

# 오컬러스 퀘스트 프로그래밍

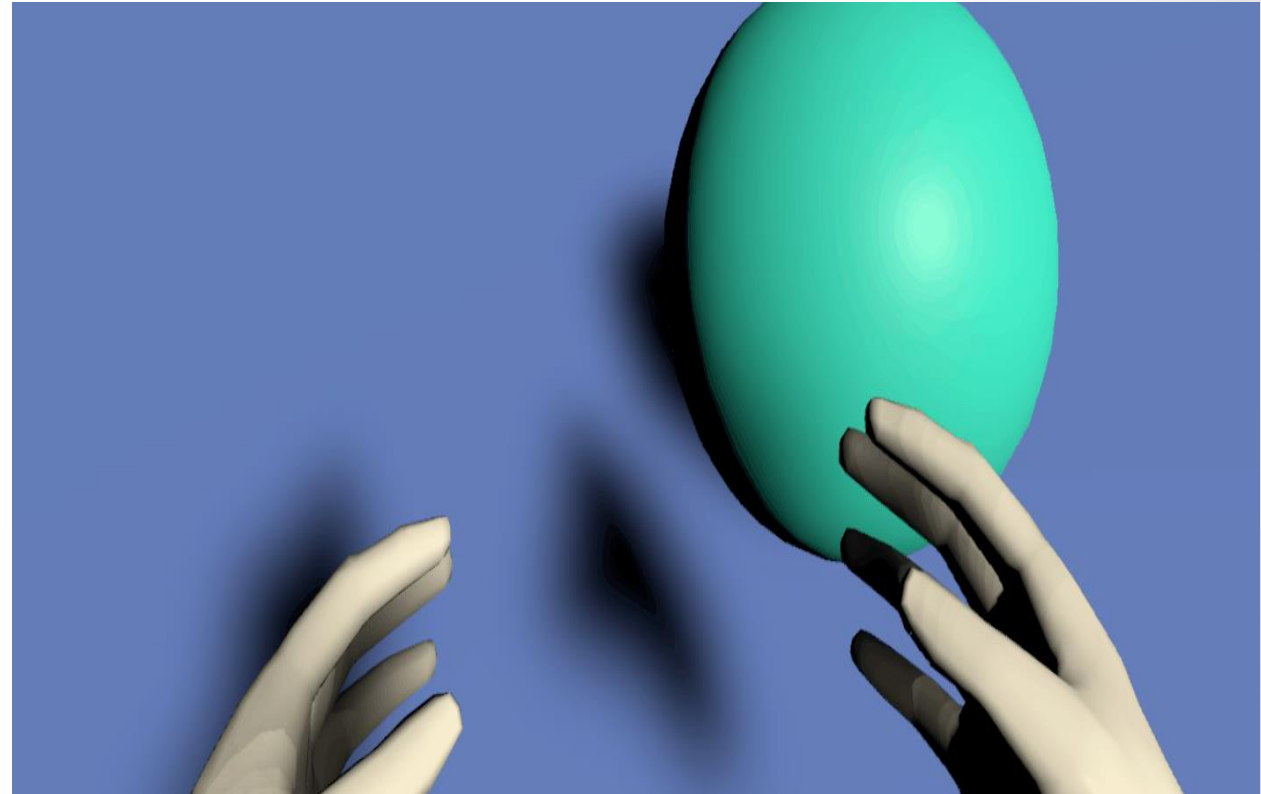
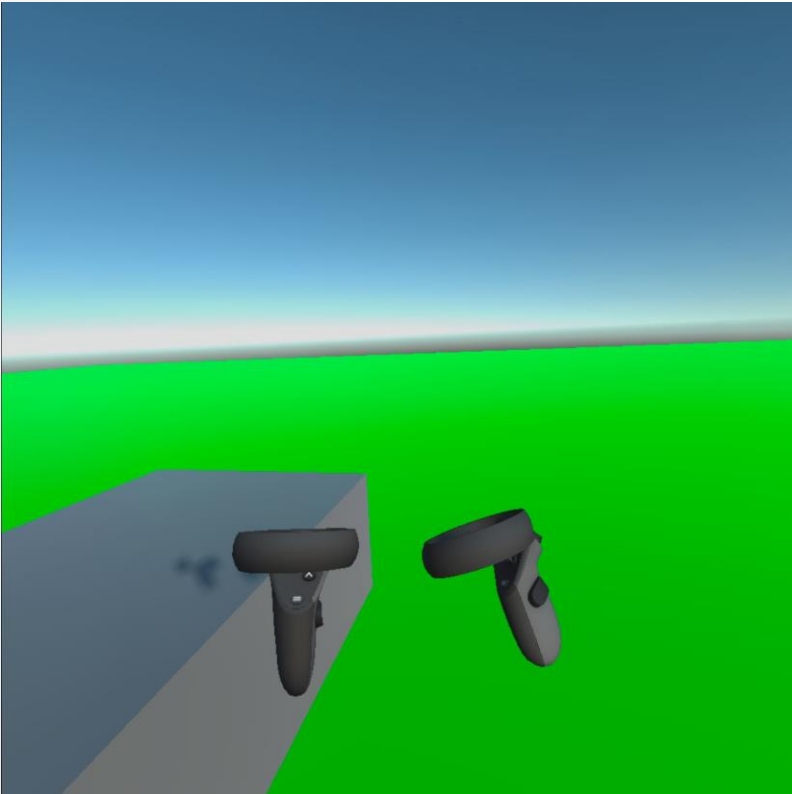
## 1. 이준

# XR Toolkit 프로그래밍

- 오쿨러스 퀘스트 컨트롤러가 보이게 하려면..?
- 다음과 같이 CustomController.cs 파일 수정

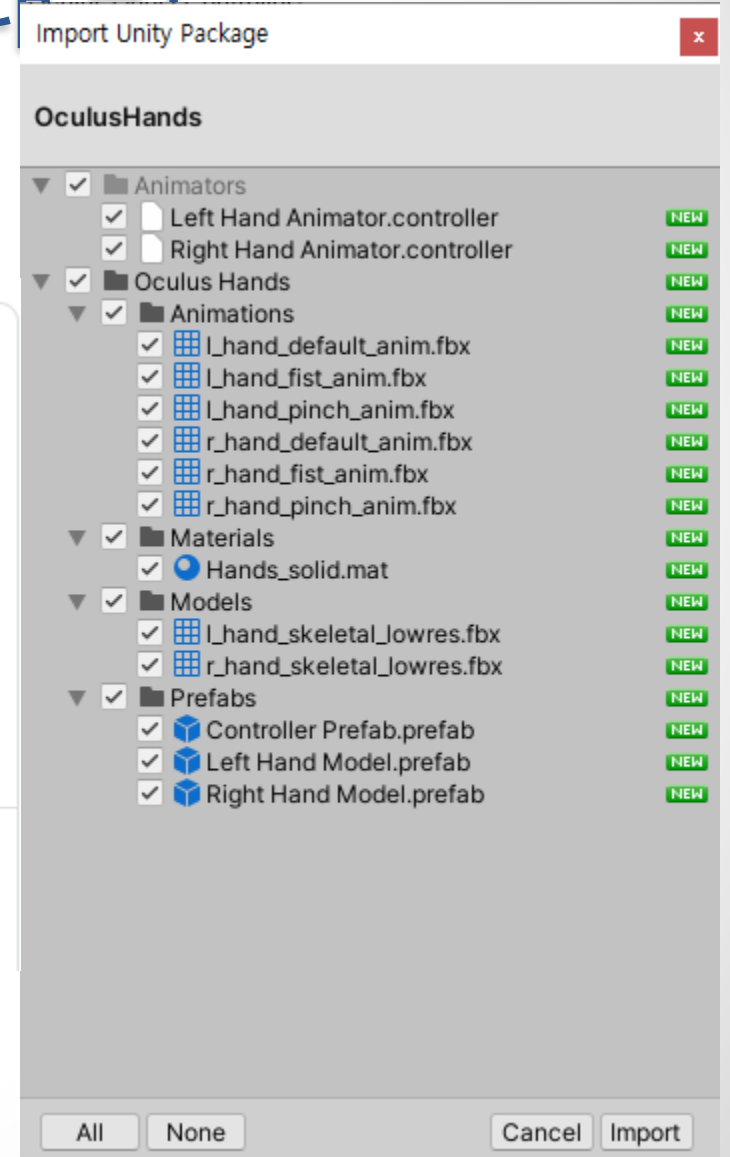
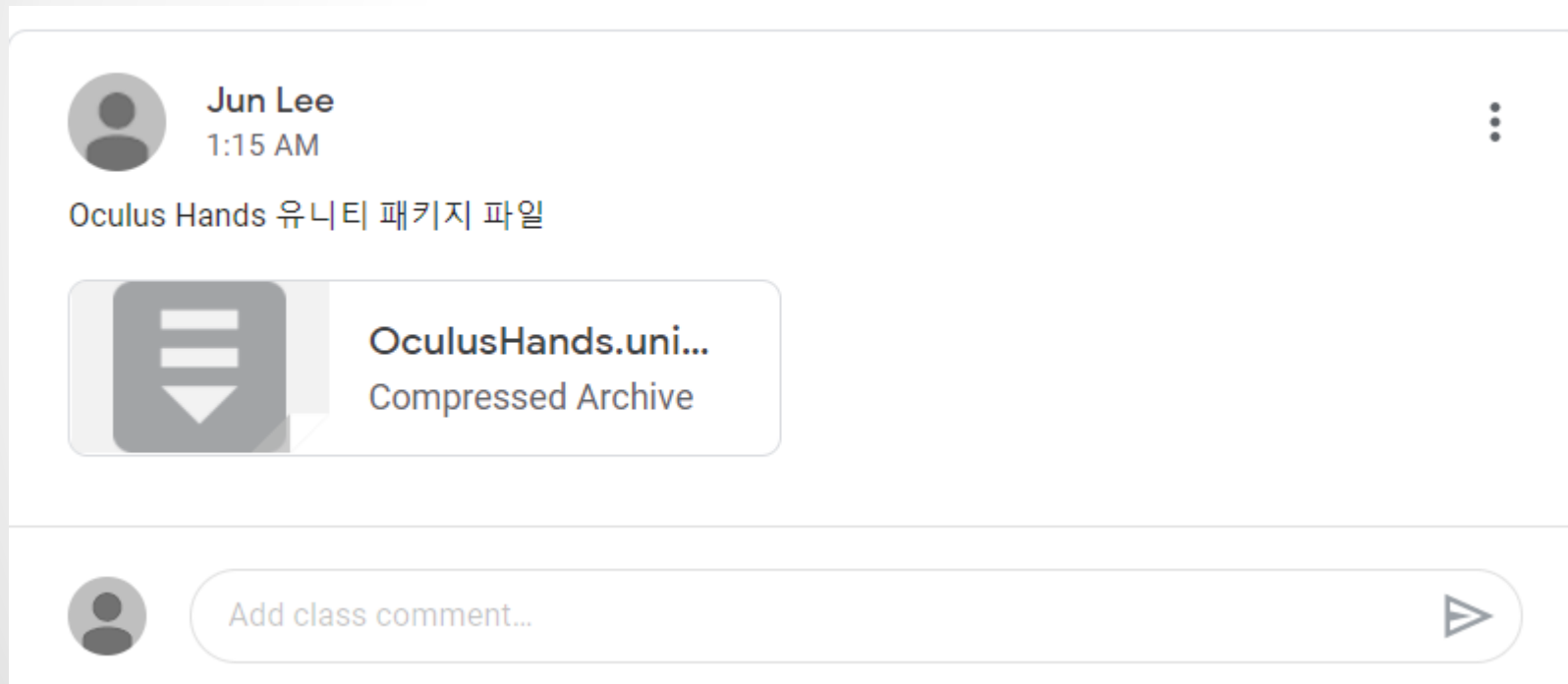
# XR Toolkit 프로그래밍

- 이제 Controller 와 Hand 로 변환을 하려면?



# XR Toolkit 프로그래밍

- Oculus Hands 유니티 패키지 импорт!



# XR Toolkit 프로그래밍

- CustomController.cs 에서 다음을 수정

```
public class CustomController : MonoBehaviour
{
    public InputDeviceCharacteristics characteristics;
    [SerializeField]
    private List<GameObject> controllerModels;
    private GameObject controllerInstance;
    private InputDevice availableDevice;

    ✓ public bool renderController ; // Hand와 Controller 사이를 변경할 변수
    public GameObject handModel; // 핸드 모델 pretal
    private GameObject handInstance; // 핸드 인스턴스
```

# XR Toolkit 프로그래밍

- CustomController.cs 에서  
다음을 수정

```
void Update()
{
    if (!availableDevice.isValid)
    {
        TryInitialize();
        return; ]==true
    }

    if (renderController)
    {
        ( handInstance.SetActive(false);
          controllerInstance.SetActive(true); )
    }
    else ]==false
    {
        handInstance.SetActive(true);
        controllerInstance.SetActive(false);
    }
}
```

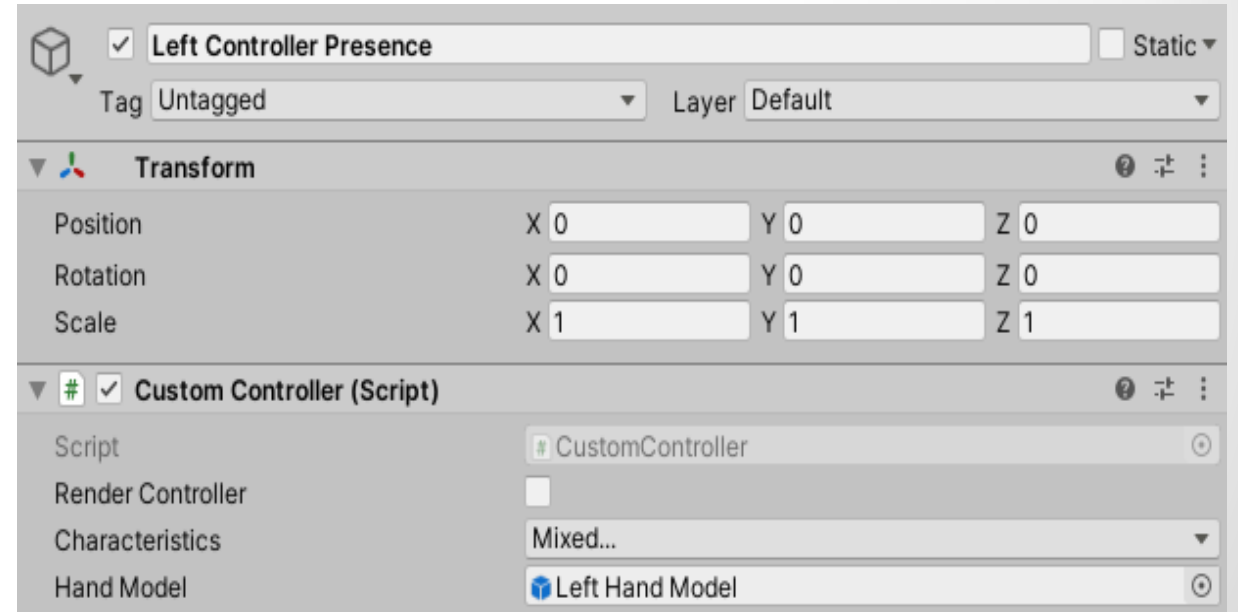
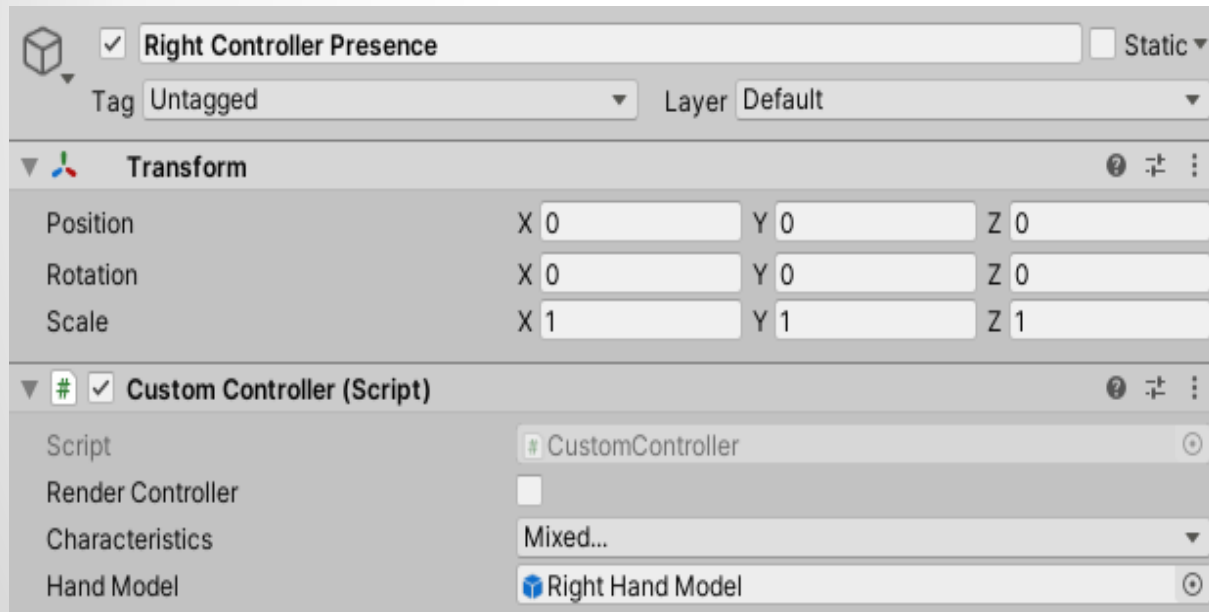
- CustomCo

```
void TryInitialize()
{
    List<InputDevice> devices = new List<InputDevice>();
    //오른쪽 컨트롤러를 입력받기 위해 사용하는 것
    InputDevices.GetDevicesWithCharacteristics(characteristics, devices);
    foreach (var device in devices)
    {
        Debug.Log($"가능한 디바이스 이름: {device.name}, 특징: {device.characteristics}");
        Debug.Log(devices.Count);
    }
    if (devices.Count > 0)
    {
        availableDevice = devices[0];
        string name = "";
        if ("Oculus Touch Controller - Left" == availableDevice.name)
        {
            name = "Oculus Quest Controller - Left";
        }
        else if ("Oculus Touch Controller - Right" == availableDevice.name)
        {
            name = "Oculus Quest Controller - Right";
        }
        GameObject currentControllerModel = controllerModels.Find(controller => controller.name == name);
        if (currentControllerModel)
        {
            controllerInstance = Instantiate(currentControllerModel, transform);
        }
        else
        {
            Debug.LogError("적합한 디바이스가 없습니다!");
            controllerInstance = Instantiate(controllerModels[0], transform);
        }

        handInstance = Instantiate(handModel, transform); // 핸드 인스턴스 추가
    }
}
```

# XR Toolkit 프로그래밍

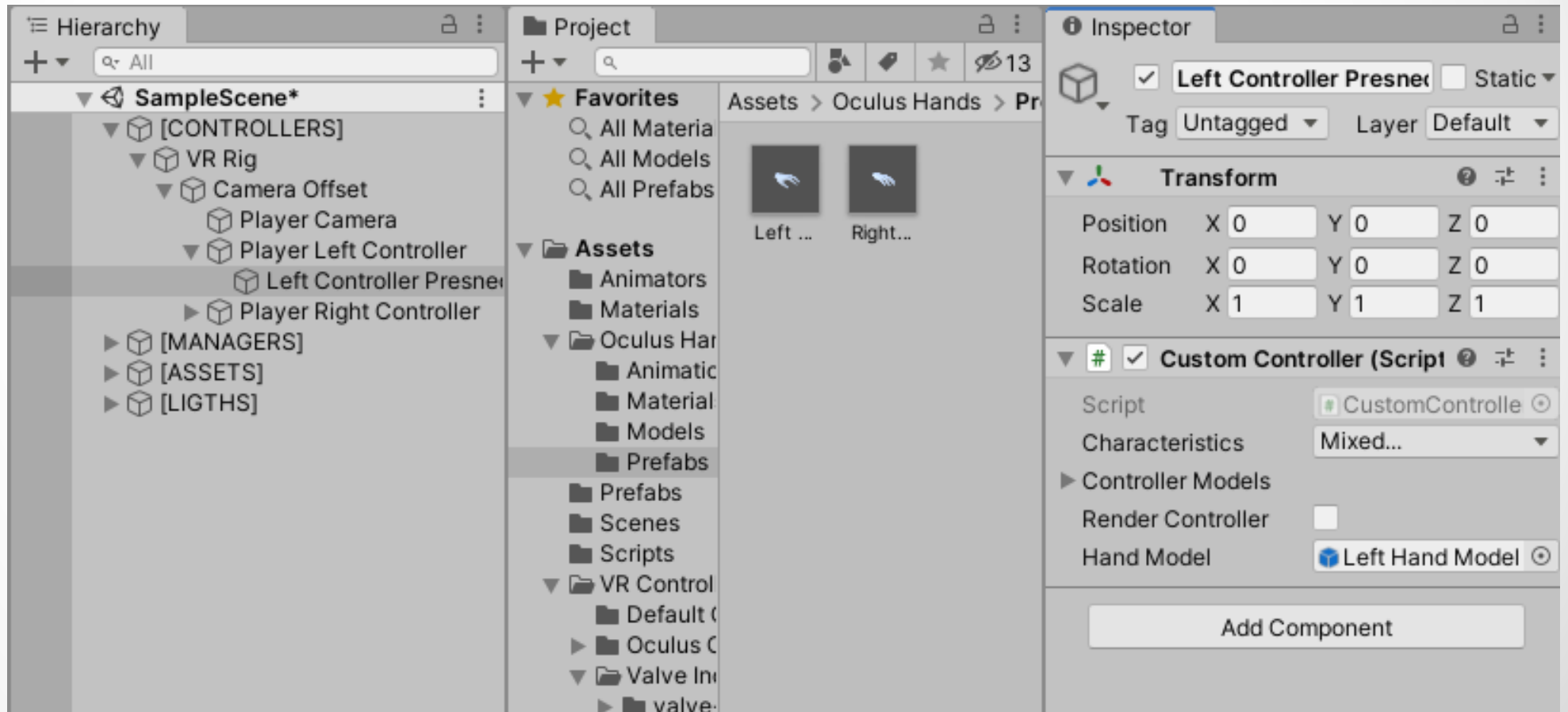
- Left / Right Controller Presence 의 Custom Controller 에서
- Hand Model에 Left / Right Hand Model 설정





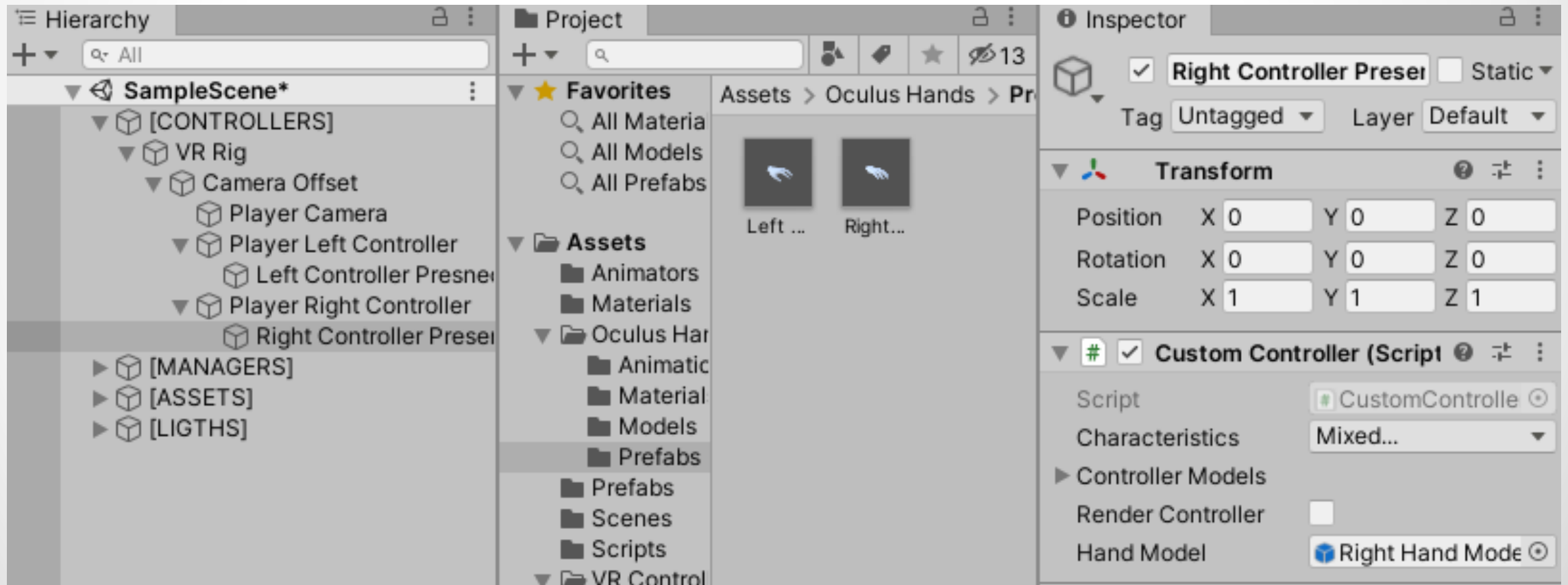
# XR Toolkit 프로그래밍

- Left Controller Presence -> Left Hand Model 설정



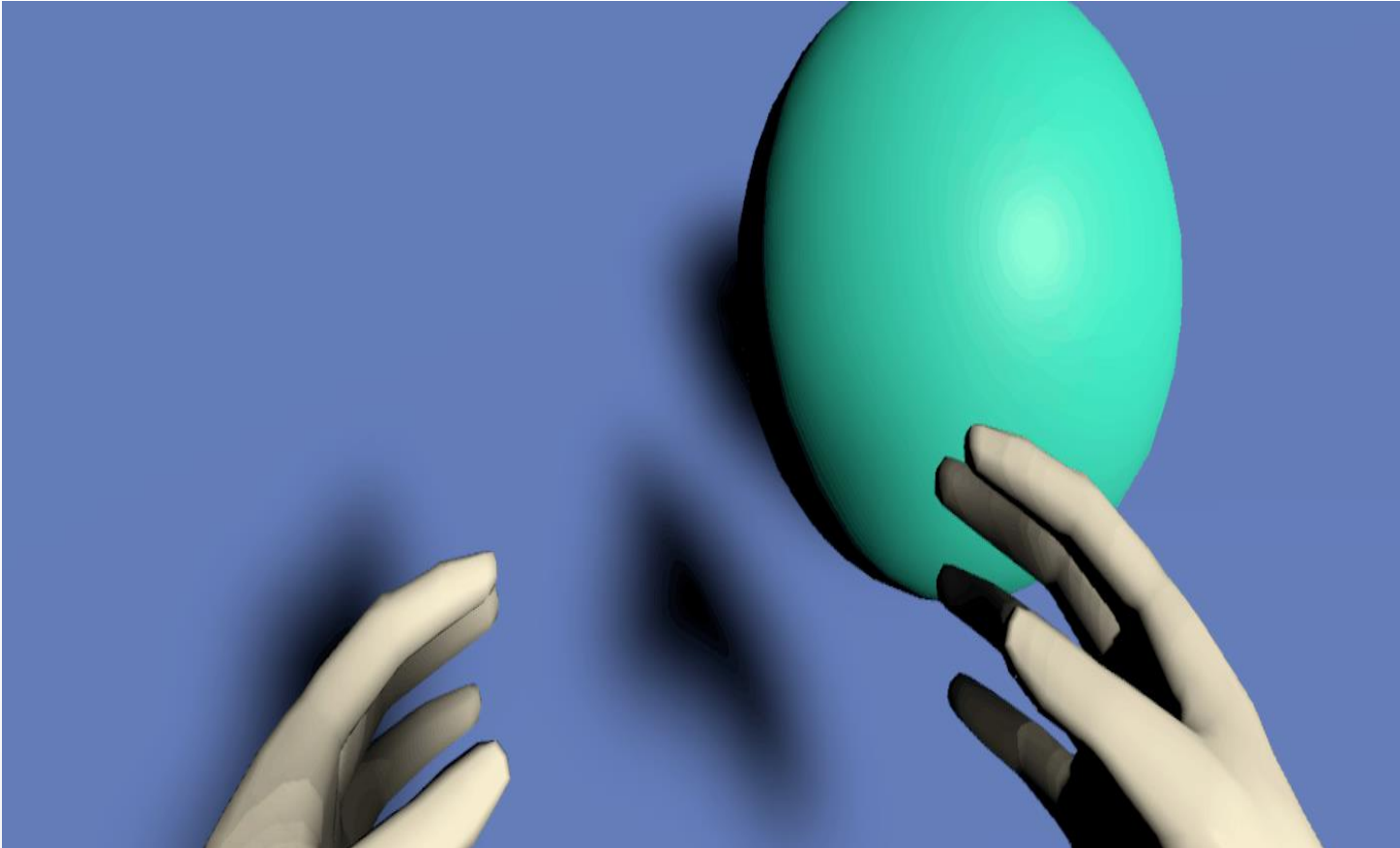
# XR Toolkit 프로그래밍

- Right Controller Presence -> Right Hand Model 설정



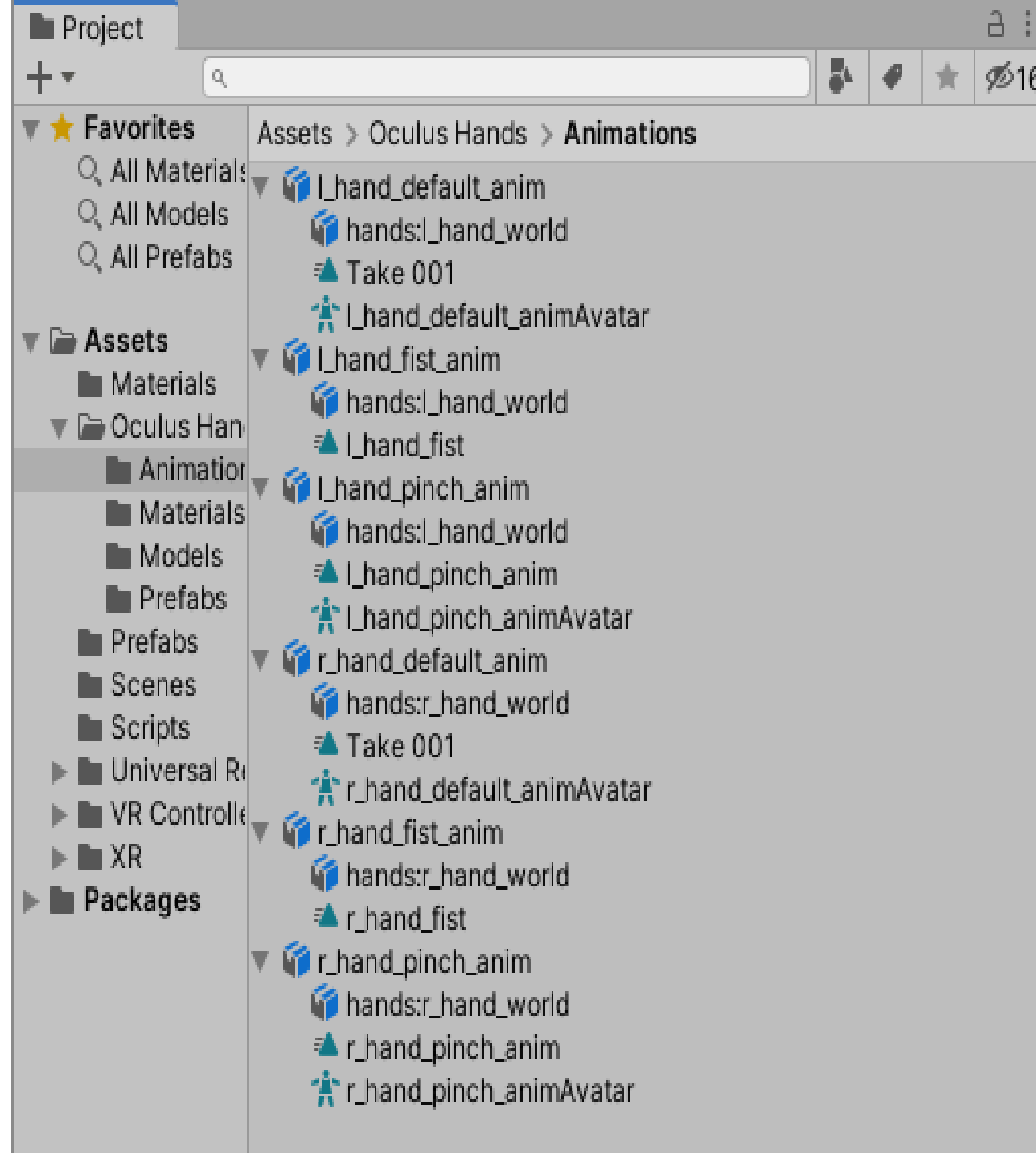
# XR Toolkit 프로그래밍

- 결과 확인 – 단 손가락이 애니메이션이 되진 않음!



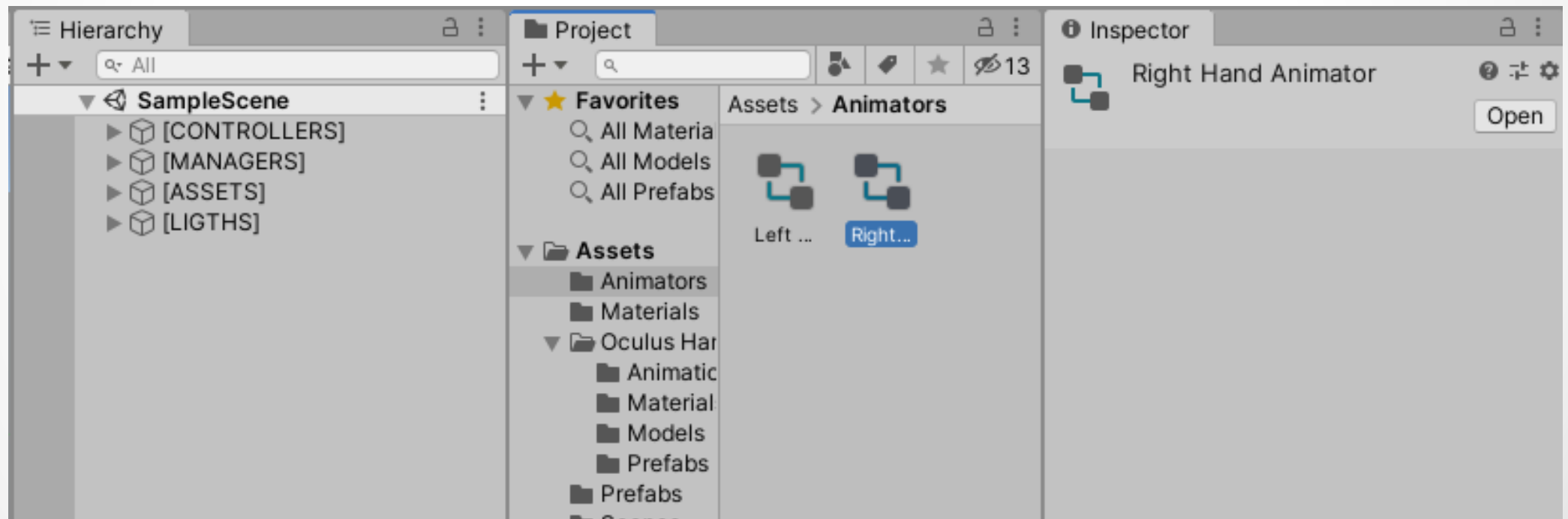
# XR Toolkit

- 손가락 애니메이션 진행
- 애니메이션 파일들을 적용해야함



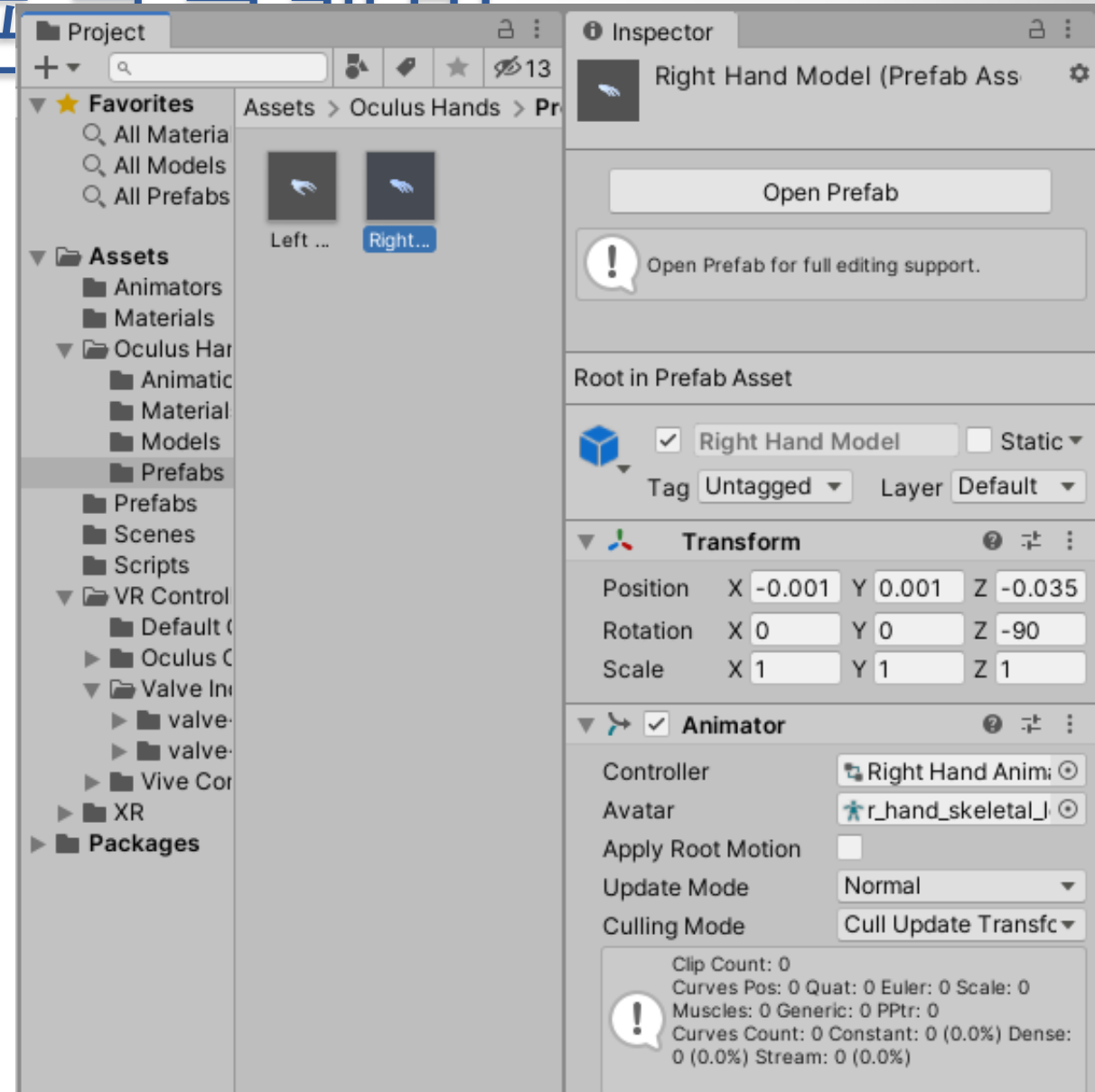
# XR Toolkit 프로그래밍

- Create > Animator Controller를 선택한 후, 이름을 Right Hand Animator로 바꿔야함



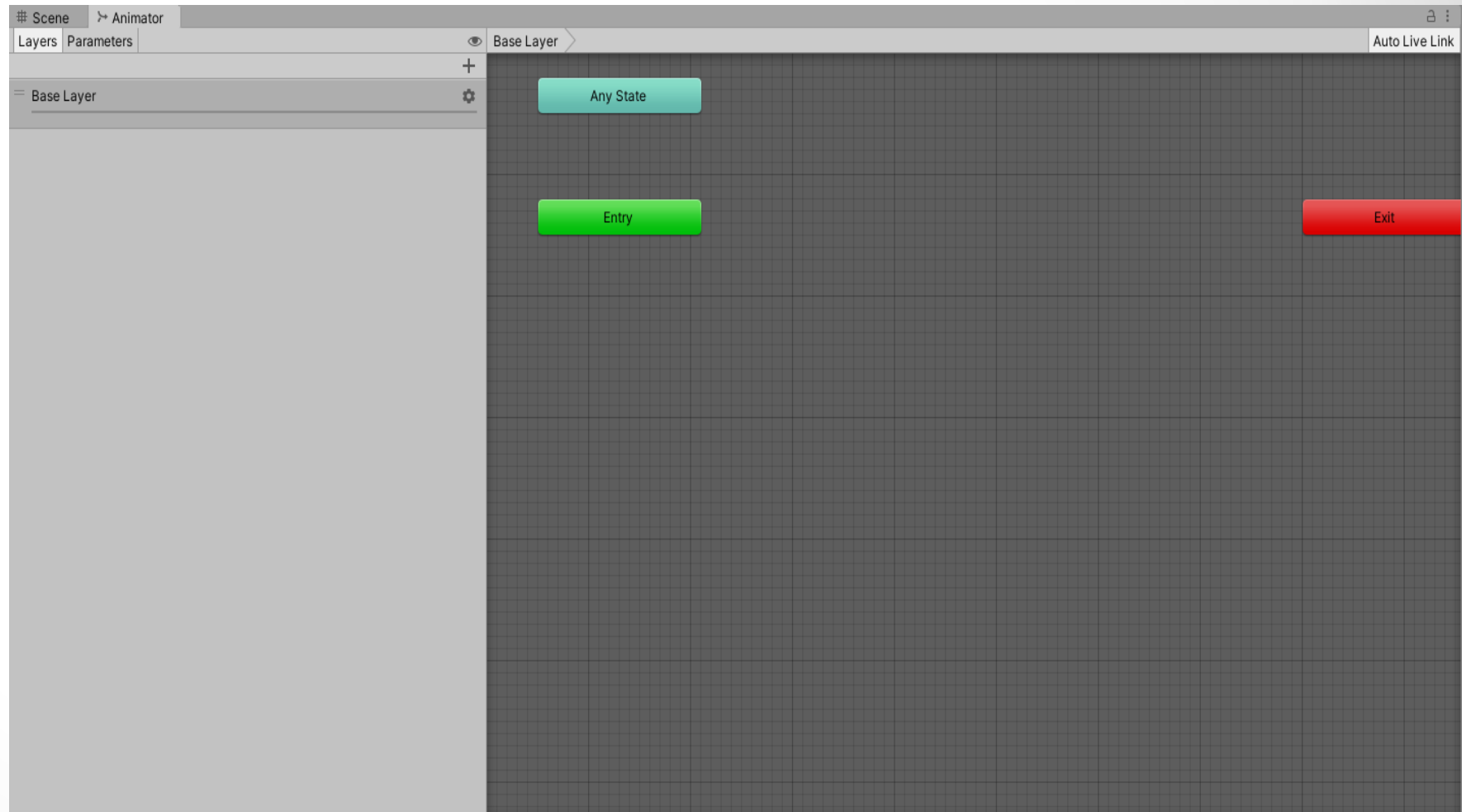
# XR Toolkit 프로그래밍

- Assets > Oculus Hand > Prefabs > Right Hand Model 을 선택한 후, Inspector창에서 Animator > Controller에 Right Hand Animator를 할당



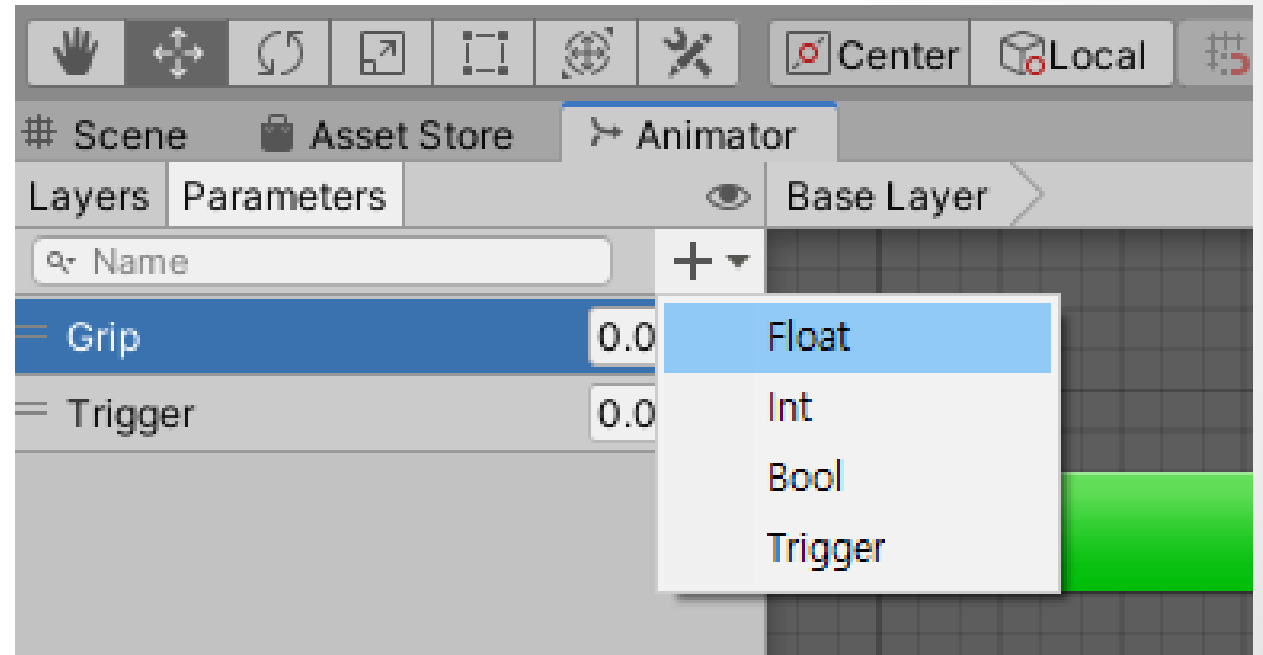
# XR Toolkit 프로그래밍

- Right Hand Animator를 클릭한 후, Window > Animation > Animator 를 선택



# XR Toolkit 프로그래밍

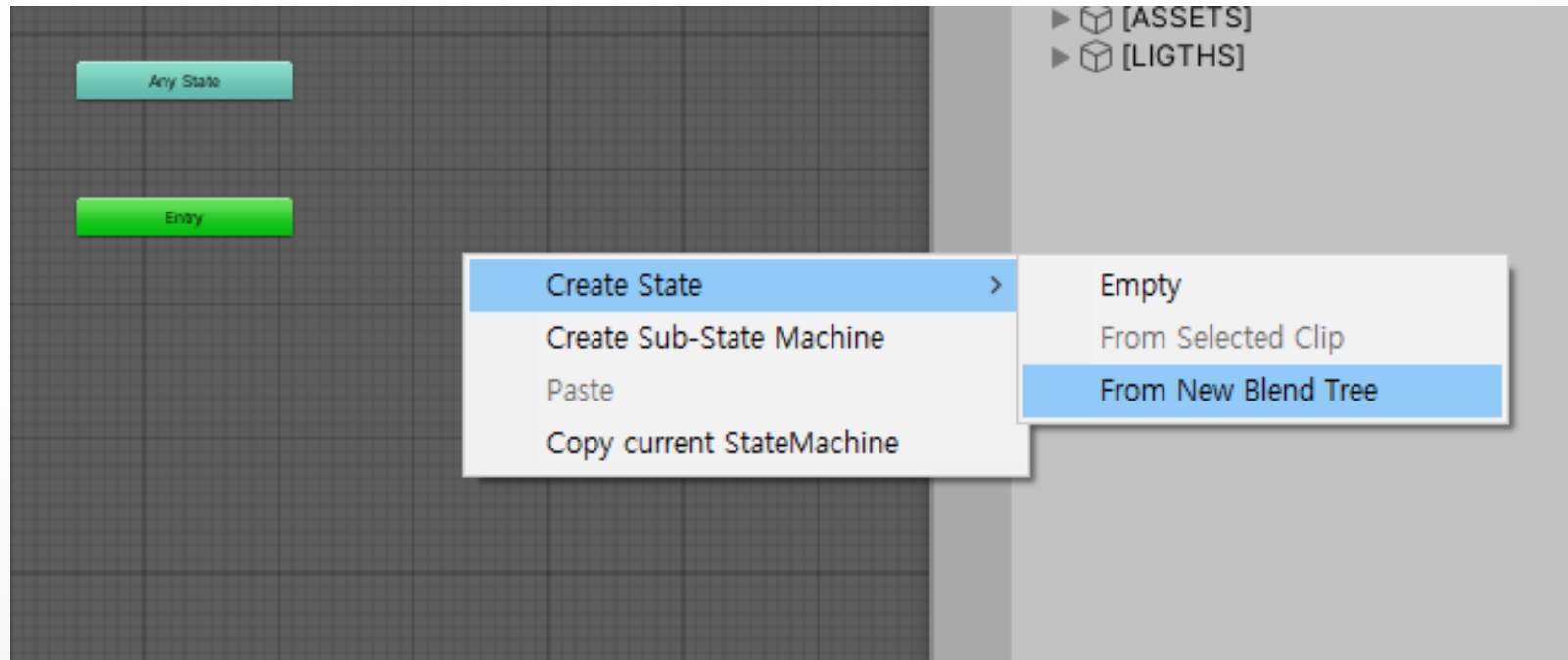
- Animator > Parameter > + > Float 을 통해 Grip과 Trigger 변수를 만들어야함!





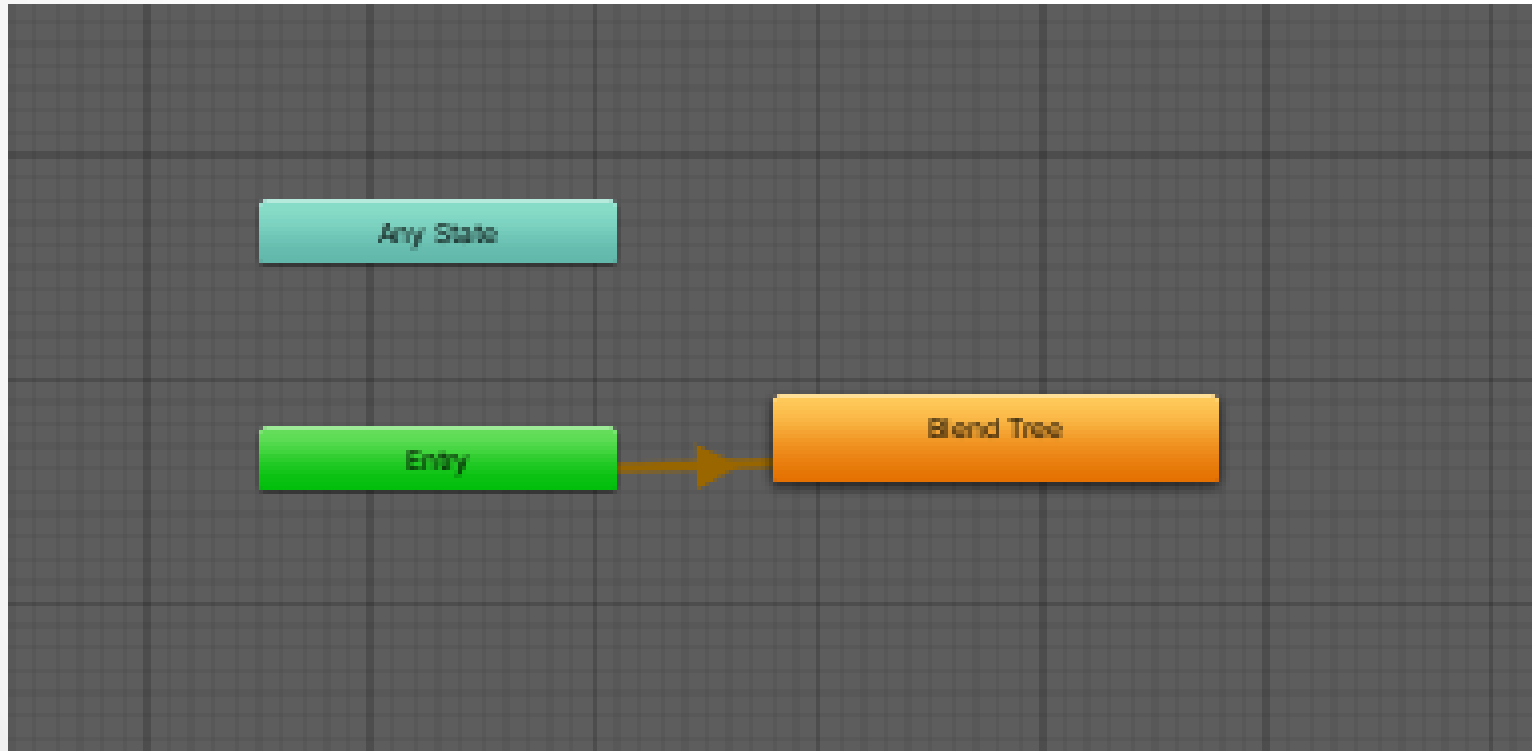
# XR Toolkit 프로그래밍

- 애니메이션은 블렌더 트리를 통해 작동할 것임!
- Create State – From New Blend Tree 선택!



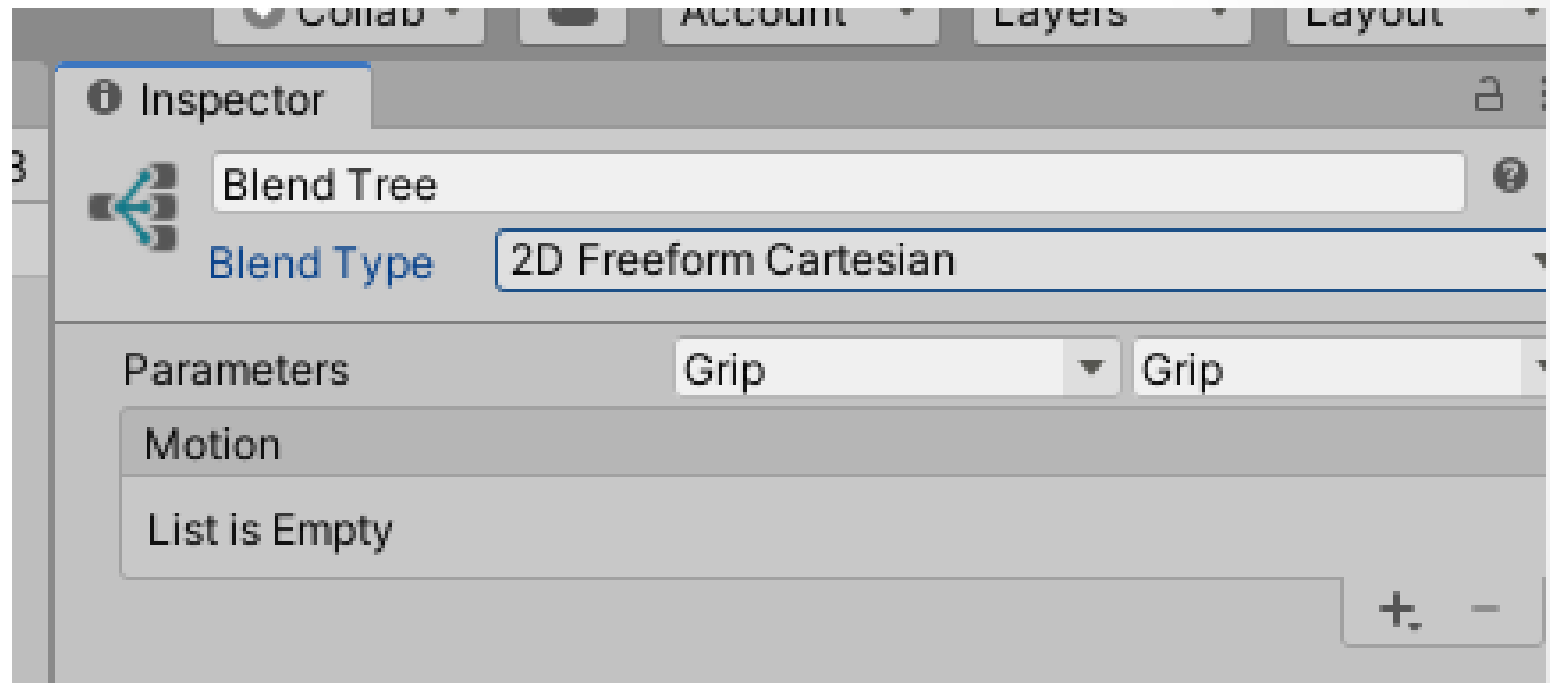
# XR Toolkit 프로그래밍

- 만들어진 블렌드 트리를 더블 클릭



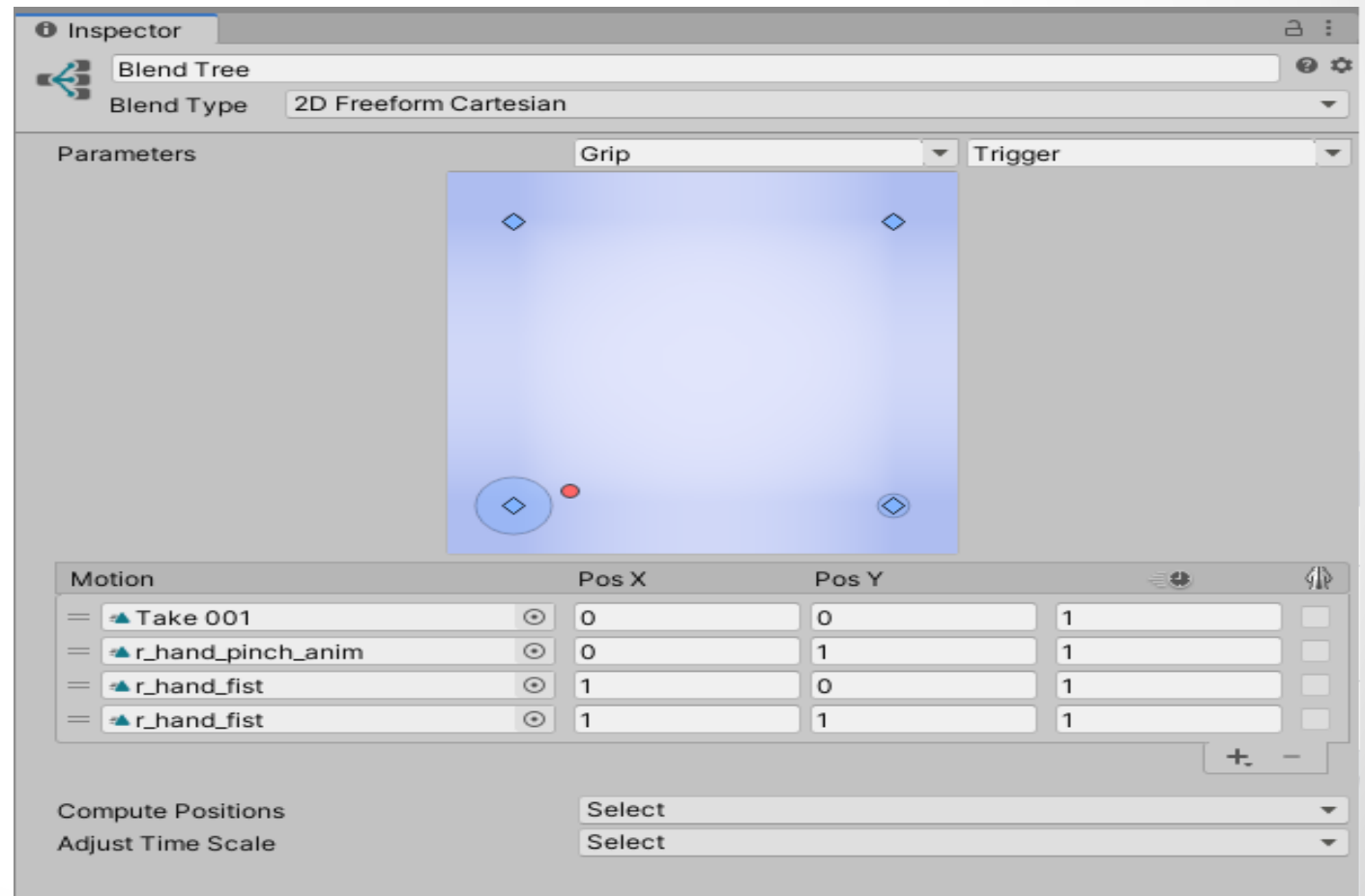
# XR Toolkit 프로그래밍

- Inspector > Blend Type > 2D Freeform Cartesian을 선택



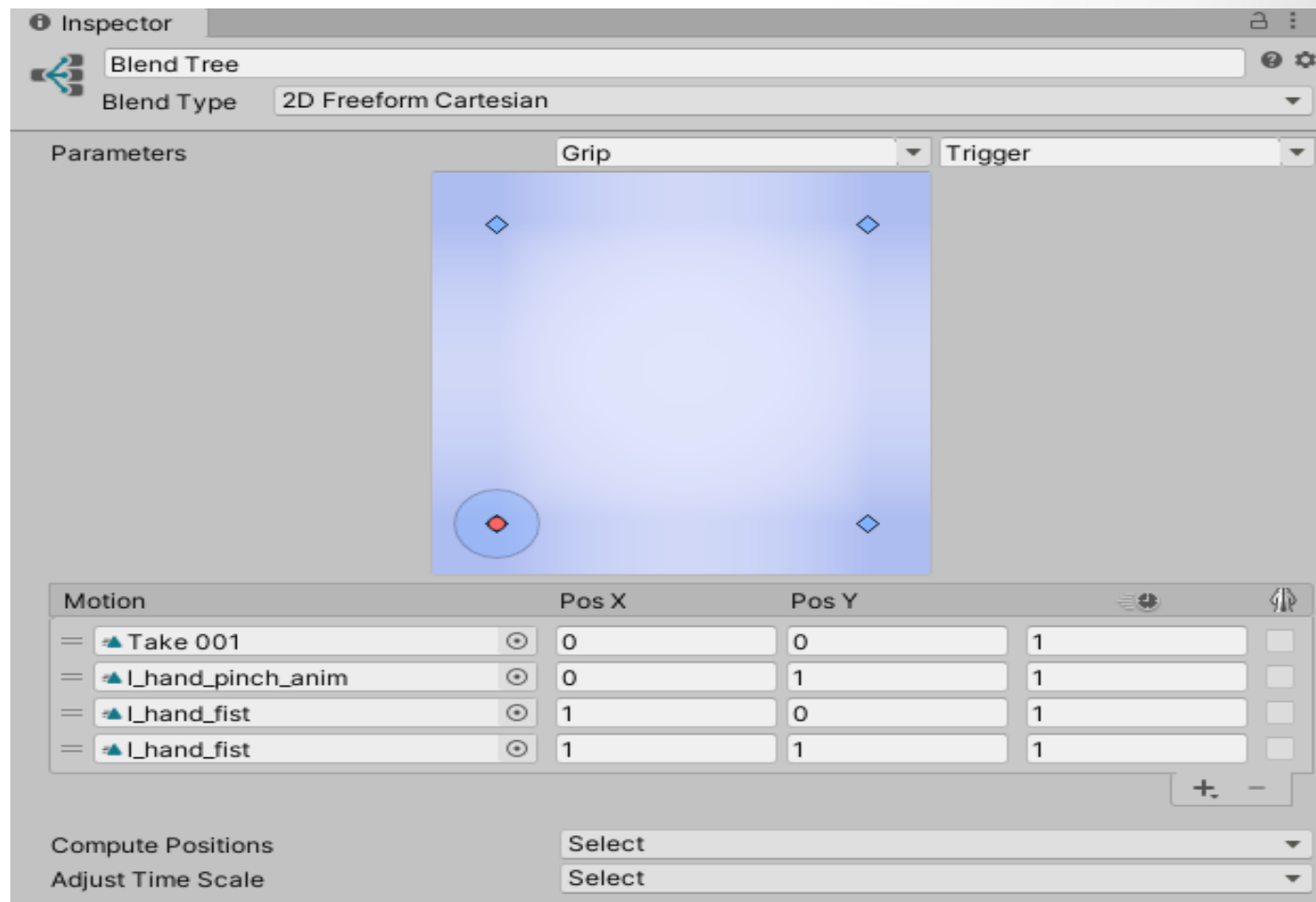
# XR Toolkit 프로그래밍

- Parameters를 Grip과 Trigger로 각각 설정
- 애니메이션 과
- 포지션 설정



# XR Toolkit 프로그래밍

- Left Animation도 똑같이 설정



# XR Toolkit 프로그래밍

- 애니메이션 코딩 설정 CustomController.cs 수정

```
6 public class CustomController : MonoBehaviour
7 {
8     public InputDeviceCharacteristics characteristics;
9     [SerializeField]
10    private List<GameObject> controllerModels;
11    private GameObject controllerInstance;
12    private InputDevice availableDevice;
13
14    public bool renderController ; // Hand와 Controller 사이를 변경할 변수
15    public GameObject handModel; // 핸드 모델
16    private GameObject handInstance; // 핸드 인스턴스
17
18    private Animator handModelAnimator; // 핸드 모델 애니메이션 변수
19
```

```

31 void TryInitialize()
32 {
33     List<InputDevice> devices = new List<InputDevice>();
34     //오른쪽 컨트롤러를 입력받기 위해 사용하는 것
35     InputDevices.GetDevicesWithCharacteristics(characteristics, devices);
36     foreach (var device in devices)
37     {
38         Debug.Log($"Available Device Name: {device.name}, Characteristic: { device.characteristics}");
39     }
40     if (devices.Count > 0)
41     {
42         availableDevice = devices[0];
43         GameObject currentControllerModel;
44         if (availableDevice.name.Contains("Left"))
45         {
46             currentControllerModel = controllerModels[1];
47         }
48         else if (availableDevice.name.Contains("Right"))
49         {
50             currentControllerModel = controllerModels[2];
51         }
52         else
53         {
54             currentControllerModel = null;
55         }
56         if (currentControllerModel)
57         {
58             controllerInstance = Instantiate(currentControllerModel, transform);
59         }
60         else
61         {
62             Debug.LogError("Didn't get suitable controller model");
63             controllerInstance = Instantiate(controllerModels[0], transform);
64         }
65
66         handInstance = Instantiate(handModel, transform);
67         handModelAnimator = handInstance.GetComponent<Animator>();
68     }
69 }

```

# XR Toolkit 프로그래밍

- 업데이트 함수 추가

```
61 void Update()
62 {
63     if (!availableDevice.isValid)
64     {
65         TryInitialize();
66     }
67
68     if (renderController)
69     {
70         handInstance.SetActive(false);
71         controllerInstance.SetActive(true);
72     }
73     else
74     {
75         handInstance.SetActive(true);
76         controllerInstance.SetActive(false);
77         UpdateHandAnimation(); // 핸드 애니메이션은 여기서만 수행
78     }
79
80 }
```



# XR Toolkit 프로그래밍

- 다음의 소스 코드 추가 (컨트롤러 인풋에 따른 애니메이션 처리)

```
82 void UpdateHandAnimation()  
83 {  
84     if(availableDevice.TryGetFeatureValue(CommonUsages.trigger, out float triggerValue))  
85     {  
86         handModelAnimator.SetFloat("Trigger", triggerValue);  
87     }  
88     else  
89     {  
90         handModelAnimator.SetFloat("Trigger", 0);  
91     }  
92  
93     if(availableDevice.TryGetFeatureValue(CommonUsages.grip, out float gripValue))  
94     {  
95         handModelAnimator.SetFloat("Grip", gripValue);  
96     }  
97     else  
98     {  
99         handModelAnimator.SetFloat("Grip", 0);  
100     }  
101 }
```

# XR Toolkit 프로그래밍

- 결과 확인!

