

HW3: Isaac Lab

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1 Screenshots

1.1 Scene Layout

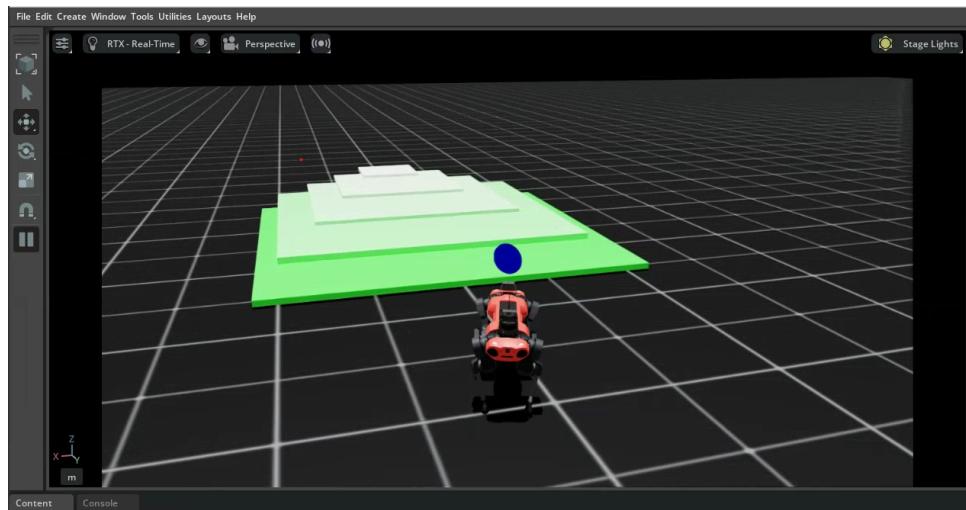


Figure 1: Custom scene layout

1.2 Running Effect

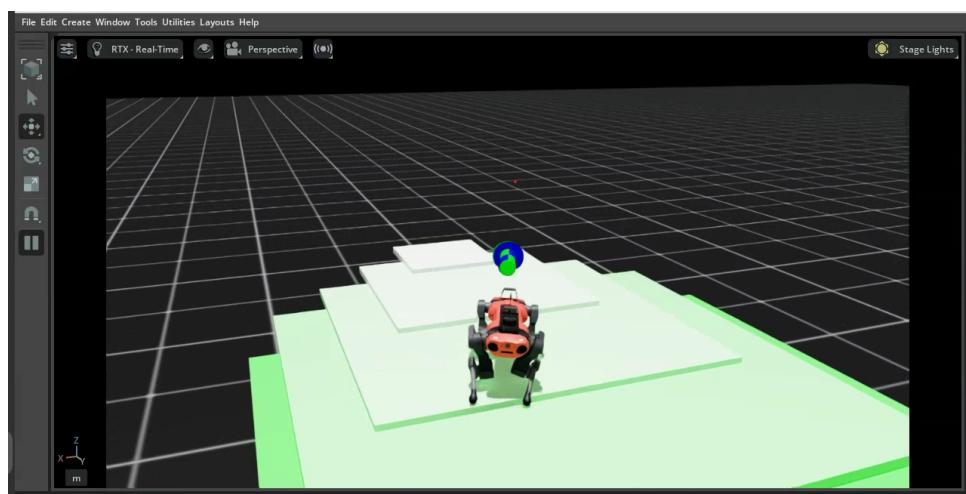


Figure 2: Robot running effect

2 Scene Design Description

The custom scene consists of five cuboid-shaped platforms. Each object has specific dimensions, positions, and color tones as described below:

- **CuboidDeformable1**

Size: $4.5 \text{ m} \times 4.5 \text{ m} \times 0.07 \text{ m}$ (length \times width \times height)

Position: $x = 0.0 \text{ m}$, $y = -5.0 \text{ m}$, $z = 0.07 \text{ m}$

Physics: Kinematic enabled, mass = 1.0 kg

Color: Light green ($R = 0.1$, $G = 1.0$, $B = 0.1$)

Purpose: Large flat platform.

- **CuboidDeformable2**

Size: $4.0 \text{ m} \times 4.0 \text{ m} \times 0.07 \text{ m}$

Position: $x = 0.0 \text{ m}$, $y = -6.0 \text{ m}$, $z = 0.15 \text{ m}$

Physics: Kinematic enabled, mass = 1.0 kg

Color: Medium green ($R = 0.3$, $G = 1.0$, $B = 0.3$)

Purpose: Slightly smaller platform placed after CuboidDeformable1.

- **CuboidDeformable3**

Size: $3.0 \text{ m} \times 3.0 \text{ m} \times 0.07 \text{ m}$

Position: $x = 0.0 \text{ m}$, $y = -7.0 \text{ m}$, $z = 0.20 \text{ m}$

Physics: Kinematic enabled, mass = 1.0 kg

Color: Light green ($R = 0.5$, $G = 1.0$, $B = 0.5$)

Purpose: Intermediate platform for stepping or obstacle crossing.

- **CuboidDeformable4**

Size: $2.0 \text{ m} \times 2.0 \text{ m} \times 0.07 \text{ m}$

Position: $x = 0.0 \text{ m}$, $y = -8.0 \text{ m}$, $z = 0.25 \text{ m}$

Physics: Kinematic enabled, mass = 1.0 kg

Color: Pale green ($R = 0.7$, $G = 1.0$, $B = 0.7$)

Purpose: Smaller elevated step.

- **CuboidDeformable5**

Size: $1.0 \text{ m} \times 1.0 \text{ m} \times 0.07 \text{ m}$

Position: $x = 0.0 \text{ m}$, $y = -9.0 \text{ m}$, $z = 0.30 \text{ m}$

Physics: Kinematic enabled, mass = 1.0 kg

Color: Very light green ($R = 0.9$, $G = 1.0$, $B = 0.9$)

Purpose: Final small stepping platform.