

Pract- Using buttons to move a ball left/right

- ☐ Open Godot → **New Scene**.
- ☐ Add a root **Node2D** and name it Main.
- ☐ Save scene (File → Save) as Main.tscn.

- With Main selected → **Add Child Node** → StaticBody2D. Rename it Ground.
- With Ground selected → Add Child → CollisionShape2D.
- In Inspector → click Shape → choose RectangleShape2D. Stretch the rectangle so it becomes a floor across the bottom of the screen.

- With Main selected → **Add Child Node** → RigidBody2D. Rename it Ball.
- With Ball selected → Add Child → Sprite2D. In Inspector → set Texture to your ball image (or any circle).
- With Ball selected → Add Child → CollisionShape2D. In Inspector → choose CircleShape2D and set radius to match the sprite.

(Optional, but nice) Click the Ball node → in Inspector → PhysicsMaterial → **New PhysicsMaterial**. Set Friction to 0.3 (smaller = more slippery) and Bounce small (like 0.1) if you want the ball to roll easily.

Your scene tree should look like:

```
Main (Node2D)
├── Ground (StaticBody2D)
│   └── CollisionShape2D (RectangleShape2D)
└── Ball (RigidBody2D)
    ├── Sprite2D
    └── CollisionShape2D (CircleShape2D)
```

Configure keyboard input (so laptop works)

1. Project → Project Settings → Input Map tab.
2. Add action ui_left (if not present). Click the plus and press Left Arrow and also A (two bindings).
3. Add action ui_right. Bind Right Arrow and D.
(These let you press ← / → or A / D to move.)

Attach the script to the Ball (important!)

- Select the Ball node → Attach Script → call it ball.gd.
- Make sure the script is attached to **Ball**, not to Main or Sprite.

Attach this to Ball (RigidBody2D). This is the easiest version: keys instantly set horizontal speed.

```
# Godot 4 — attach to Ball (RigidBody2D)
extends RigidBody2D
```

```
@export var speed: float = 400.0 # how fast left/right
@export var spin_factor: float = 0.02 # how much the ball spins when moving
```

```
func _physics_process(delta):
    var move_dir := 0.0
    if Input.is_action_pressed("ui_left"):
        move_dir -= 1.0
    if Input.is_action_pressed("ui_right"):
        move_dir += 1.0

    # set horizontal speed directly
    linear_velocity.x = move_dir * speed

    # spin the ball for a nicer look
    angular_velocity = -linear_velocity.x * spin_factor
```

Run & test on laptop

1. Make sure Main.tscn is the main scene (Project → Project Settings → Run → Main Scene) or open it and press the Play Scene button.

Press ← left button → ball goes left. Press → right button → ball goes right.