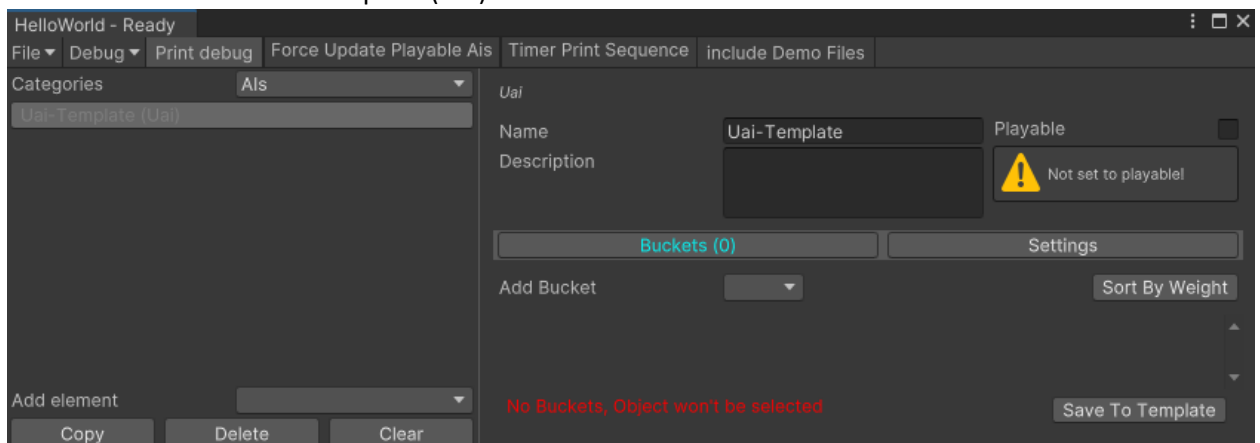
1. Open UAI Creator -> Template Manager



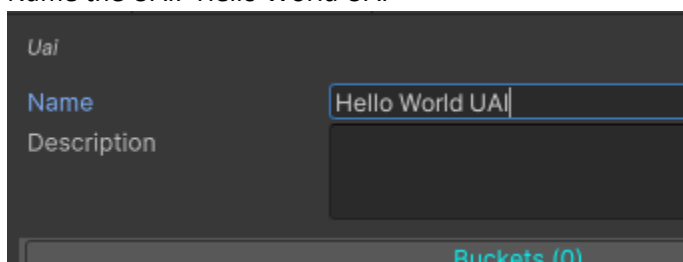
2. If prompted press “Create New Project” and select an empty folder named “HelloWorld” anywhere on your system.
  - a. **WARNING!!!** If you chose a non-empty folder you might lose the content of the folder
3. In the ‘AIs’ category Add element -> Uai



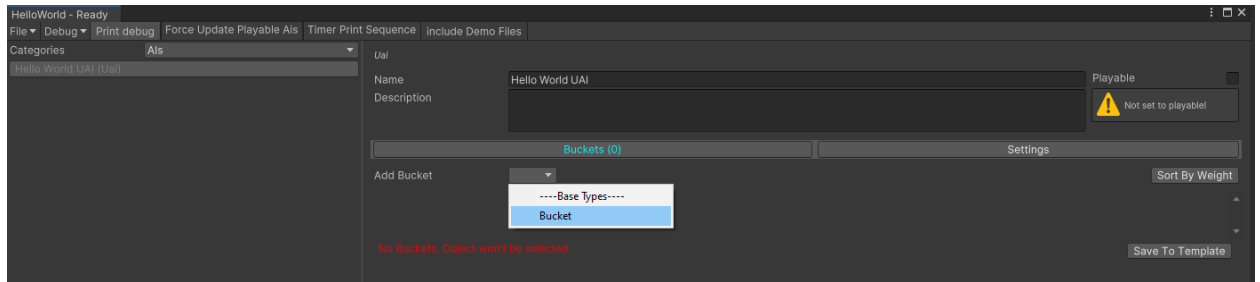
4. Double click the new Uai-Template (Uai)



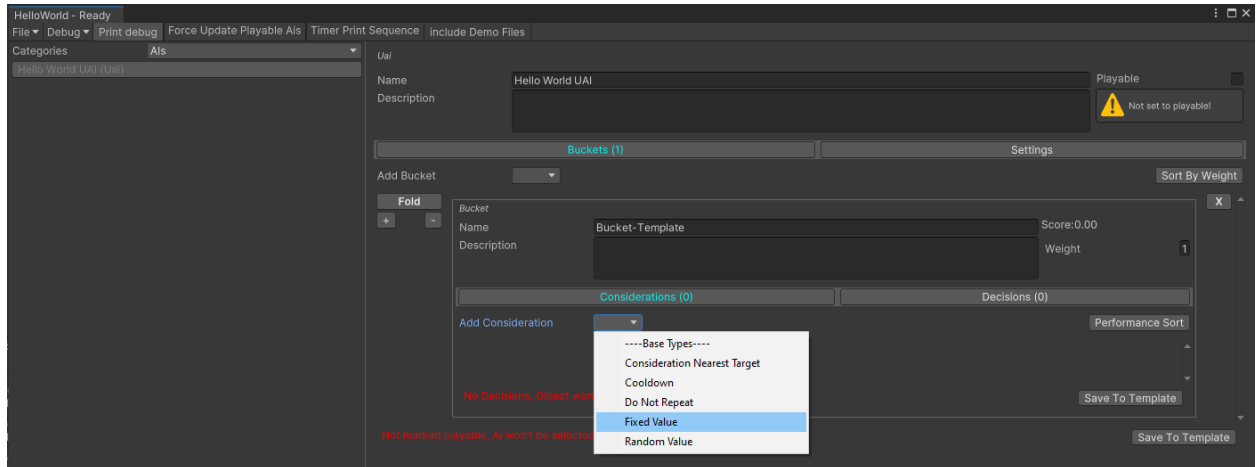
5. Name the UAI: ‘Hello World UAI’



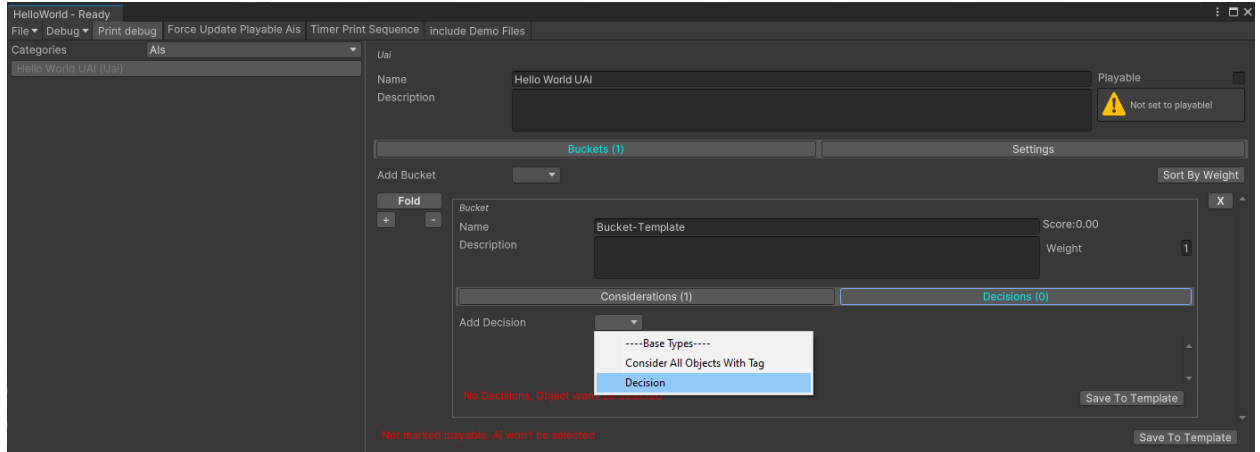
## 6. Add bucket



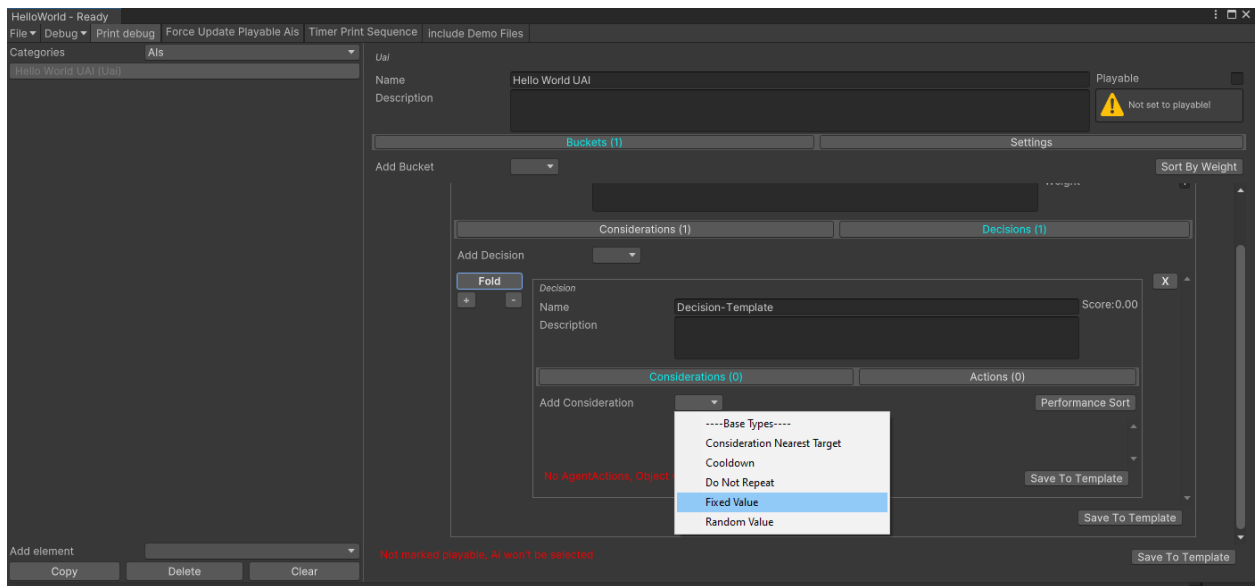
## 7. Expand the bucket and add Consideration 'Fixed Value'



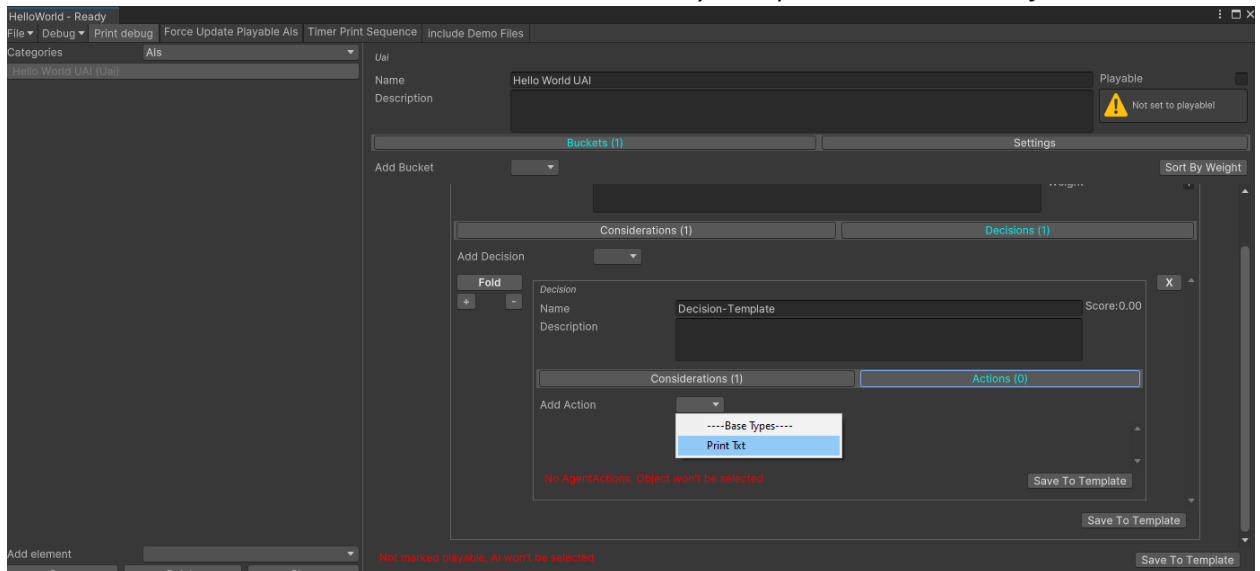
## 8. In Decisions tab: Add decision



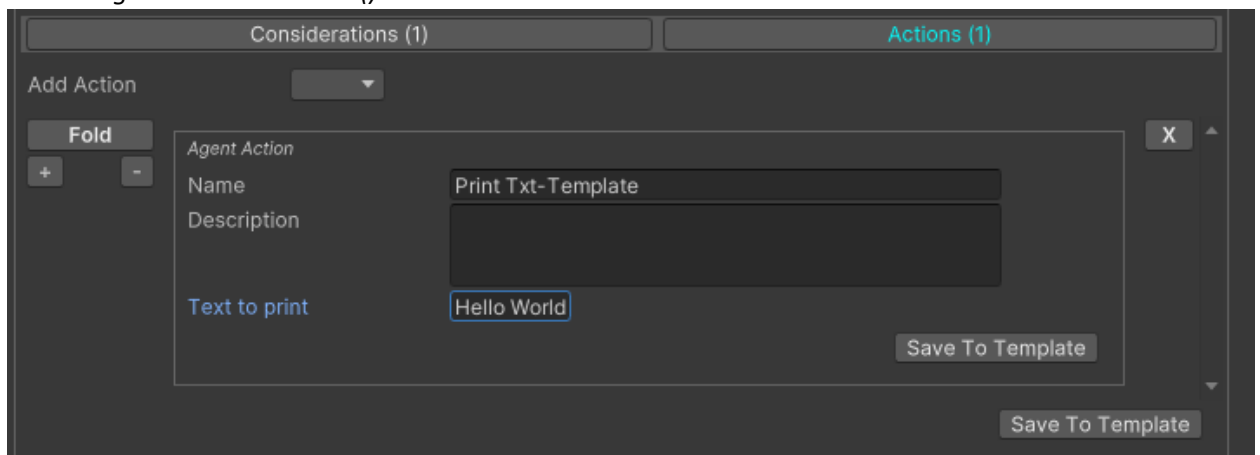
## 9. Expand the decision and add Consideration 'Fixed Value'



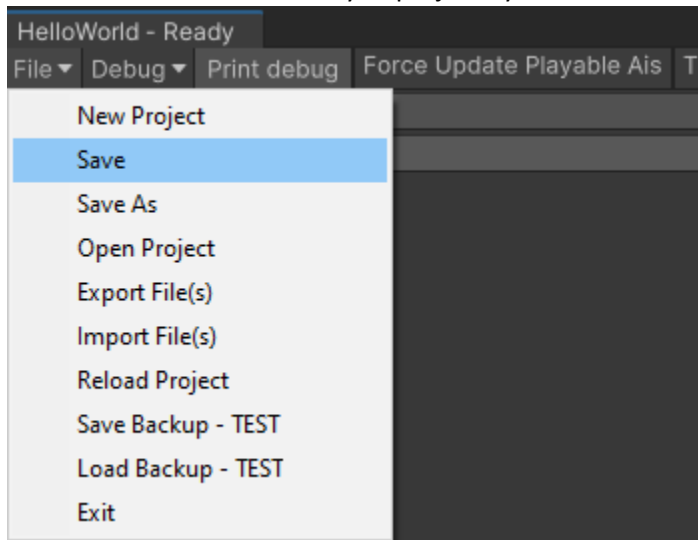
10. In actions tab add the Action: 'Print Txt'. *This is the action you implemented in code before*



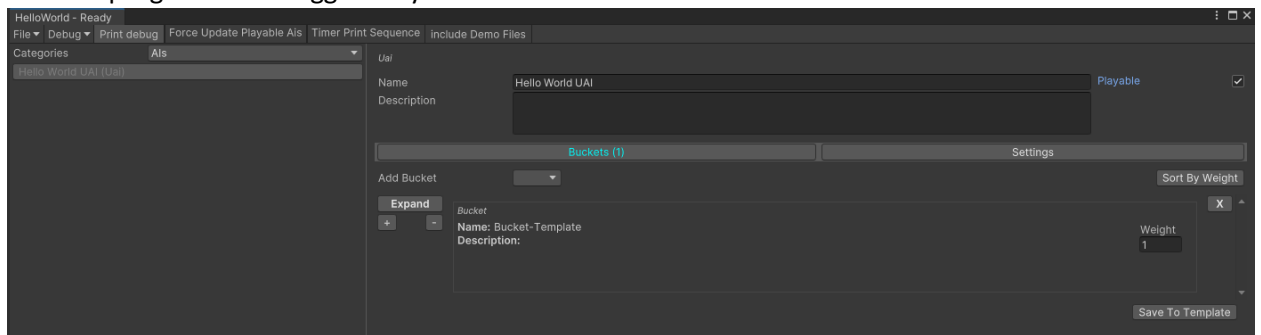
11. Expand the Print Txt action and input 'Hello World' in the 'Text to print' field. *You defined this by overriding the GetParameters() method in the code.*



12. In the toolbar: File -> Save and wait for the top left name to say: “HelloWorld – Ready”.
- a. You can now reload you project by: File -> Reload Project



13. In the top-right corner Toggle 'Playable' On

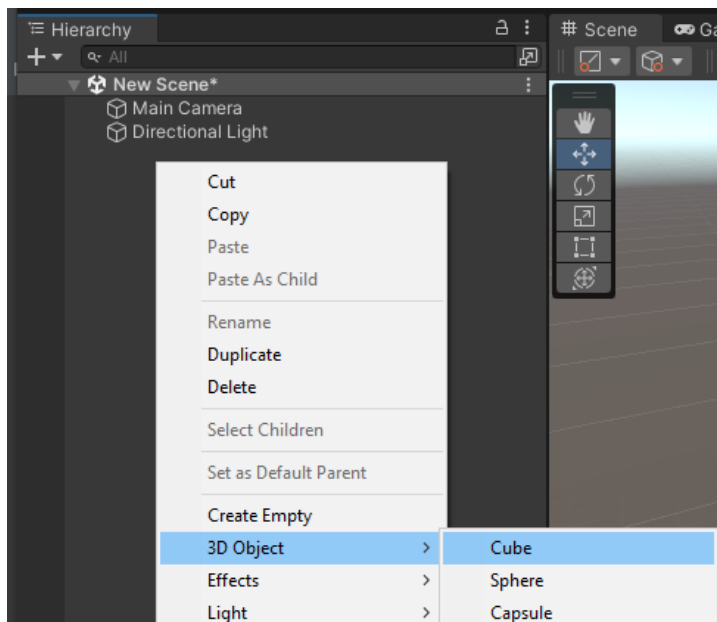


14. Close the Template Manager

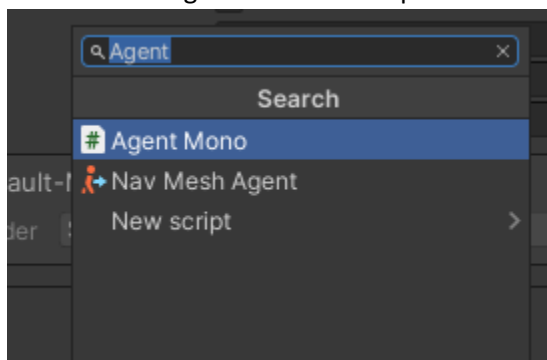
### 1.2.3 Add an agent

1. In the Hierarchy: Right Click -> 3D Object -> Cube and name it 'Agent'

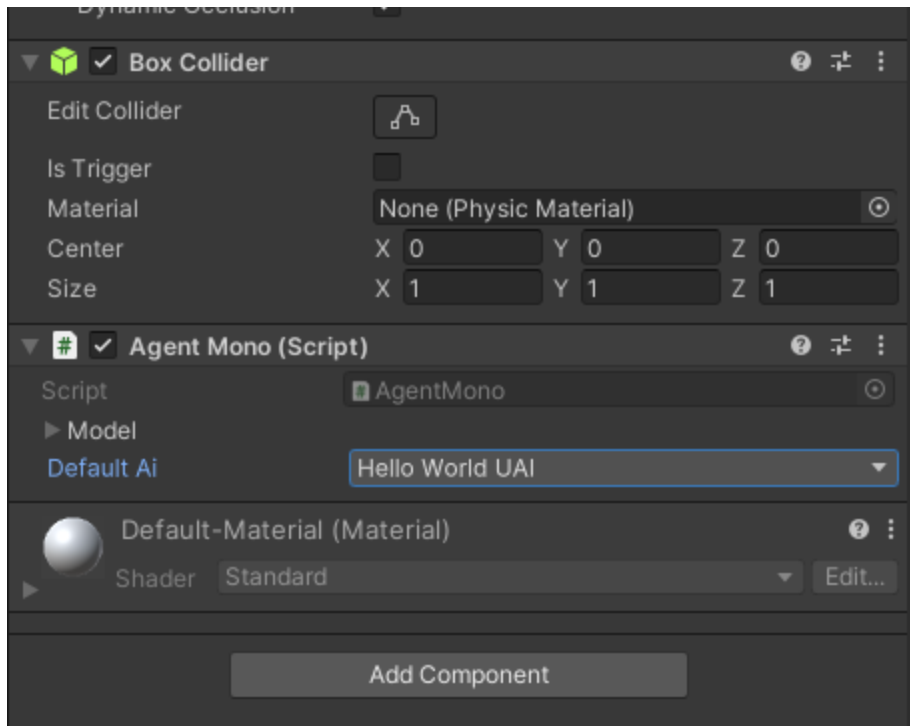




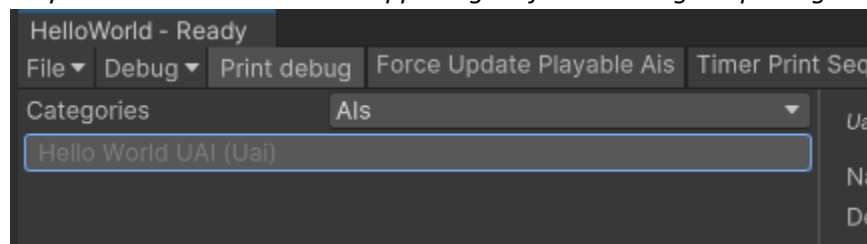
2. In select the 'Agent' and in its inspector: Add Component -> Agent Mono



3. In the Agent Mono component, set the default Ai to 'Hello World UAI'

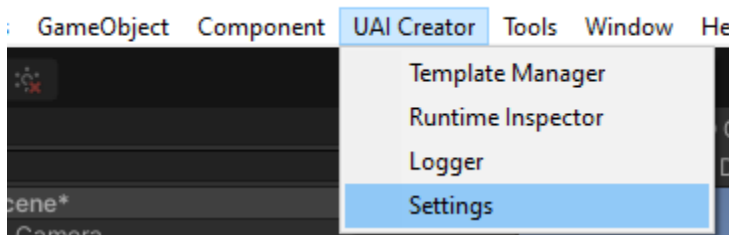


- a. If the AI name isn't shown return to the Template Manager and press 'Force update Playable Ais' – *This error can happen right after installing the package*

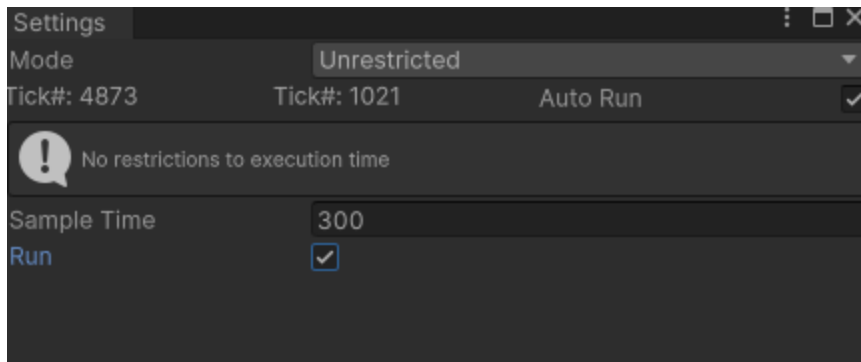


#### 1.2.4 Finally

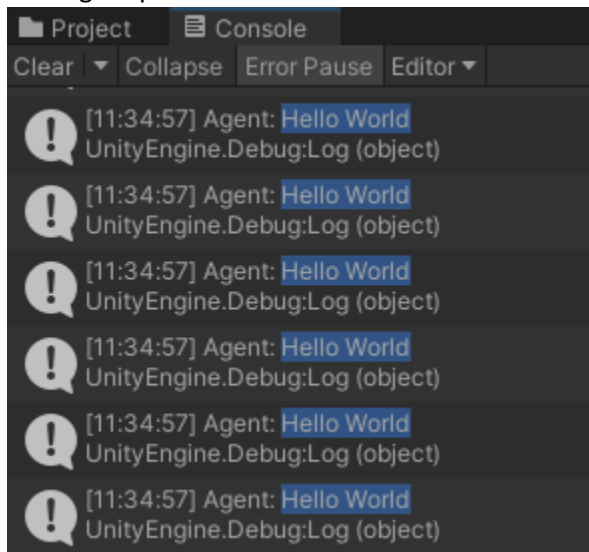
1. Run the game
2. In the toolbar: UAI Creator -> Settings. To open the UAI Settings  
- New Scene - Windows, Mac, Linux - Unity 2021.2.10f1\* <DX11>



3. Set the mode to 'Unrestricted' and toggle 'Run' on



4. The agent prints Hello World To the console every frame



### 1.2.5 Challenge

Make the agent:

1. Say: 'Hi' the first time the action is selected
2. Count the number of consecutive selections and print it to console
3. Change color on every selection *Hint inn the Template Manager press the 'Include Demo Files', to get access to more considerations and actions*

### 1.2.6 Challenge – Solution

- 1: Change the OnStart method in the PrintTxt method
- 2: Use the OnGoing method and a private property in the PrintTxt method
- 3: Add the change color action to the Hello World UI

