



Disciplina: T166 – Experimentação de Protótipos

Jogo de Plataforma – Parte II

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Sumário



- 1 Cena: Player
- 2 Cena: Goomba
- 3 Cena: Koopa



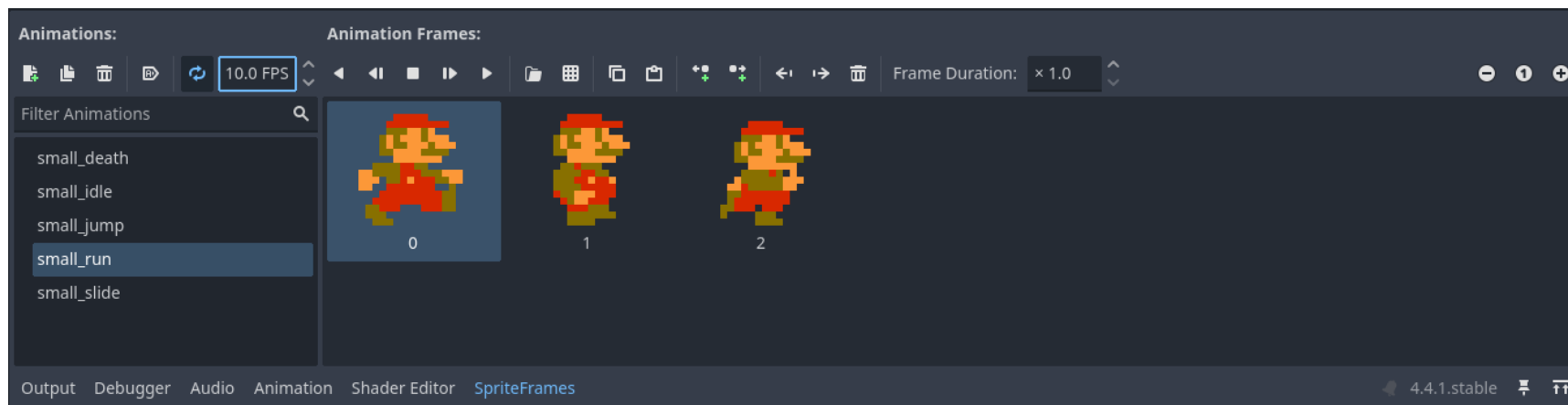
1 Cena: Player

- Clicar em AnimatedSprite2D, na aba SpriteFrames:
 - Add Animation → Renomear new_animation para **small_jump**
 - Adicionar o sprite: *Mario_Small_Jump.png*
 - Add Animation → Renomear new_animation para **small_slide**
 - Adicionar o sprite: *Mario_Small_Slide.png*
 - Add Animation → Renomear new_animation para **small_death**
 - Adicionar o sprite: *Mario_Small_Death.png*



1 Cena: Player

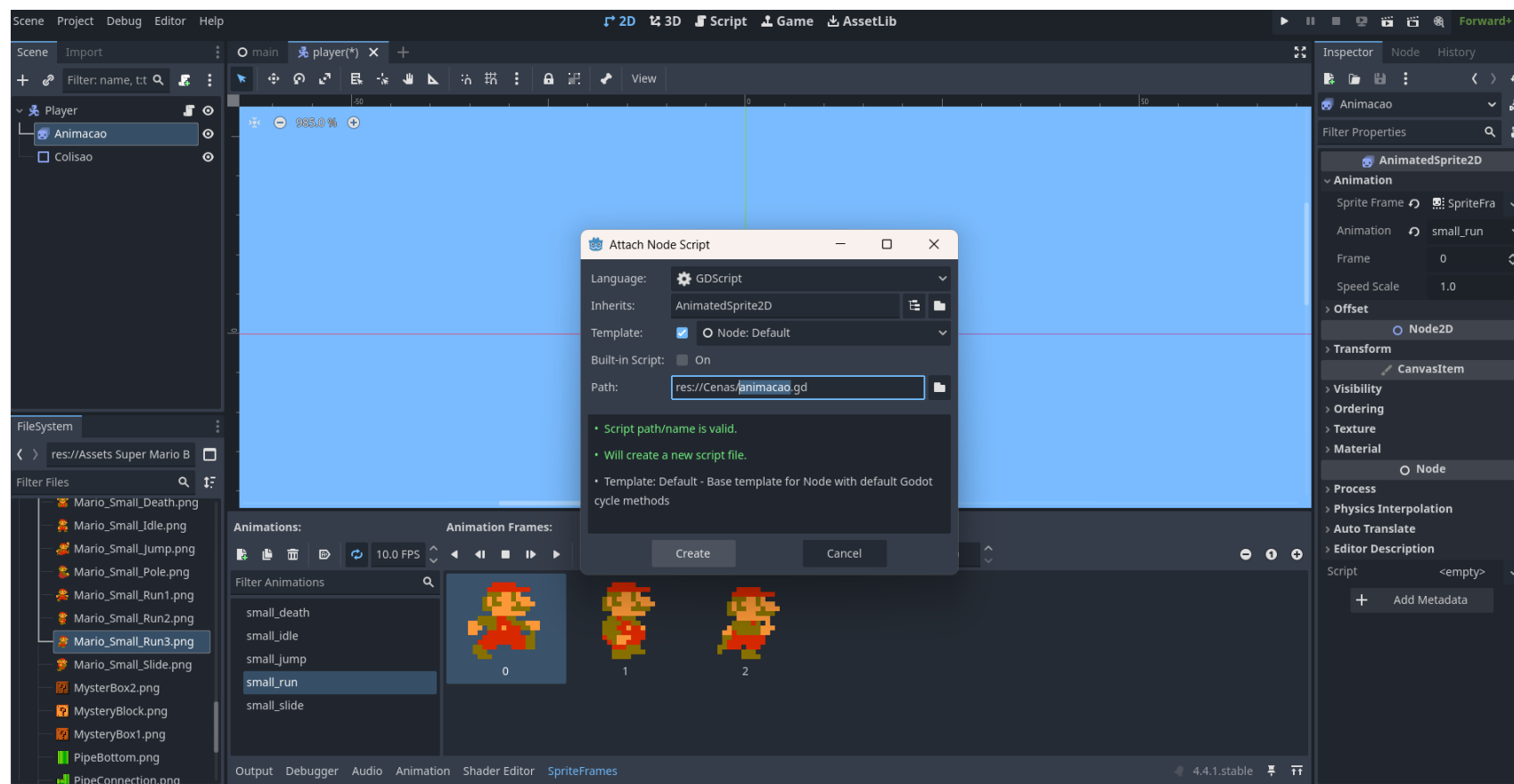
- Clicar em AnimatedSprite2D, na aba SpriteFrames:
 - Add Animation → Renomear new_animation para **small_run**
 - Adicionar os sprites: *Mario_Small_Run1.png*, *Mario_Small_Run2.png* e *Mario_Small_Run3.png*
- Animation Speed: 10 FPS



1 Cena: Player



- Clicar em AnimatedSprite2D → Attach Script → Create



1 Cena: Player



```
1  extends AnimatedSprite2D
2
3  ▼ func trigger_animation(velocity: Vector2, direction: int):
4      >|
5      ▼ >|  if direction != 0:
6          >| >|  scale.x = direction
7
8      ▼ >|  if not get_parent().is_on_floor():
9          >| >|  play("small_jump")
10     ▼ >|  elif sign(velocity.x) != sign(direction) && velocity.x != 0 && direction != 0:
11         >| >|  play("small_slide")
12     ▼ >|  elif velocity.x != 0:
13         >| >|  play("small_run")
14     ▼ >|  else:
15         >| >|  play("small_idle")
16
```



1 Cena: Player

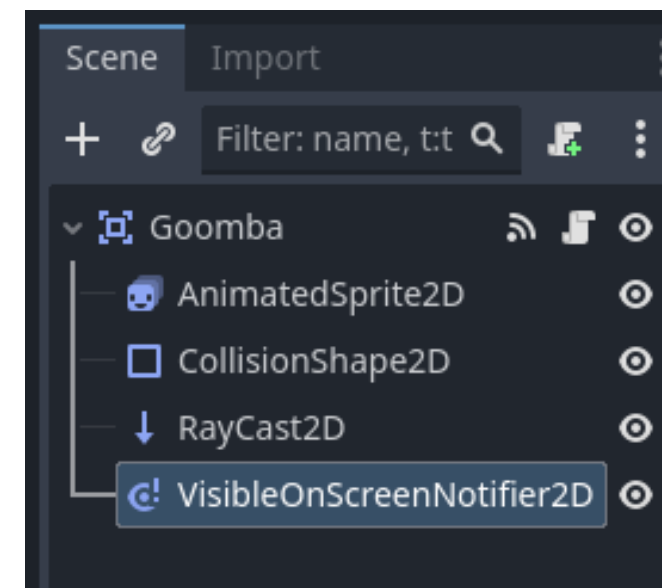
- Acrescentar ao script da cena Player

```
12 func _physics_process(delta):  
13     >|  
14     >| if not is_on_floor():  
15     >| >| velocity.y += gravity * delta  
16     >| >|  
17     >| if Input.is_action_just_pressed("jump") and is_on_floor():  
18     >| >| velocity.y = jump_velocity  
19     >| >|  
20     >| if Input.is_action_just_released("jump") and velocity.y < 0:  
21     >| >| velocity.y *= 0.5  
22     >| >|  
23     >| var direction = Input.get_axis("left", "right")  
24     >| >|  
25     >| if direction:  
26     >| >| velocity.x = lerp(velocity.x, speed * direction, run_speed_damping * delta)  
27     >| else:  
28     >| >| velocity.x = move_toward(velocity.x, 0, speed * delta)  
29     >| >|  
30     >| $Animacao.trigger_animation(velocity, direction)  
31     >| >|  
32     >| move_and_slide()  
33
```



2 Cena: Goomba

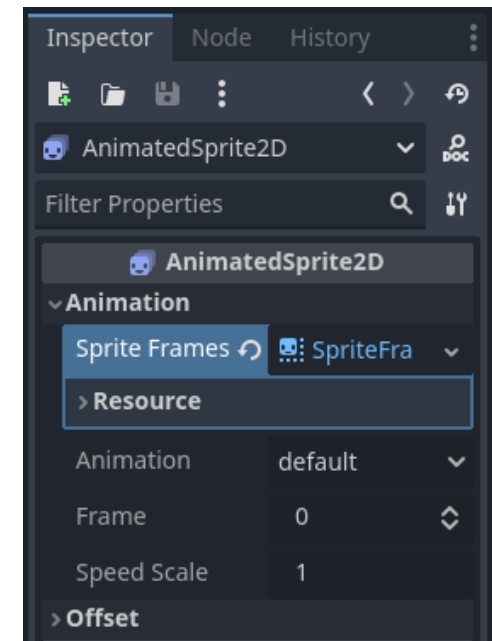
- Clicar em New Scene → Other Node → Area2D → Create
 - *Renomear Area2D para Goomba*
- Salvar Goomba dentro da pasta Cenas
- Clicar com o botão direito em Goomba
 - *Add Child Node → AnimatedSprite2D*
 - *Add Child Node → CollisionShape2D*
 - *Add Child Node → RayCast2D*
 - *Add Child Node → VisibleOnScreenNotifier2D*



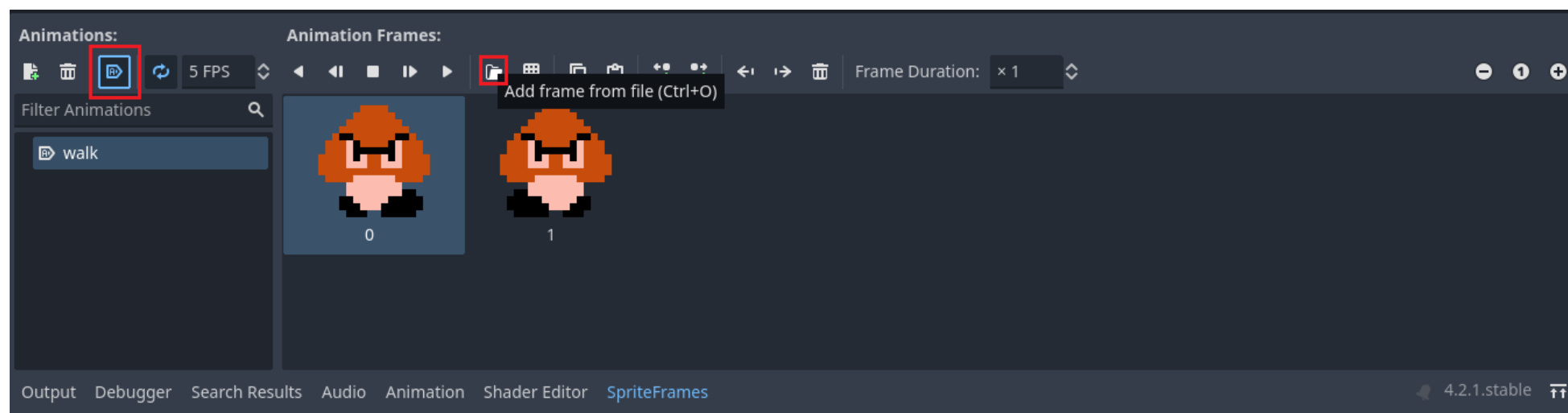


2 Cena: Goomba

- Clicar em AnimatedSprite2D, na aba Inspector:
 - *Animation → Sprite Frames → New SpriteFrames*
- Clicar em SpriteFrames, na aba SpriteFrames:
 - *Renomear default para walk*
 - *Add frame from file → Assets Super Mario Bros → Sprites*
 - *Selecionar Goomba_Walk1.png e Goomba_Walk2.png*
 - *Ativar o Autoplay on Load*



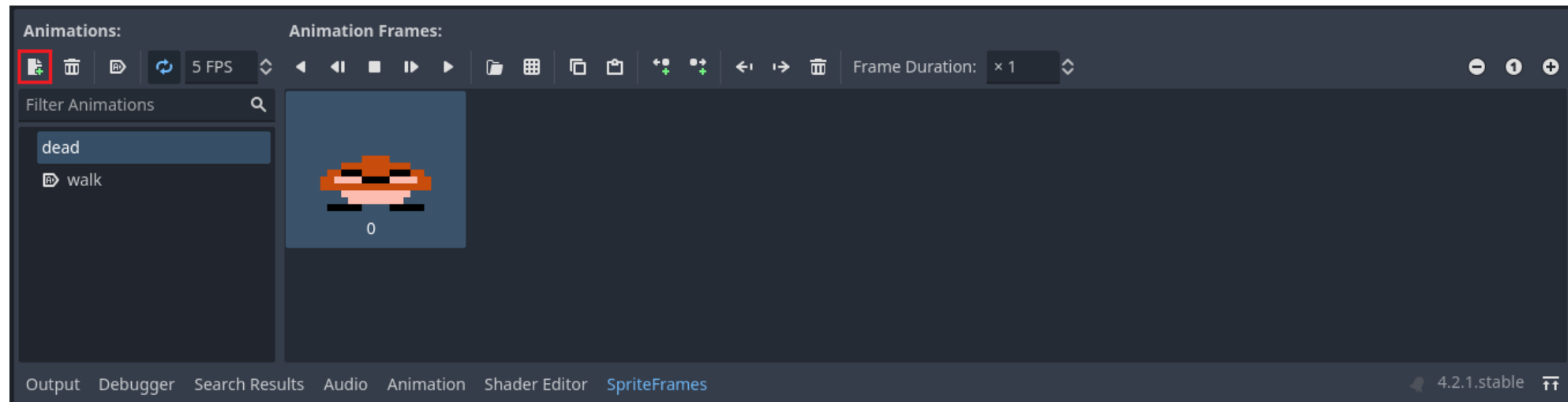
2 Cena: Goomba





2 Cena: Goomba

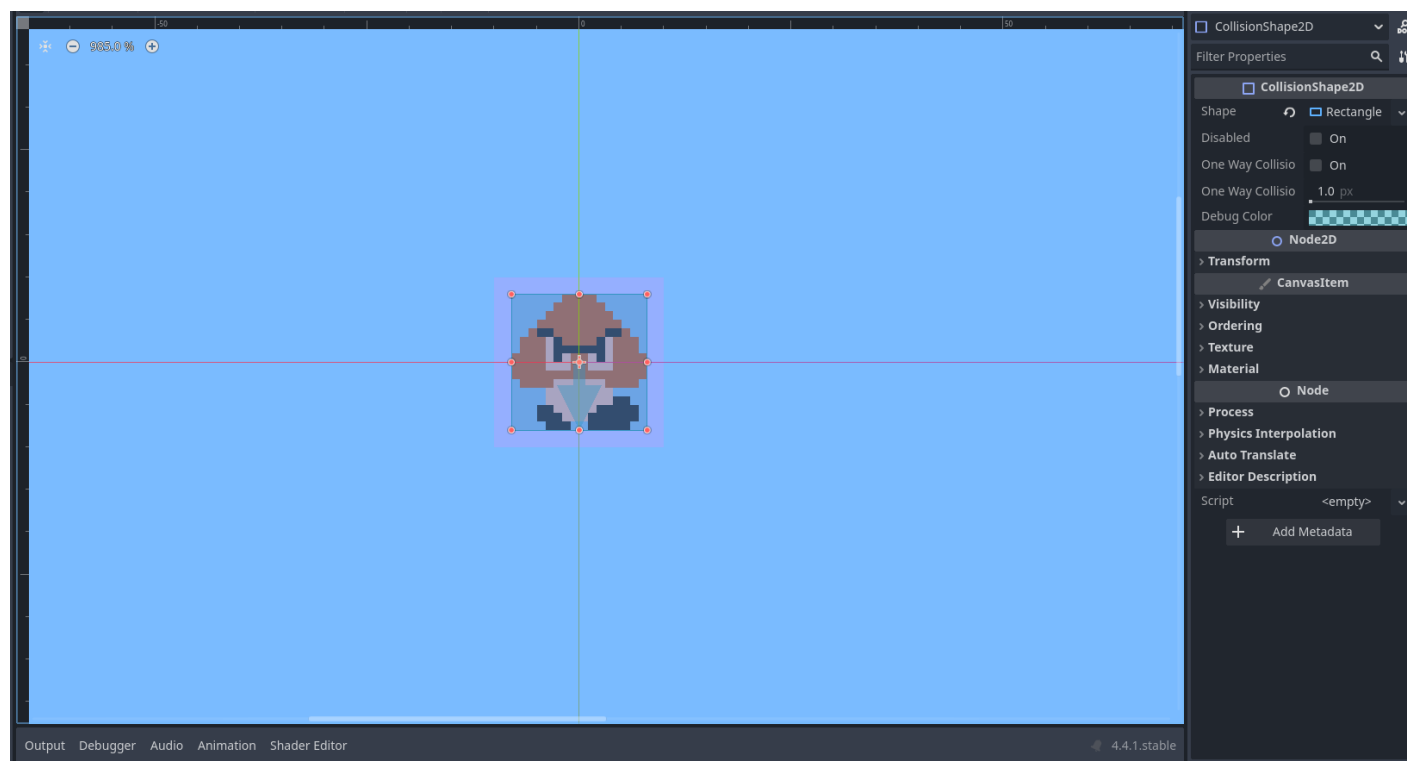
- Clicar em AnimatedSprite2D, na aba SpriteFrames:
 - *Add Animation → Renomear new_animation para dead*
 - *Adicionar o sprite Goomba_Flat.png*



2 Cena: Goomba



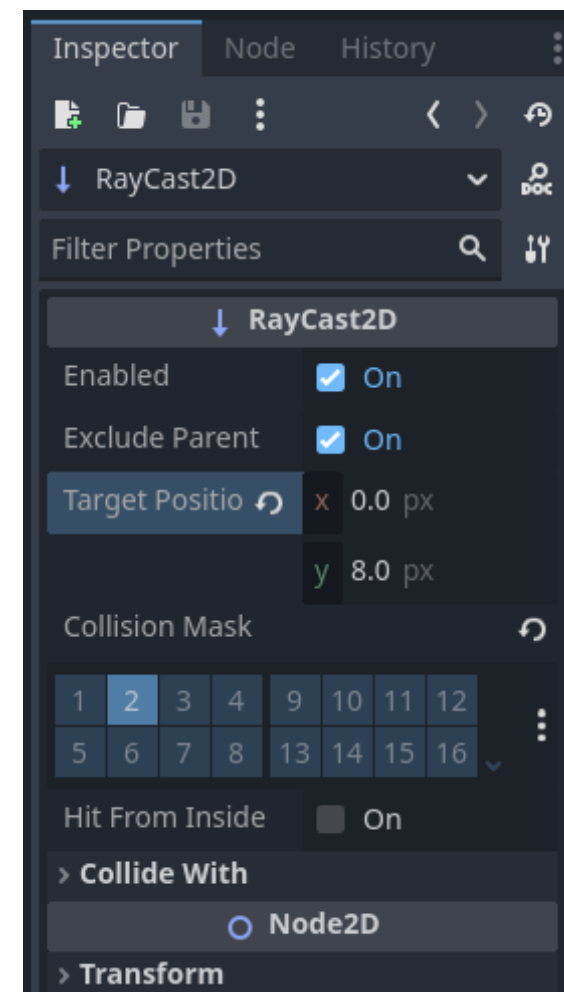
- Clicar em CollisionShape2D, na aba Inspector:
 - *Shape* → *NewRectangleShape2D*





2 Cena: Goomba

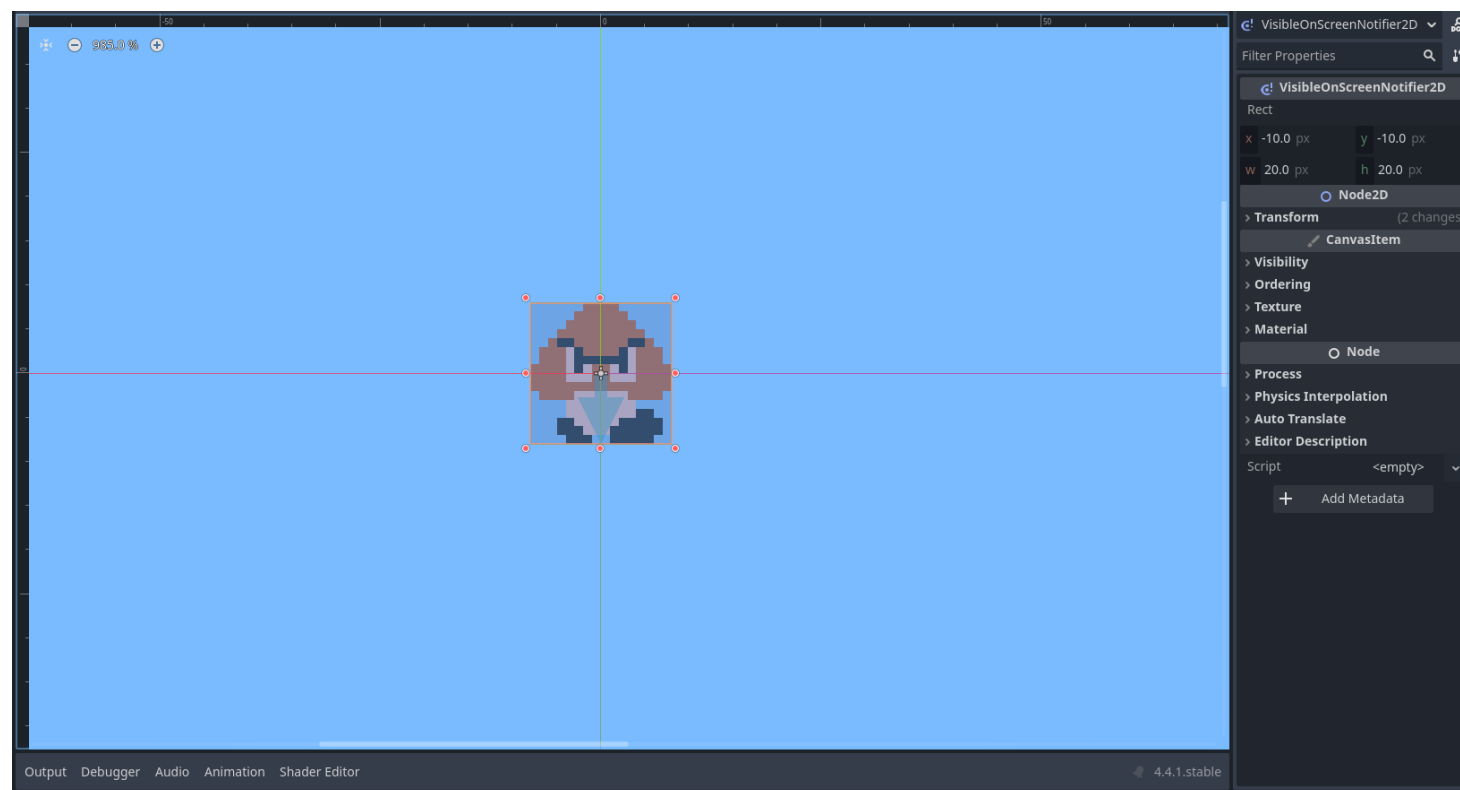
- Clicar em RayCast2D, na aba Inspector:
 - *Target Position: $x = 0$
 $y = 8$*
 - *Collision Mask: 2*



2 Cena: Goomba



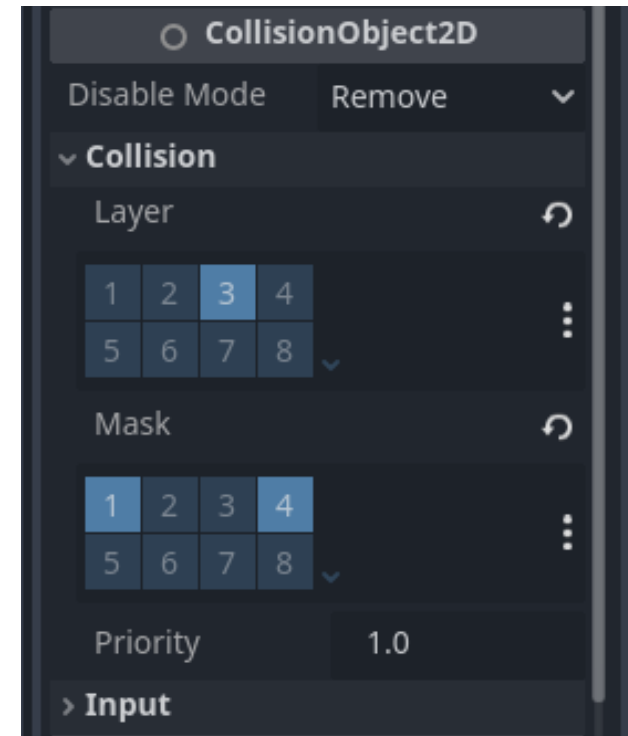
- Clicar em VisibleOnScreenNotifier2D:
 - *Ajustar tamanho*



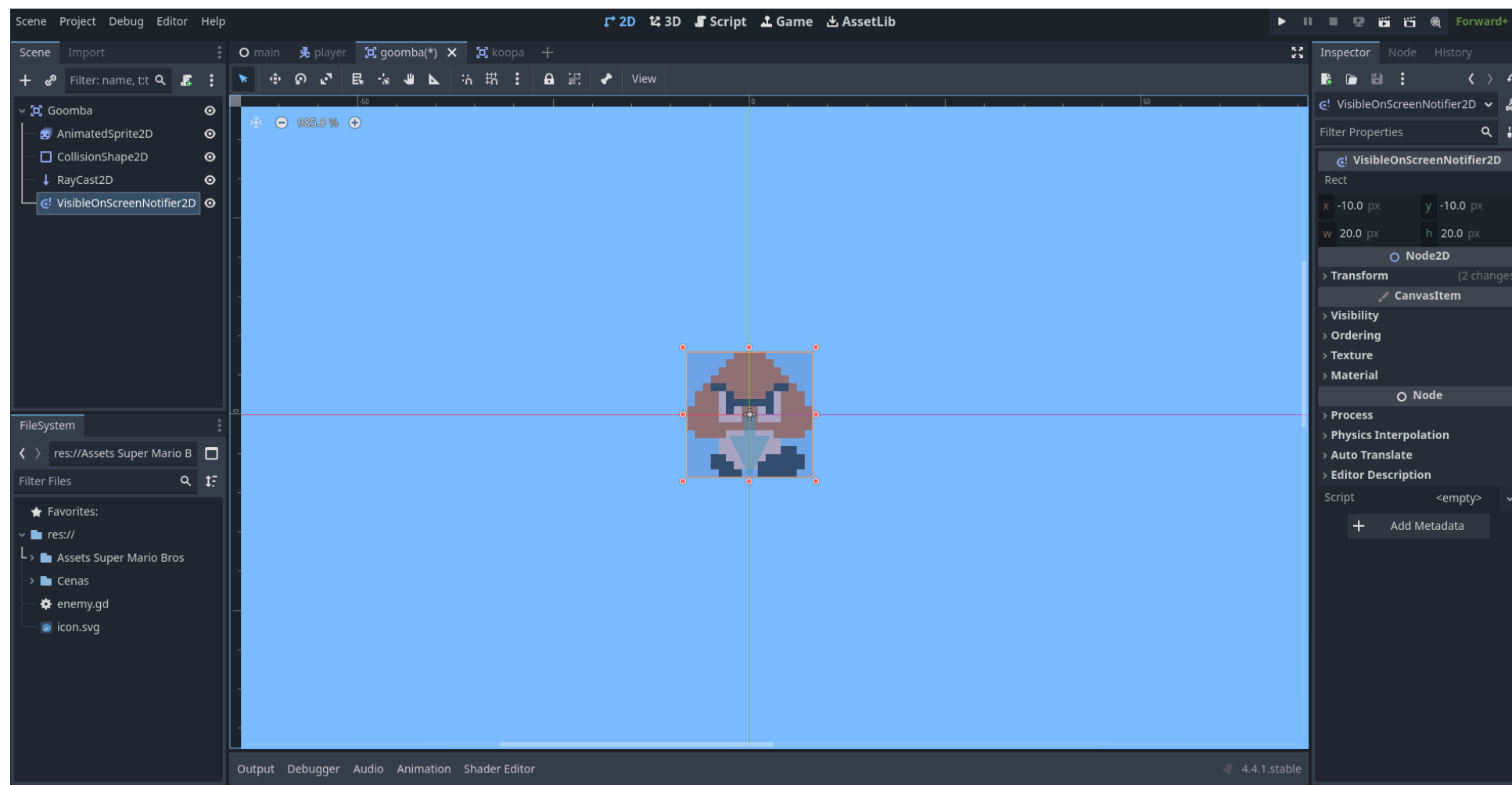


2 Cena: Goomba

- Clicar em Goomba, na aba Inspector:
 - *Collision* → *Layer: 3 (enemy)*
Mask: 1, 4 (player, koopa_stomped)



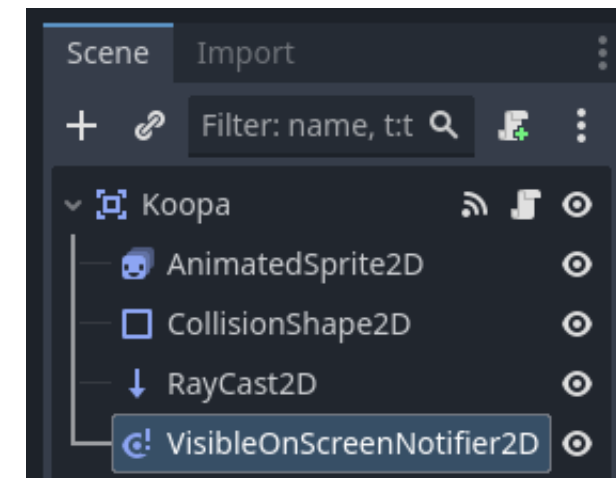
2 Cena: Goomba





3 Cena: Koopa

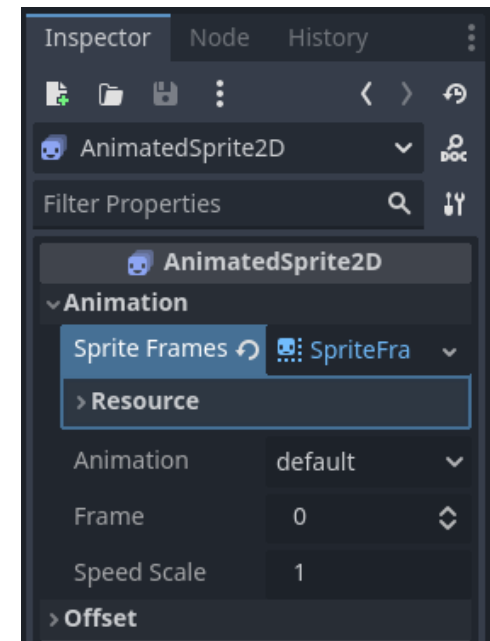
- Clicar em New Scene → Other Node → Area2D → Create
 - *Renomear Area2D para Koopa*
- Salvar Koopa dentro da pasta Cenas
- Clicar com o botão direito em Koopa
 - *Add Child Node → AnimatedSprite2D*
 - *Add Child Node → CollisionShape2D*
 - *Add Child Node → RayCast2D*
 - *Add Child Node → VisibleOnScreenNotifier2D*



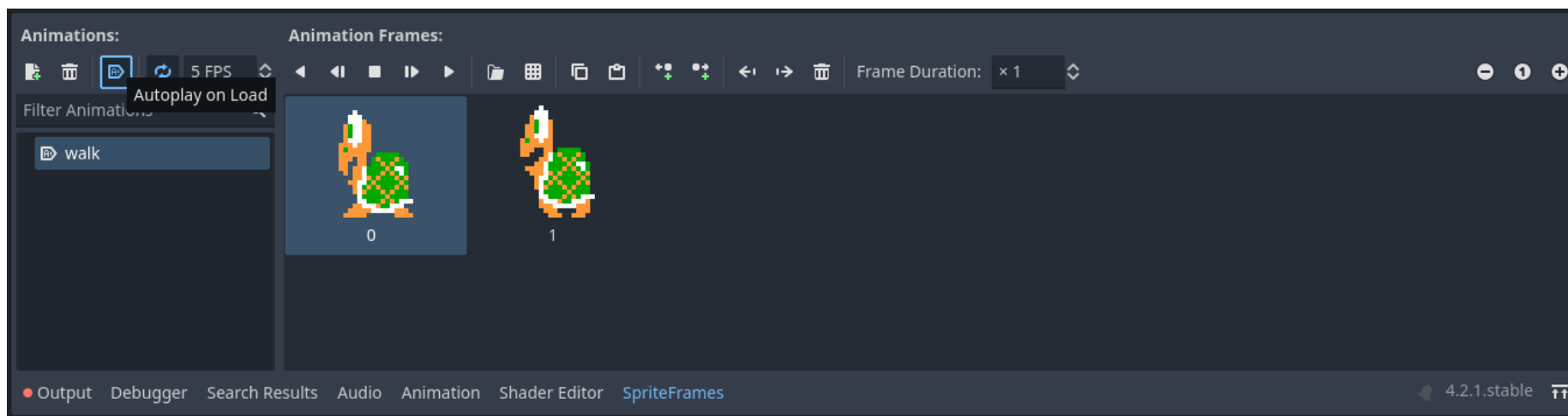


3 Cena: Koopa

- Clicar em AnimatedSprite2D, na aba Inspector:
 - *Animation → Sprite Frames → New SpriteFrames*
- Clicar em SpriteFrames, na aba SpriteFrames:
 - *Renomear default para walk*
 - *Add frame from file → Assets Super Mario Bros → Sprites*
 - *Selecionar Koopa_Walk1.png e Koopa_Walk2.png*
 - *Ativar o Autoplay on Load*



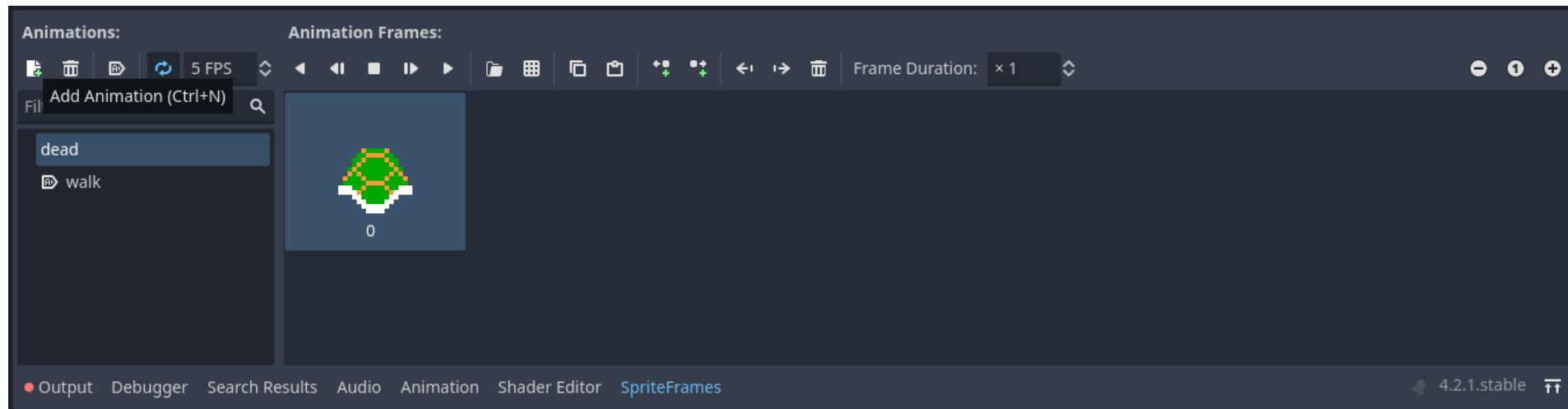
3 Cena: Koopa





3 Cena: Koopa

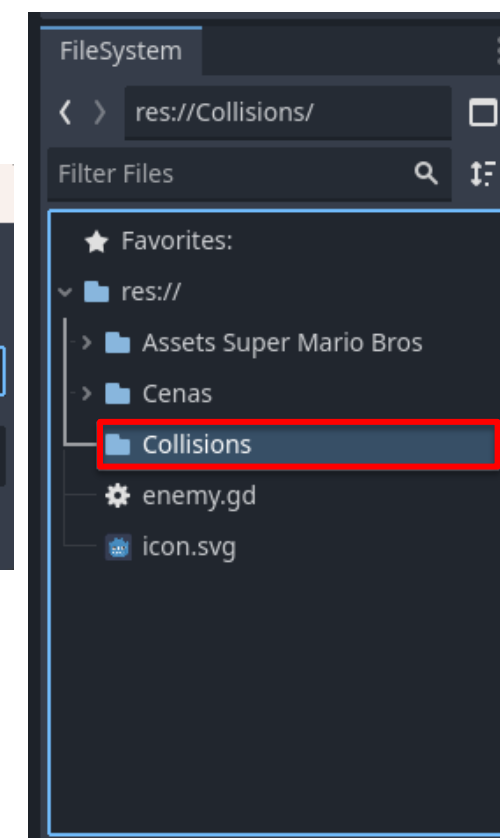
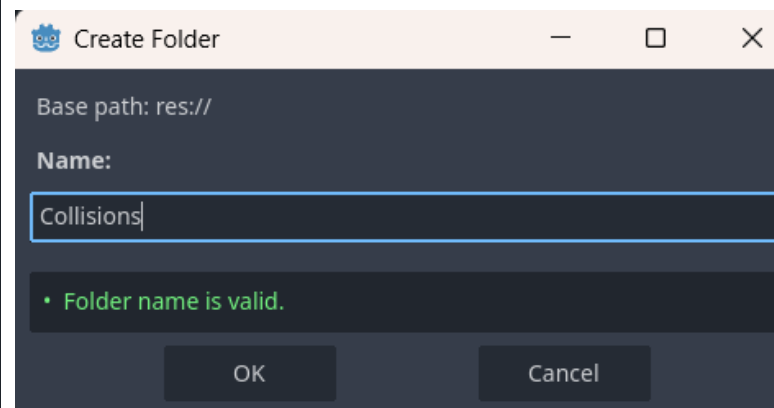
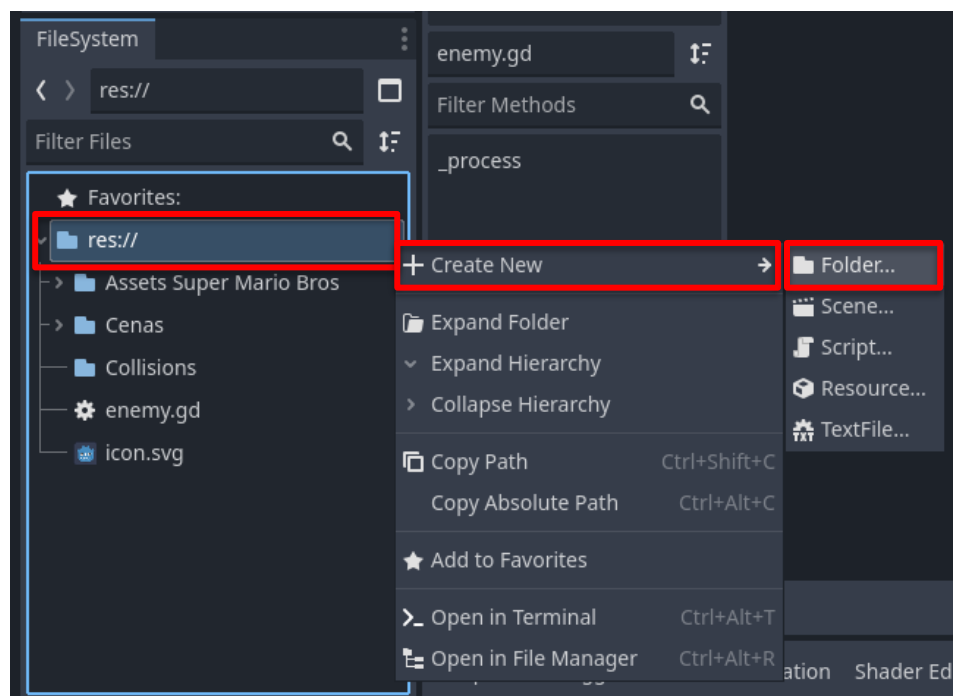
- Clicar em AnimatedSprite2D, na aba SpriteFrames:
 - *Add Animation → Renomear new_animation para dead*
 - *Adicionar o sprite Koopa_Shell.png*





1 Script: Enemies

- Criar pasta “Collisions” dentro da pasta do projeto

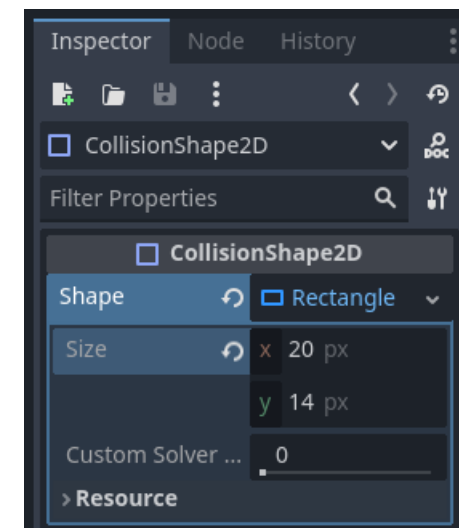


3 Cena: Koopa



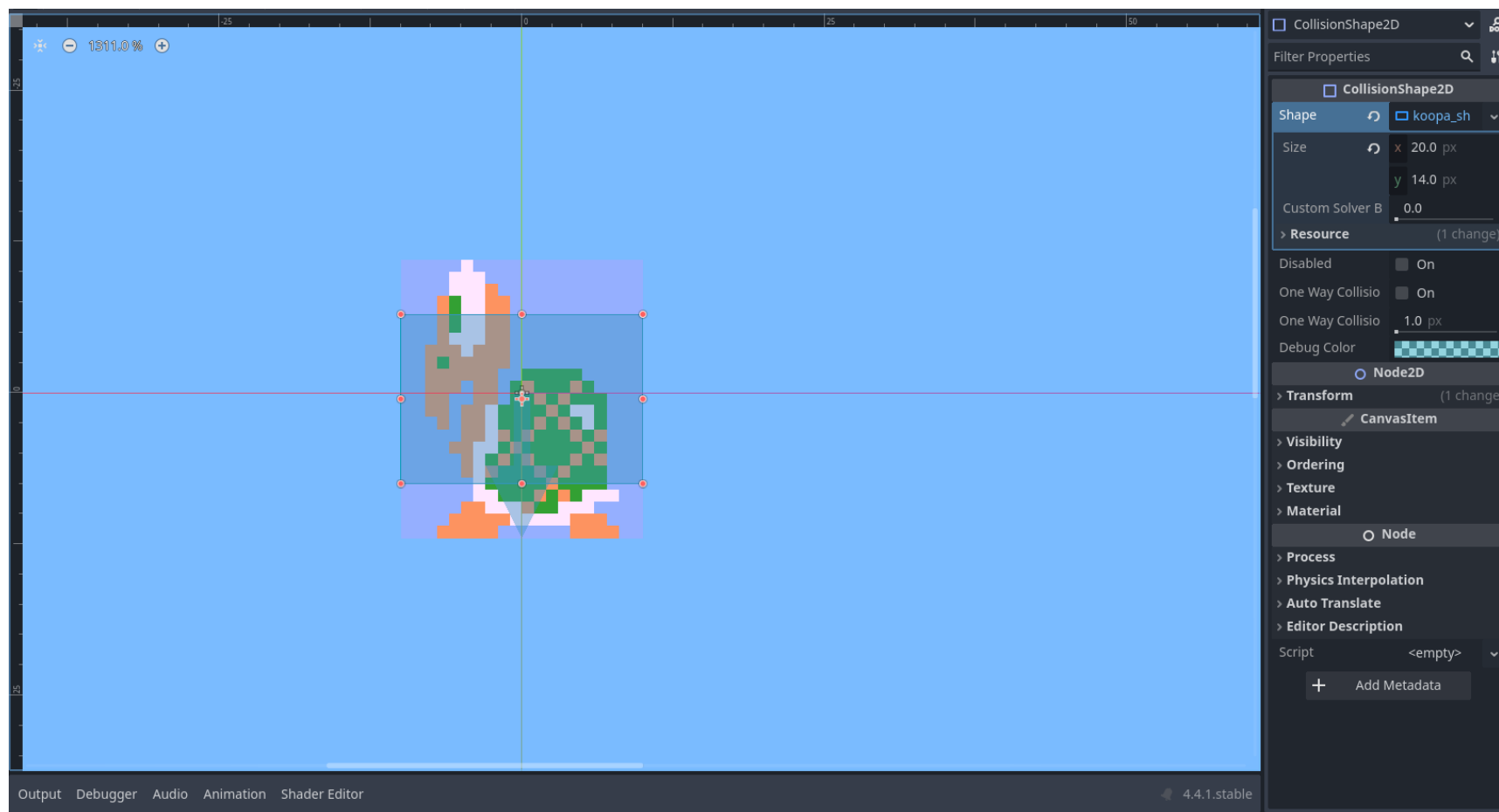
- Clicar em CollisionShape2D, na aba Inspector:

- *Shape* → *NewRectangleShape2D*
- *Clica em NewRectangleShape2D* → *Size: $x = 20\text{ px}$
 $y = 14\text{ px}$*



- *Clicar com o botão direito em RectangleShape2D* → *Save As* → *Collisions*
- *Renomear para koopa_shell.tres*

3 Cena: Koopa

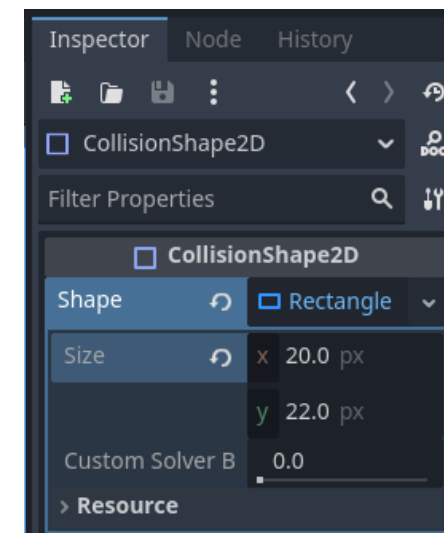


3 Cena: Koopa



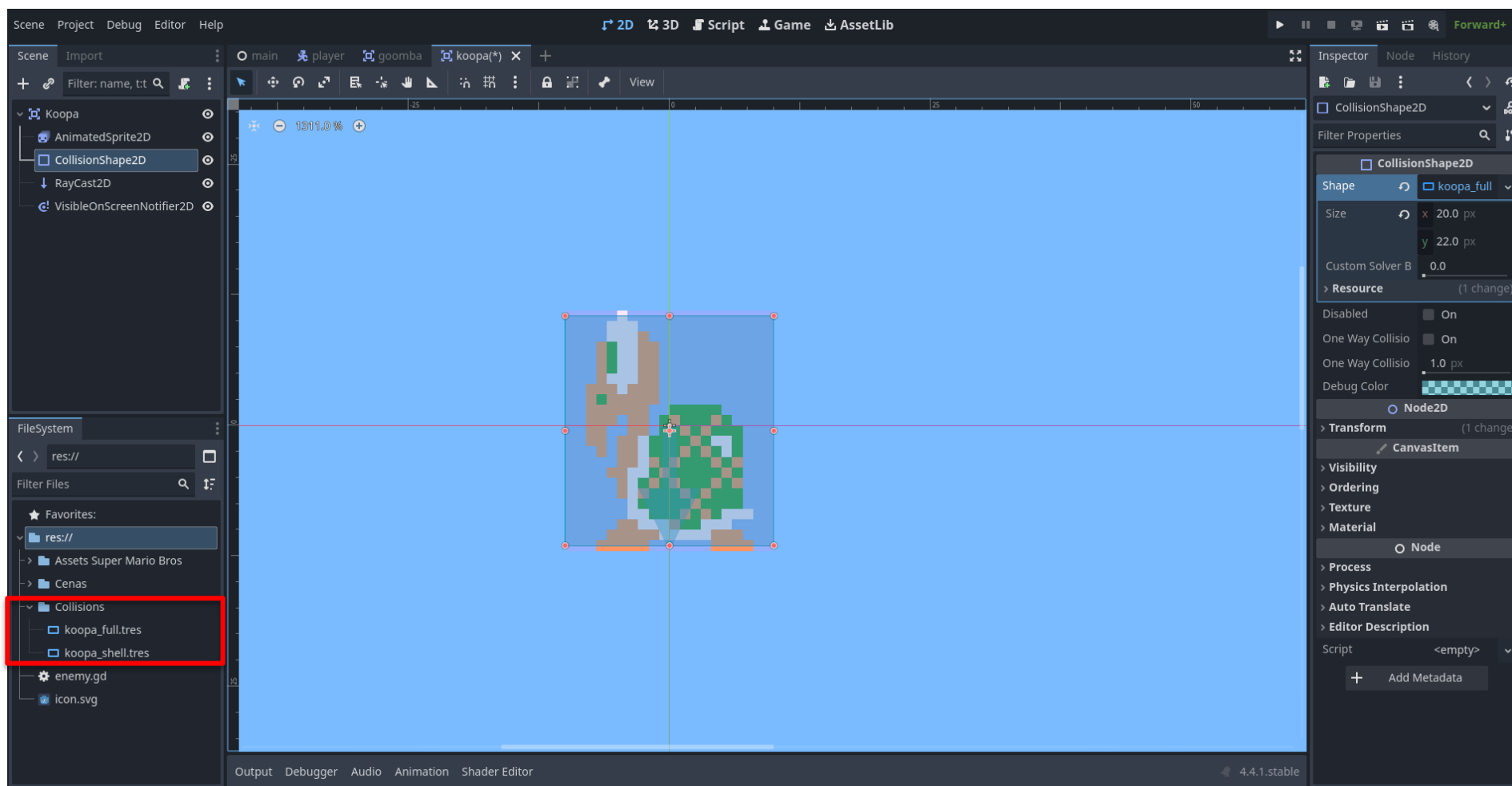
- Clicar em CollisionShape2D, na aba Inspector:

- *Shape* → *NewRectangleShape2D*
- *Clica em NewRectangleShape2D* → *Size: $x = 20\text{ px}$
 $y = 22\text{ px}$*



- *Clicar com o botão direito em RectangleShape2D* → *Save As* → *Collisions*
- *Renomear para koopa_full.tres*

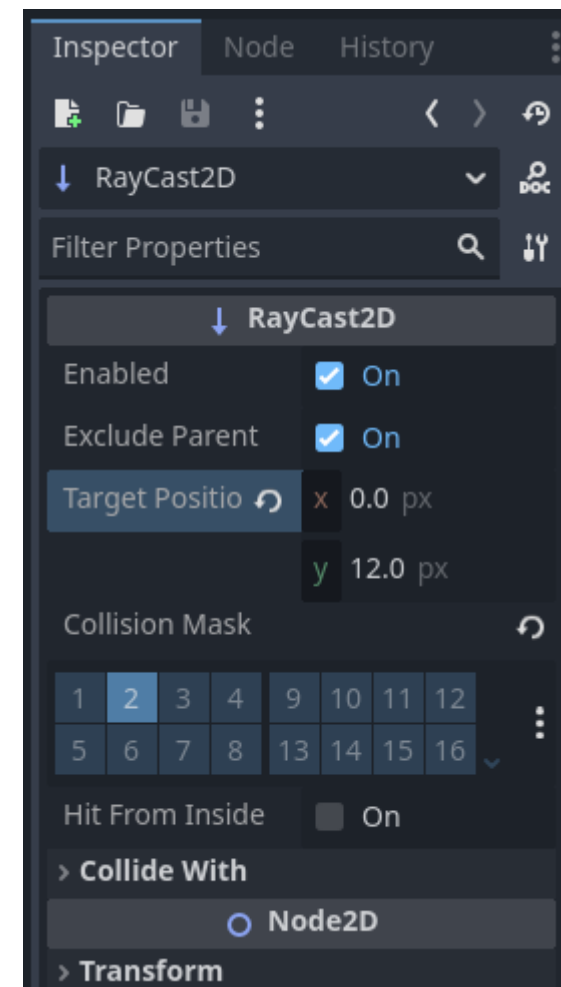
3 Cena: Koopa



3 Cena: Koopa



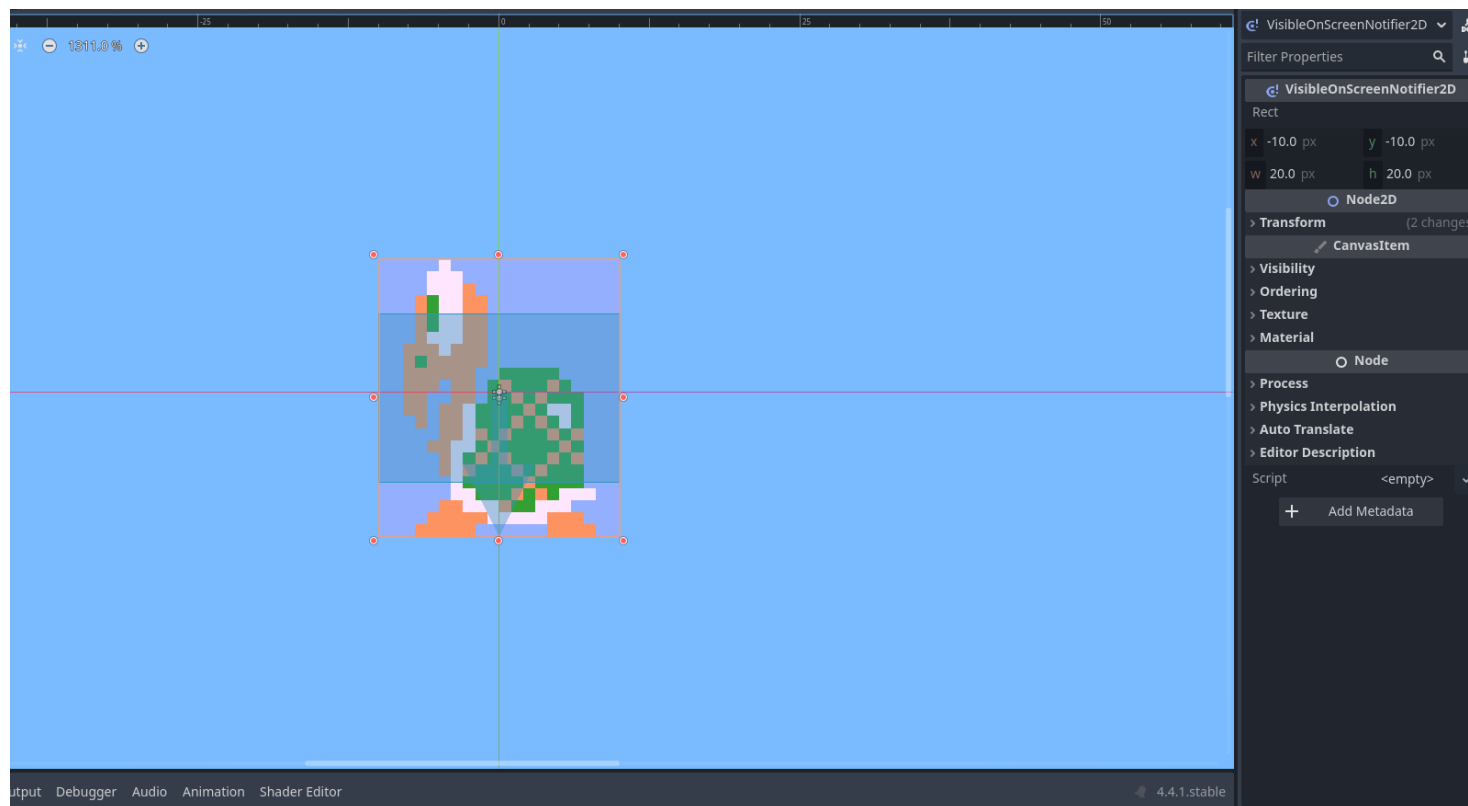
- Clicar em RayCast2D, na aba Inspector:
 - *Target Position: $x = 0$
 $y = 12$*
 - *Collision Mask: 2*



3 Cena: Koopa



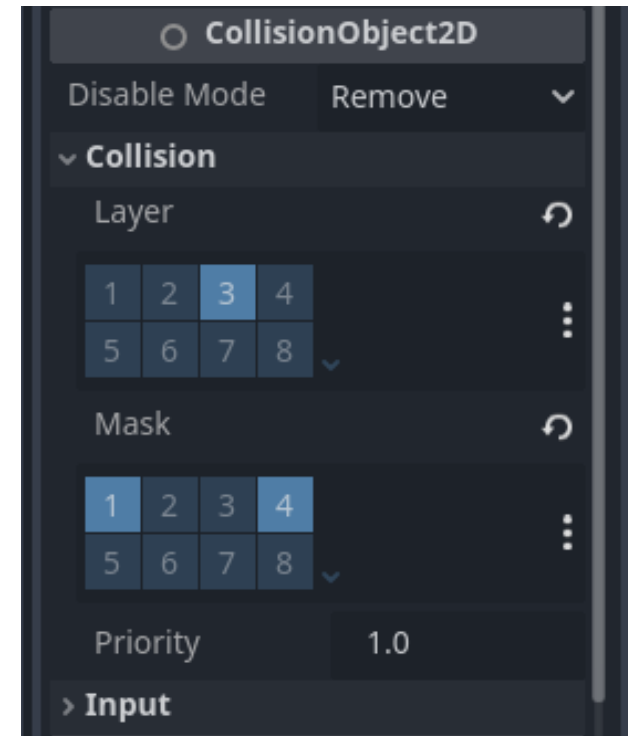
- Clicar em VisibleOnScreenNotifier2D:
 - *Ajustar tamanho*





3 Cena: Koopa

- Clicar em Koopa, na aba Inspector:
 - *Collision* → *Layer: 3 (enemy)*
Mask: 1, 4 (player, koopa_stomped)





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