

# Welcome

The **Combat** module is now available for purchase on the Unity Asset store. Visit the asset's [product page](#) for details.

# Getting Started



The **Combat** module builds on the **Game Creator Shooter** module to add enhanced, game-ready, combat features:

- Proximity-based weapon targeting.
- Target indicator.
- Homing projectile.
- Targeting by visibility.
- Support for destructible targets.

## Dependencies

Combat is an extension for **Game Creator** and the **Shooter** module. BOTH are required - **Combat** will not work without them.

They can be purchased from the Unity Asset Store:

- [Game Creator](#)
- [Shooter](#)

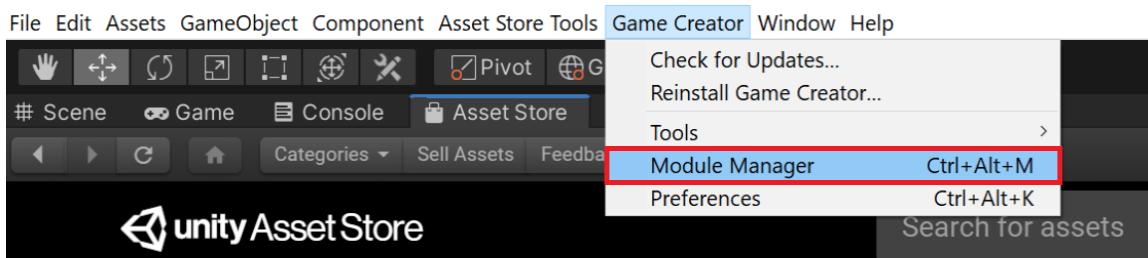
## What's Included

- Full source code.
- An examples module that contains scenes that demonstrate the features listed above.

## Module Installation

After purchasing and downloading the **Combat** module, it must be enabled with the Game Creator Module Manager.

### Step 1: Open the Module Manager



## Step 2: Enable the Combat Module

Module Manager

Module Manager

Combat

Backup Update **Enable** Remove

Module ID  
com.firechickengames.module.combat

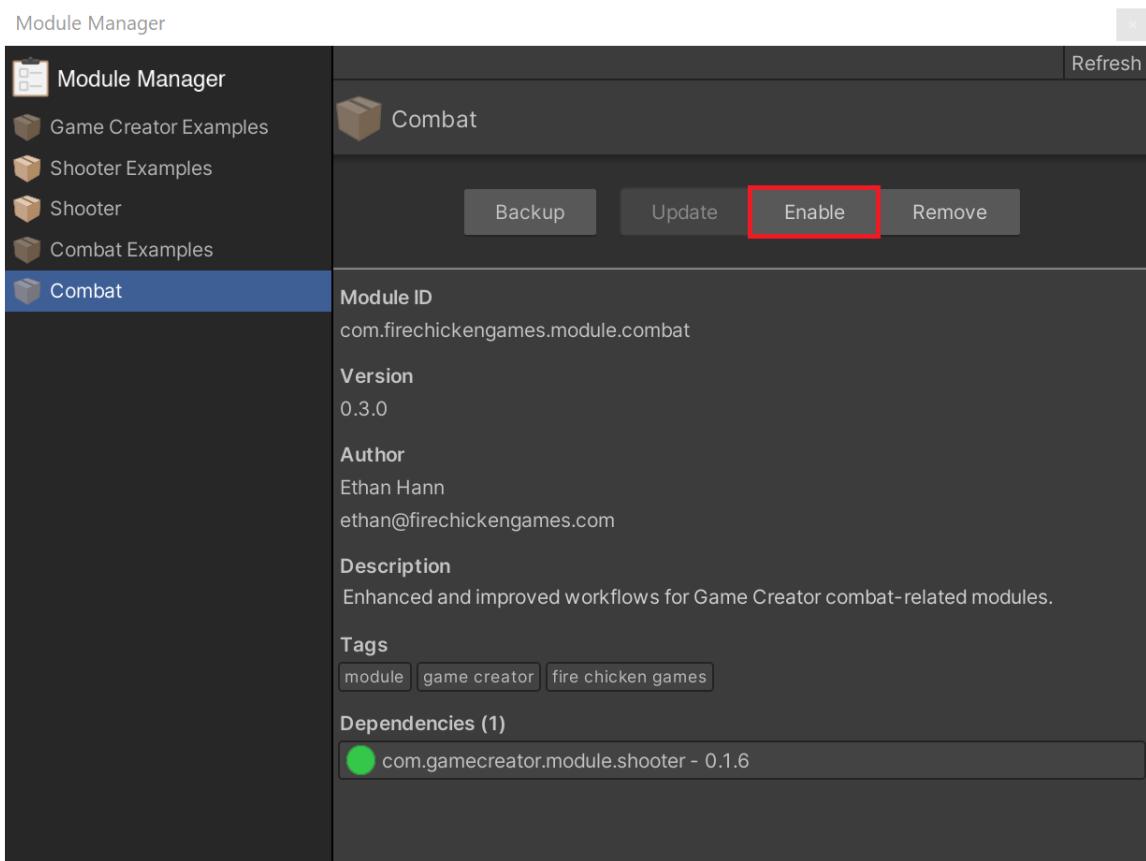
Version  
0.3.0

Author  
Ethan Hann  
ethan@firechickengames.com

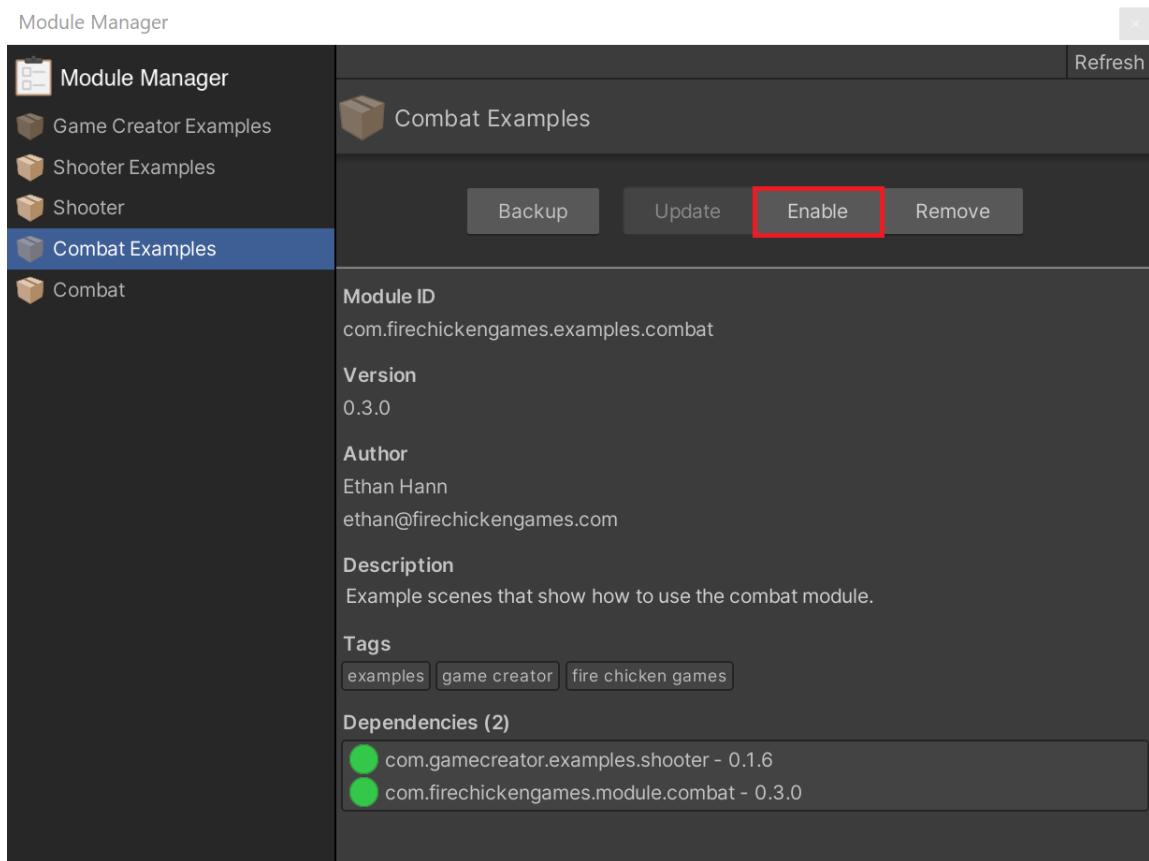
Description  
Enhanced and improved workflows for Game Creator combat-related modules.

Tags  
module game creator fire chicken games

Dependencies (1)  
com.gamecreator.module.shooter - 0.1.6



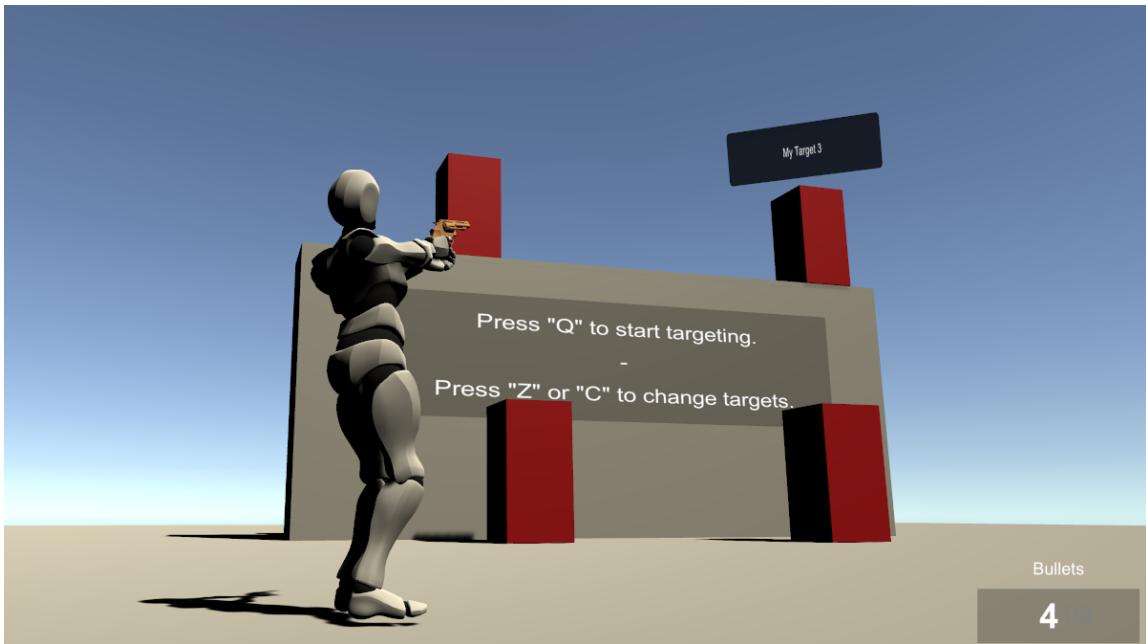
## Step 3 (optional): Install the Combat Examples Module



# Overview

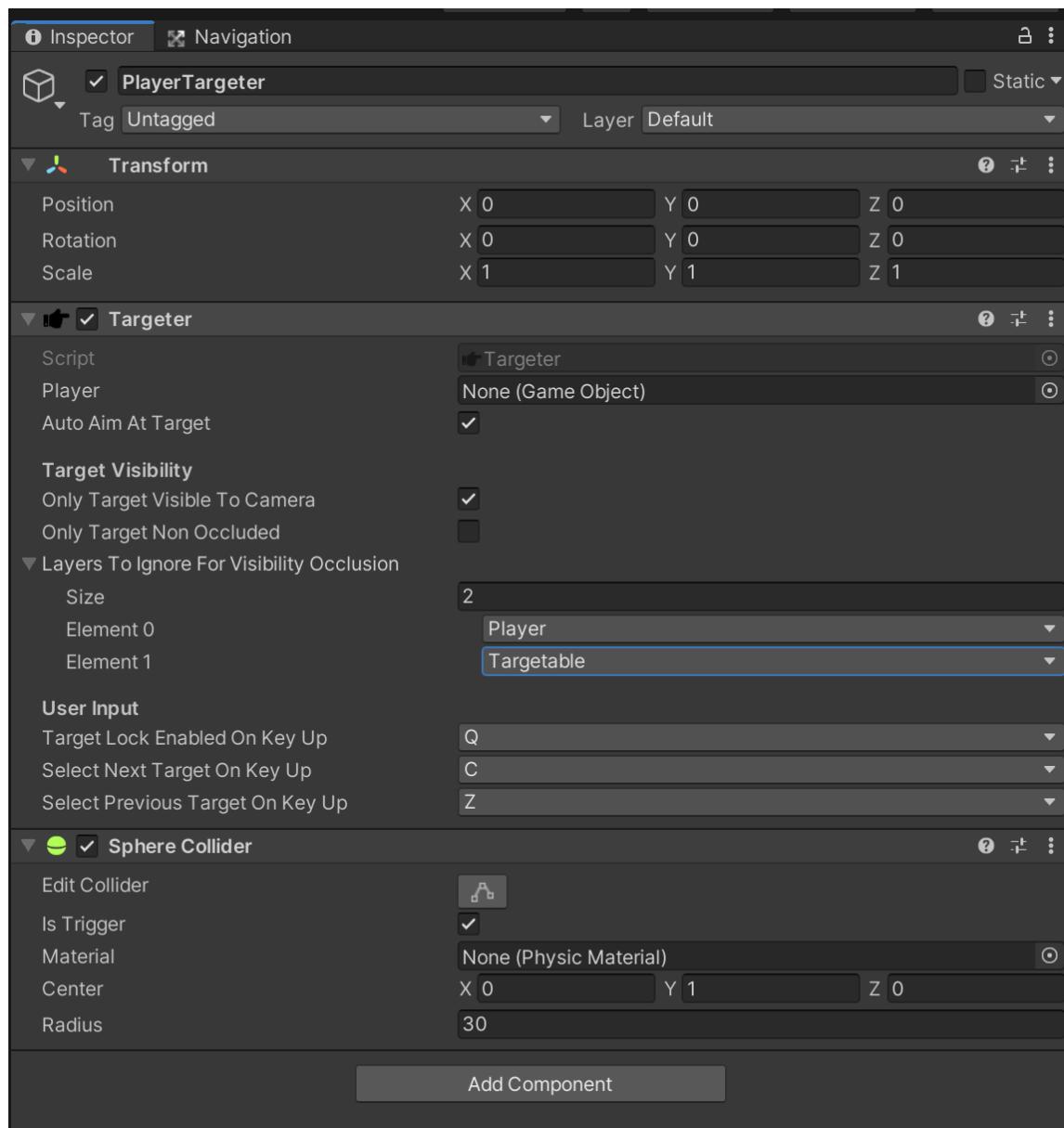
The **Combat** module provides a proximity-based targeting system. It allows a player to target characters (or other game objects) within a configurable range. This is achieved with two components: **Targeter** and **Targetable**.

When a player with a **Targeter** component approaches objects with the **Targetable** component attached, the player can press the **Q** key to lock onto the nearest available object. The **Z** and **C** keys are used to switch targets. Please note that these keys can be [remapped](#).



# Targeter Component

Included in the **Combat Examples** module is a prefab called **PlayerTargeter** that demonstrates how to use the **Targeter** component. The **Sphere Collider** attached to the same game object (as depicted in the inspector screenshot below) is required. Note that the range of the **Targeter** is dictated by the **Radius** property of this collider. The **PlayerTargeter** prefab should be nested under the Game Creator Player object.



## Auto Aim At Target

Automatically aiming at a target can be disabled with the **Auto Aim At Target** option - the character will still be locked on to it, but will not fix their weapon on it while aiming. This may be desirable for some games.

## Target Visibility



New in 0.4.0

The component's target visibility options allow for target selection to be limited by what the camera can see.

### Only Target Visible To Camera

If enabled, only targets possibly visible to the camera (i.e. in its view frustum) are targetable.

### Only Target Non-Occluded

If enabled, targets hidden behind objects are not targetable.

Note that this option is turned off by default because the player and targetables need to be on dedicated layers which requires manual configuration.

### Layers To Ignore For Visibility Occlusion

The layers to ignore when determining target visibility when [Only Target Non-Occluded](#) is enabled.

Typically, there should be two layers:

- A "Targetable" layer that contains all targetable objects.
- A "Player" layer that contains the player.

## User Input

The **User Input** section of the **Targeter** component allows the keys that control target locking and switching to be customized.

# Targetable Component

Making game objects targetable using the **Combat** module's **Targetable** component is trivial for Game Creator Characters and other game objects.

## Basic Setup

### Characters

To make a character targetable, simply add the **Targetable** component to it.

**Inspector** **Navigation**

**Jerry**   Static

Tag Untagged Layer Targetable

Prefab Open Select Overrides

**Transform**

Position	X -1.52	Y -0.6	Z 6.01
Rotation	X 0	Y 181.639	Z 0
Scale	X 1	Y 1	Z 1

**Character**

**Character Animator**

**Character Controller**

**Targetable**

Script  Targetable

**Targetability**

Can Be Targeted Local Variable  None (Game Object)

Visibility Detection Renderer

**Active Target Indicator**

Show Indicator

Indicator Prefab ActiveTargetIndicator

Indicator Offset X 0 Y 2.1 Z 0

Indicator Text Content Local Variable  None (Game Object)

MyName

Indicator Text Color

**Actions**

On Become Active Target Actions

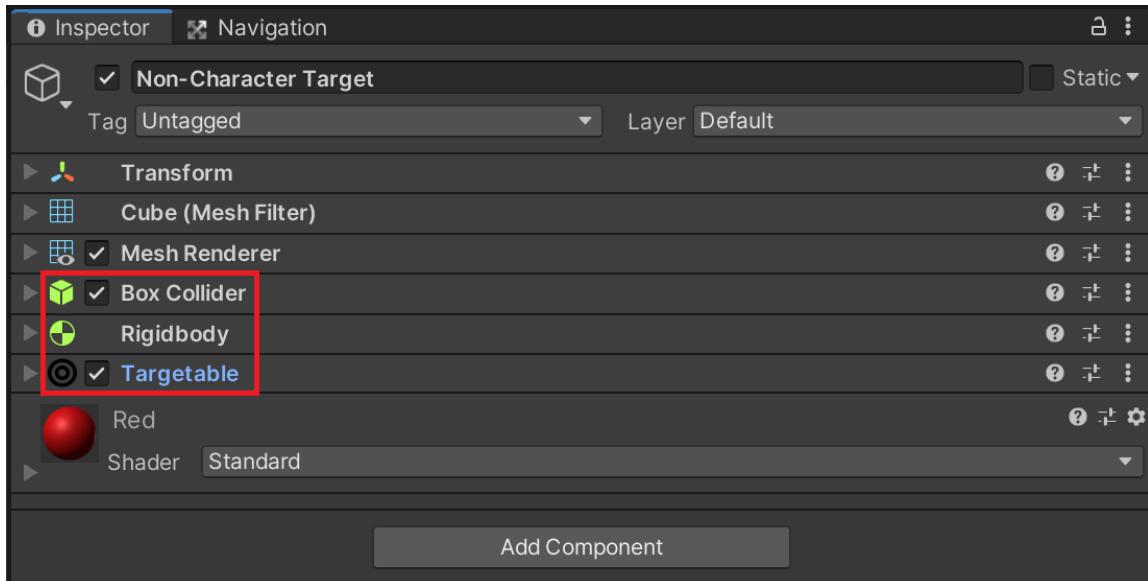
On Not Active Target Actions

**Local Variables**

Add Component

## Non-Character Game Objects

Any game object can be targetable if it has the **Targetable**, **Rigidbody**, and **Collider** components.



## Making a Target Untargetable

The **Targetable** component contains a boolean Game Creator Variable property, called **Can Be Targeted**, that can make the target untargetable.

For example, once the target has been defeated, it is likely desirable for the player to automatically stop targeting it and not be able to target it again.

This is accomplished by:

1. Adding a boolean **Local Variable** to a character (e.g. "IsAlive").
2. Assigning the boolean variable to the **Can Be Targeted** property.
3. In the character's **On Receive Shot Actions**, set the boolean value to false - this will deselect the target and make it no longer targetable.

The **Combat Examples** module's **Example4-KillableCharacters** demo scene contains a pre-configured **KillableCharacter** prefab. It demonstrates how to make a character killable/untargetable using the method described above.



### Visibility Detection Renderer

This property is used to determine if a **Targetable**'s mesh is [visible](#) to a **Targeter** component. It does not normally need to be manually set (if not set, the component uses the first renderer found in the object's hierarchy). This property only needs to be manually set if the **Targetable** component's parent object does not have a mesh renderer in its hierarchy, or a mesh renderer other than the first one the `GetComponentInChildren<Renderer>()` returns by default is required.

If visibility features are not used, this property can be ignored completely.

## "On Target Become Untargetable" Trigger



### New in 0.4.0

There is also a trigger called "On Target Become Untargetable" that allows for actions to be executed when the target becomes untargetable. The **Combat Examples** module's **Example7-DestructibleTargets** demo scene contains a pre-configured **DestructibleTarget** prefab. It showcases how to use this trigger to implement destructible targets.

## Advanced Options

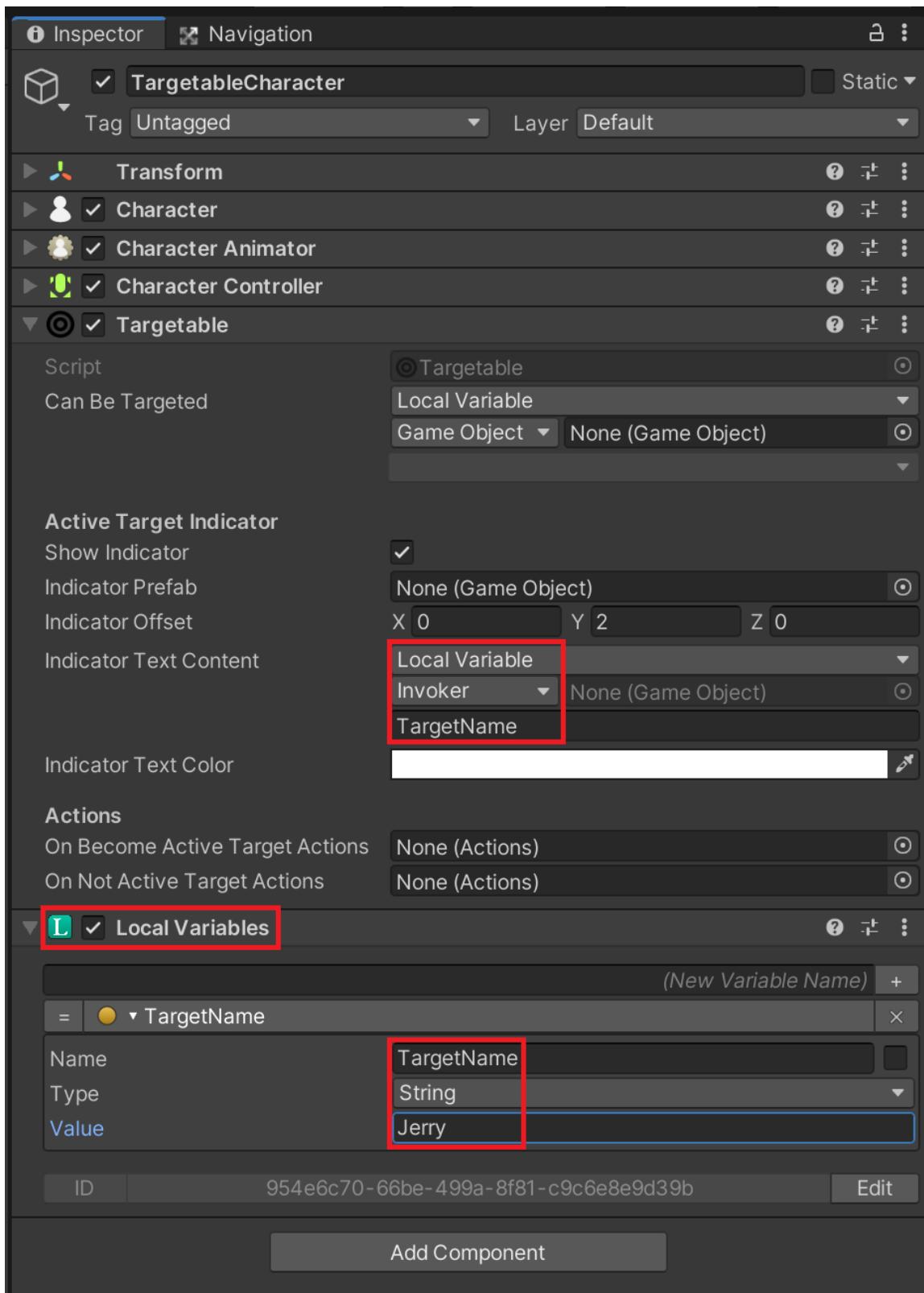
### Active Target Indicator

The **Targetable** component provides an "indicator" feature that highlights the currently targeted game object. The content and appearance of the indicator is configurable.



## Text

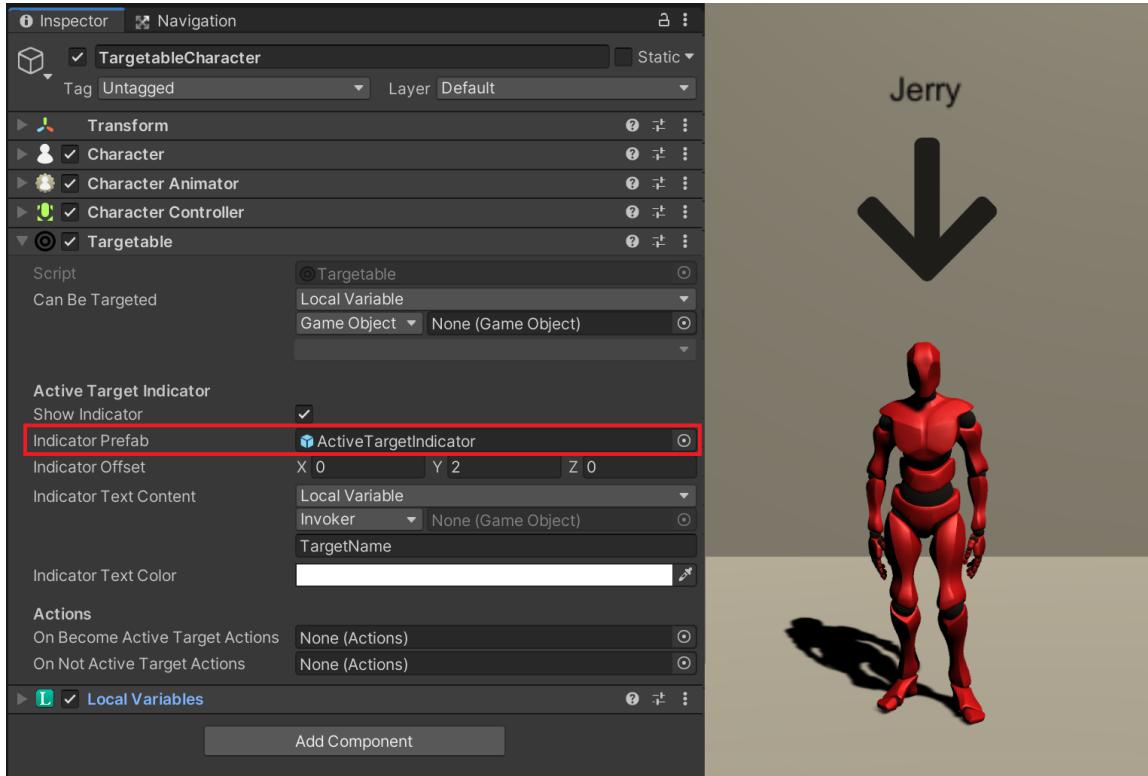
An indicator can have custom text, defined via a Game Creator **Global/Local Variable**. Practically speaking, it almost always makes sense to use a **Local Variable** packaged in the same prefab object that contains the **Targetable** component. The value of the Local Variable would then be configured on the instance of the prefab when used in a scene.



## Prefab

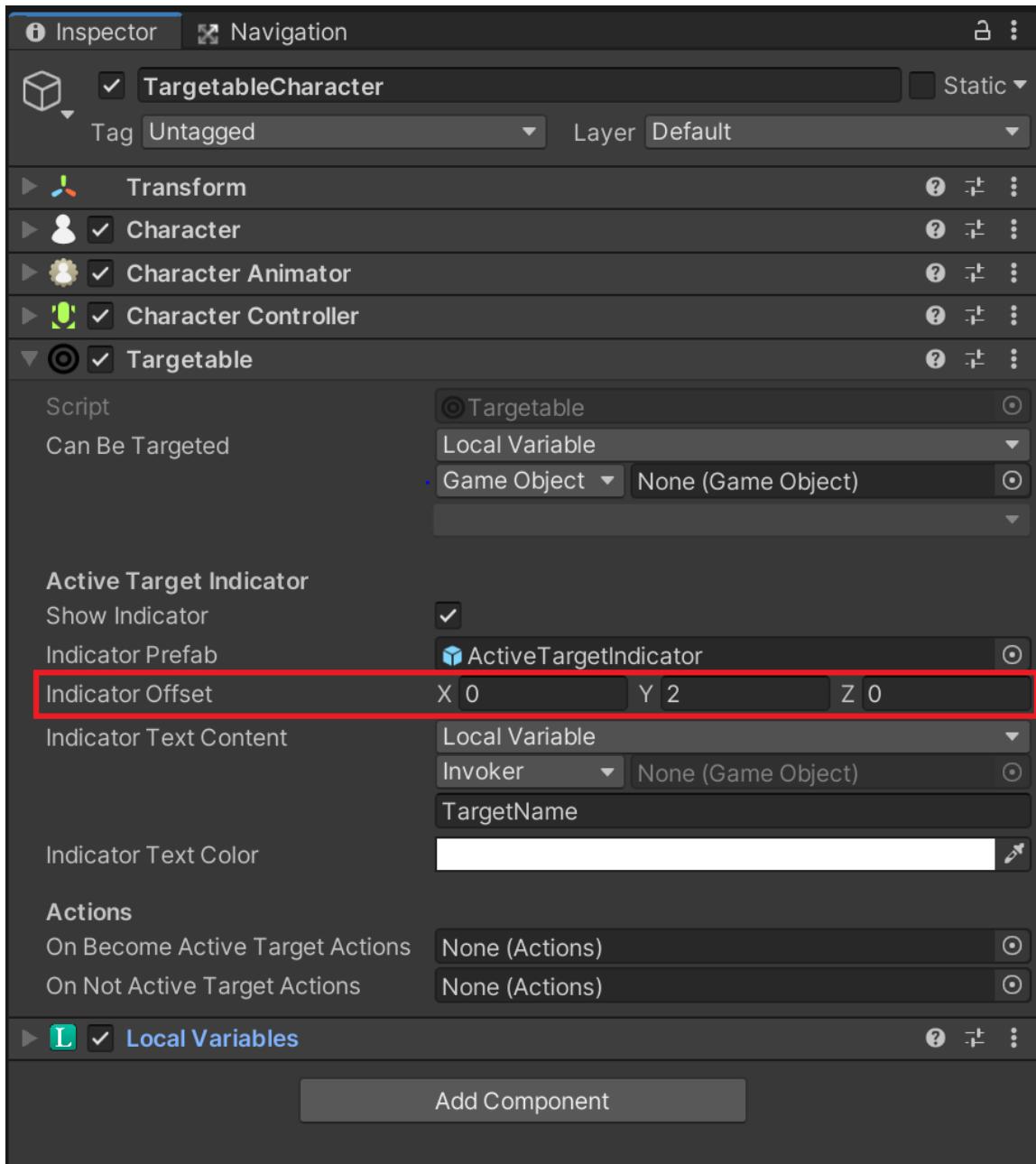
If not set, the Game Creator **Floating Message** prefab is automatically set as the target indicator prefab at runtime. The **Combat Examples** module includes an

example of a custom indicator. The example indicator has text above a downward pointing arrow.



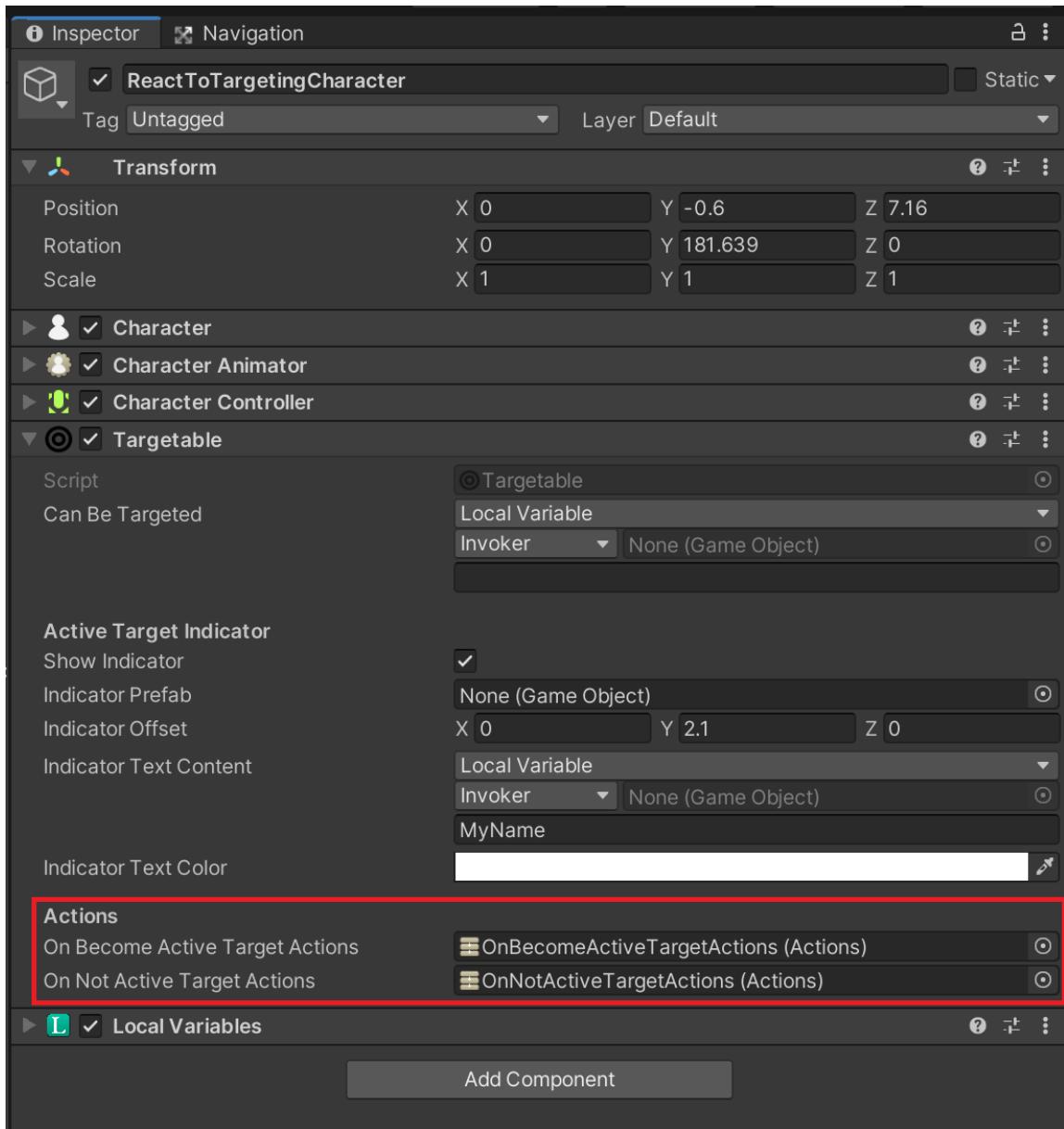
## Positioning

The target indicator is positioned relative to the parent game object. By default, the **Indicator Offset** vector will position the indicator above the Game Creator example character, but may need to be adjusted for other characters and objects of different heights.



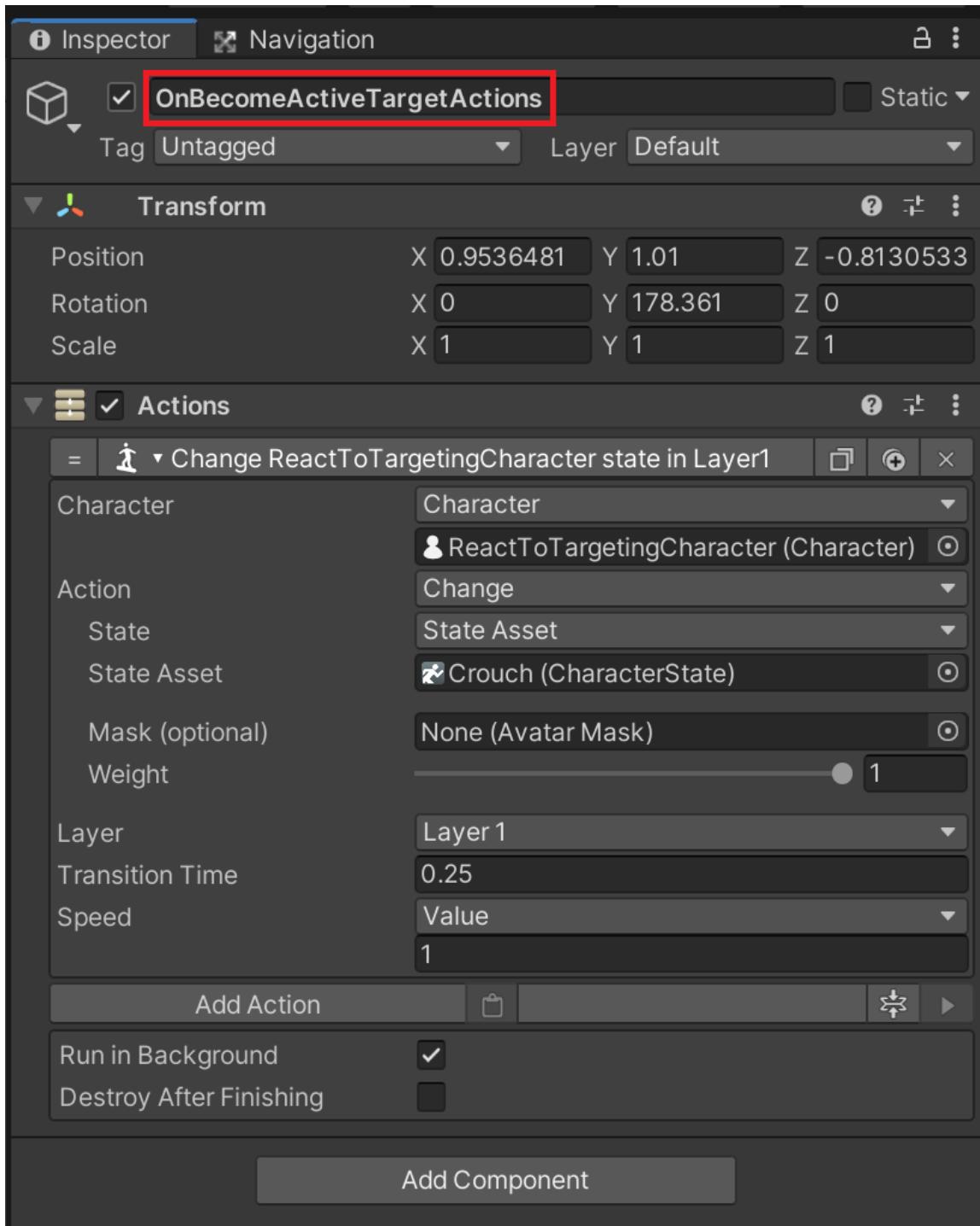
## Targeting Actions

A **Targetable** game object can optionally execute actions when it becomes the active target, and another set of actions when some other object becomes the active target (or targeting is toggled off altogether).



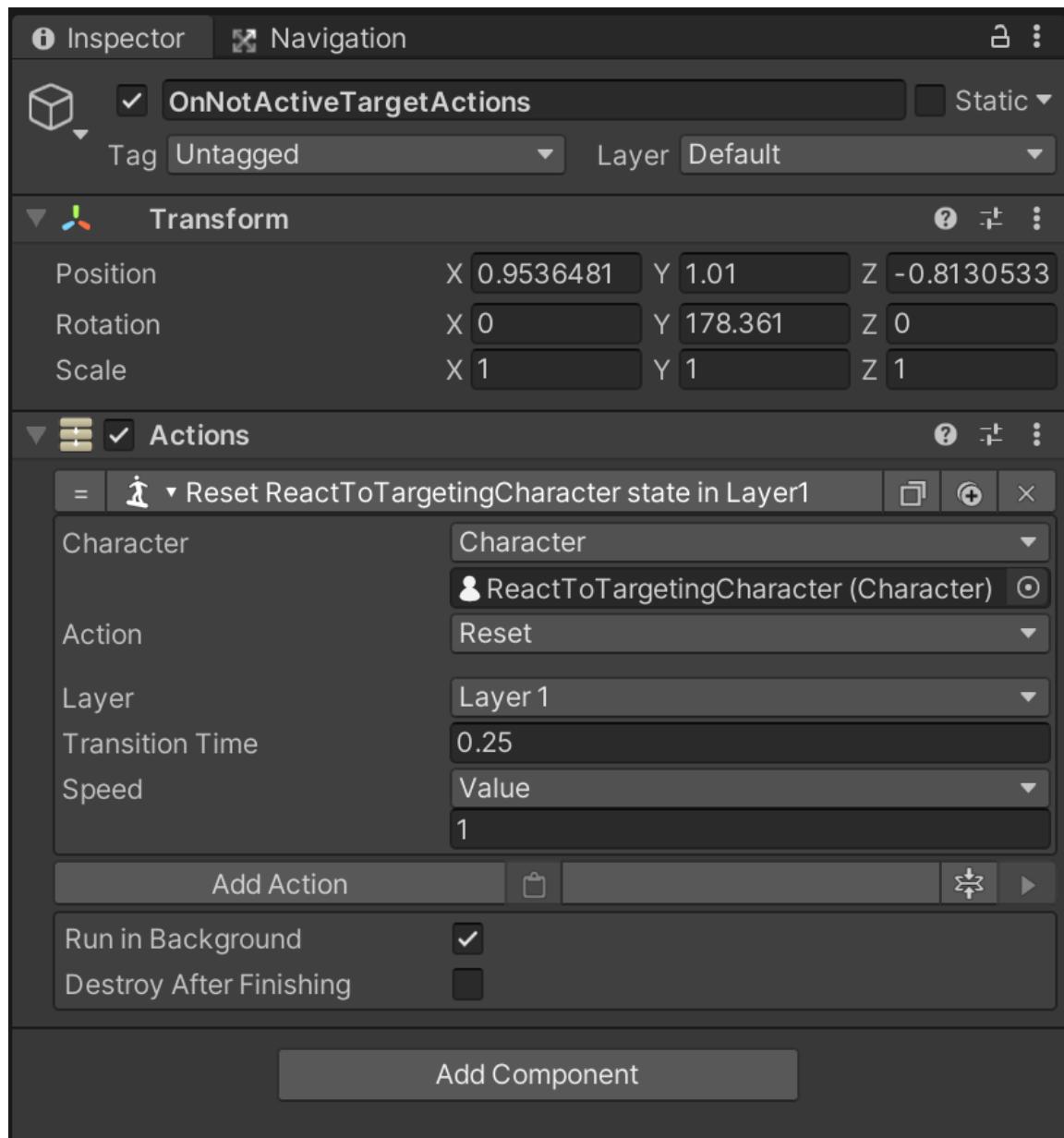
### "On Become Active Target"

When the target becomes the active target, these actions can (for example) make the target crouch. A more practical example might be adding an outline around the target or perhaps set a variable that triggers some behavior (e.g. make the target hostile or flee).



### "On Not Active Target"

Related to the previous section, when the target is changed or targeting is disabled, this action will reset the target character's gesture state.



# Homing Projectiles

As the name suggests, a **Homing Projectile** seeks its target even if the weapon firing the projectile is not pointed directly at the intended target.

Setup is trivial. Simply attach the Combat module's **Homing Projectile** component to any projectile. The component's **Ammo Rigidbody** property will be automatically set if the game object contains a Rigidbody component.

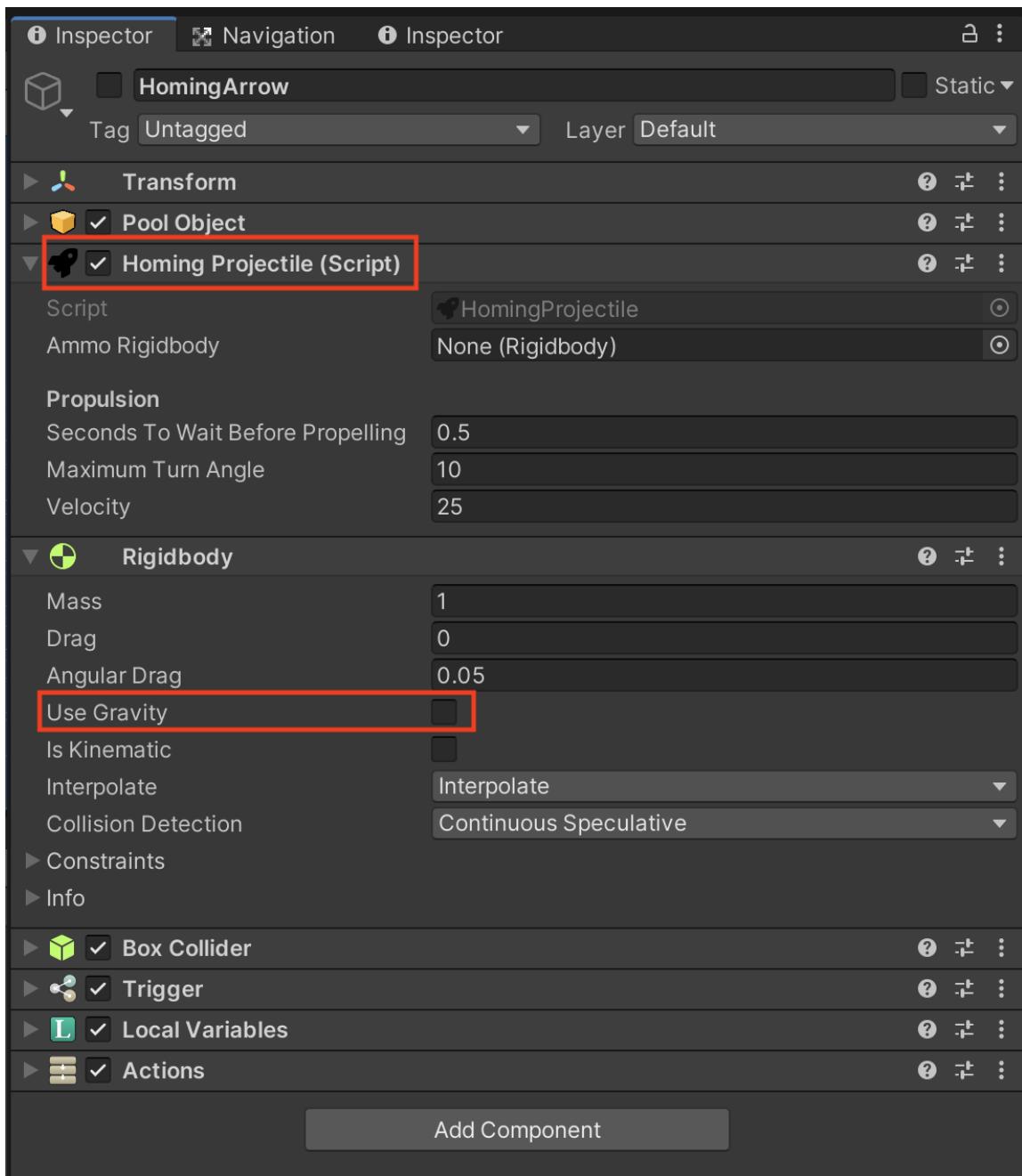
The **Propulsion** settings control the movement behavior of the projectile:

- **Seconds To Wait Before Propelling:** Delays the propulsion of the projectile by a number of seconds. A value of 0 (or less) results in no delay.
- **Maximum Turn Angle:** The maximum angle, in degrees, that the projectile will turn while homing in on its target.
- **Velocity:** How fast the projectile moves toward its target - this should likely match or exceed the max velocity of the projectile ammo if propulsion is delayed. If there is no delay, this setting will effectively override the projectile ammo's min/max velocity.

E3  
C9

## Rigidbody Gravity

Turning off gravity on the Rigidbody is optional, but might be desired depending on the specific projectile.



# Roadmap

## v0.3.0

- Proximity-based weapon targeting.
- Target indicator.
- Homing projectile.

## v0.4.0

- Targeting by visibility.
- Support for destructible targets.

## Next Release

- Melee targeting integration.
- Weapon stashes (weapon carrying/switching mechanic)

## Unscheduled (and not necessarily in order)

- Aim-assist.
- Body part targeting.
- Simplified death action for targetable characters.
- In editor weapon positioning.
- Proximity mines.
- Dual-wielding.
- When a target is defeated, switch to its nearest neighboring target (instead of closest to the player).
- Left/right target cycling (instead of nearest/farthest from player).