


Node Essentials Godot 4 Edition: The Gamedev's Almanac

Uncover the secret of Godot's nodes!

- ✓ Templates for 100+ game mechanics
- ✓ 60 day "no questions asked" refund policy
- ✓ Lifetime access

GET STARTED IN EARLY ACCESS!

 **EARLY ACCESS**
JUL 30, 2024

 **GODOT VERSION**
Latest (Godot 4+)

 **DURATION**
Self-paced

 **LANGUAGE**
English

 **PREREQUISITES**
Programming Skills

Important Notice:

Throughout Early Access, this outline is provided for reference only. It remains subject to modification based on user feedback and other pedagogical factors.

Product content: A comprehensive recipe book covering over 40 nodes, how to use them and their relevant applications to the most popular game mechanics. Includes in-Godot demos and hundreds of code examples/templates.

✓ **GDSchool:** GDQuest's unique, integrated learning platform dedicated to gamedev education.

2D

Area2D

- Detecting when something is in range
- Designing hit and hurt boxes to deal and receive damage
- Overriding physics and audio effects when in a specific area

2D

Camera2D

- Zooming in and out
- Smoothly following an entity like the player's character
- Shaking the screen

2D

CharacterBody2D

- Handling physics interactions your way
- Designing side-scrolling movement as in Mario or Sonic
- Designing top-down movement as in Zelda

2D

Line2D

- Laser beams and bullet trails
- Ropes and chains
- Drawing paths

2D

2D Pathfinding Nodes

- Simple pathfinding
- Enemy pursuit
- Avoiding hazards

2D

Particles2D

- Creating flames, smoke, spells, splashes, puffs of dust, and all sorts of visual effects
- Animating many sprites efficiently using the GPU and shaders

2D

Path2D

- Construction of paths using A* for player units to move on
- Generating random spawn positions at the edge of the screen or on any curve
- Tips & tricks for other creative uses of Path2D

2D

RayCast2D

- Line of sight for AI agents
- Detecting the floor or environment features from a distance
- Weapons that hit instantly, like lasers

2D

RemoteTransform2D

- UI widget attached to game character, like a life bar
- Moving icons to reflect game characters in a map view
- Following a predefined path for some time

2D

RigidBody2D

- Physics platformers
- Vehicles
- Ragdolls
- Collapsing structures as in Angry Birds

2D

TileMap

- Designing levels using reusable tiles
- Creating a board for grid-based games

2D

VisibilityNotifier2D

- Deleting bullets that go off-screen
- Applying damage to all visible enemies
- Enabling behavior on visible objects
- Triggering dialogues to warn about visible hazards

3D

Area3D

- Detecting when something is in range
- Designing hit and hurt boxes to deal and receive damage
- Overriding physics and audio effects when in a specific area

3D

3D Level Prototyping Nodes

- Constructing simple compound objects
- Carving, adding, and intersecting custom geometry from external programs through CSGMesh3D
- Extruding spinning and following paths with custom profiles through CSGPolygon3D

3D

Camera3D

- Displaying the scene from the player's location
- Projecting the mouse position into the 3D world
- Interpolating camera position to show the surrounding world

3D

GridMap

- Placing buildings into a map and removing them
- Creating levels with probabilistic cells that randomly fill with specific content
- Building a race track in game that automatically connects adjacent cells (autotile)

3D

CharacterBody3D

- Handling physics interactions your way
- Designing 3D platformer movement as in Mario or Crash Bandicoot
- Designing First Person Shooter movement

3D

Label3D

- Simple objective markers for 3D levels
- Text indication that follows 3D characters such as the player name in a multiplayer game
- Emoji-like reactions for 3D characters

3D

3D Light Nodes

- Casting shadows from the sun
- Pre-rendering light details with lightmapping
- Shooting out lights with a gun

3D

MeshInstance3D

- Decorating a level
- Creating performant environments
- Manipulating Boids
- Visualizing a heightmap

3D

3D Pathfinding Nodes

- Simple pathfinding with NavigationRegion3D
- Enemy pursuit
- Grid-based movement

3D

Path3D

- Construction of paths using A* for player units to move on
- Generate random spawn positions at the edge of the screen or on any curve
- Tips & tricks for other creative uses of Path

3D

RayCast3D

- Firing fast bullets
- Sensing walls and obstacles
- Sight for enemy AI

3D

RemoteTransform3D

- Dragging objects in 3D space
- Attaching cameras to player characters
- Moving along paths

3D

RigidBody3D

- Physics platformers
- Vehicles
- Ragdolls
- Collapsing structures as in Angry Birds

3D

VisibleOnScreenNotifier3D

- Making enemies use different attacks when out of sight
- Telling the player where something they can't see is
- Improving performance by disabling hidden nodes

GEN

AnimationPlayer

- Animating characters and the environment
- Queuing animations
- Calling functions at specific points in time

GEN

AudioStreamPlayer

- Playing a random sound from a list
- Playing a looping background music
- Taking into account the distance to objects when playing sounds

GEN

CanvasLayer

- Keeping the UI fixed on the screen at all times
- Creating transition effects
- Applying post-processing shaders to the entire screen

GEN

Timer

- Ability and weapon cooldowns
- Spawning enemies at regular time intervals
- Delaying the execution of code

GEN

Tween

- Simple animations, like fading a UI element in
- Animating anything when you don't know the start and end points in advance

GEN

Viewport

- Magic portals through which you see other parts of the game world
- Taking screenshots
- Drawing UI or name tags over 3D characters

UI

Button

- Entering a menu by pressing a button
- Purchasing an item upon clicking it
- Activating one option from a handful
- Toggling a game mode on and off

UI

HBoxContainer

- Listing commands in a menu
- Aligning a character's name with life and mana bars
- Aligning icons horizontally or vertically

UI

Label

- Simple text in a menu or for simple dialogues
- Displaying numbers of coins, resources, or character stats
- Writing text for a debug panel or a plugin

UI

LineEdit

- Login and password fields
- Input field for character name
- Chat box text input

UI

NinePatchRect

- Putting custom art on a user interface
- Background for other UI nodes

UI

OptionButton

- Mutually exclusive menu options, such as difficulty
- Dropdown menus inside apps and editor plugins

UI

PanelContainer

- Holding items inside slots in an inventory
- Visual background for cards in a card game
- Speech bubble background that scales to fit the text

UI

ProgressBar

- Life and mana bars
- Loading progress bar
- Ability cooldowns

UI

RichTextLabel

- Applying bold, italics, and other formatting to text
- Changing the color of part of the text
- Detecting when the player hovers over a keyword with the mouse
- Creating custom text effects and animations, eg: to make a word shake

