THE UNREAL ENGINE 5.6.1

Class - 1

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Contents

1 Editor Basics

1.1 Editor Layout

- **Viewport** – Main 3D area where levels are built.

- **Outliner** – Lists all actors in the scene.

- **Details Panel** – Shows editable properties of selected actor.

- **Content Drawer** – Stores all project assets.

- **Place Actors Panel** – Drag shapes, lights, and volumes into the scene.

1.2 Essential Shortcuts

Content Drawer	Ctrl + Spacebar
Move Camera	Right-click + WASDEQ
Fast Camera Movement	Hold the middle mouse button and scroll up
Slow Camera Movement	Hold the middle mouse button and scroll down
Focus Object	F
Save Level	Ctrl + S
Grouping Meshes	Ctrl + G
Ungrouping Meshes	Shift + G
Duplicate Object	Alt + Drag
Move Tool	W
Rotate Tool	E
Scale Tool	R
Directional Lighting	Ctrl + L

1.3 What is the Content Drawer?

The **Content Drawer** is Unreal Engine's central asset management panel. It contains every asset used in the project, including materials, textures, meshes, Blueprints, animations, audio files, levels, and imported content. It functions as the project's file system and displays everything stored in the `/Content/` directory.

1.3.1 Key Functions

- Stores all project assets in organised folders.

- Allows importing files such as textures, models, and audio.

- Provides quick search and filtering for any asset.

- Supports drag-and-drop into the viewport for fast level construction.

- Enables creation of new assets (Blueprints, Materials, Levels, etc.).

1.3.2 Accessing the Content Drawer

- Press **Ctrl + Space** to toggle it instantly.

- Click the drawer tab located at the bottom-center of the Unreal Editor.

- Alternatively, go to `Window → Content Browser`.

The Content Drawer is a fundamental workspace where every asset is accessed, organised, and managed while building a UE5 project.

2 Introduction to FAB

FAB is Epic Games' unified asset marketplace introduced to integrate high-quality digital assets directly into Unreal Engine. It replaces older stores like the Unreal Marketplace and Quixel Bridge with a single ecosystem. FAB provides ready-to-use assets for environments, characters, materials, foliage, props, and visual effects.

2.1 Key Features of FAB

- **Unified Marketplace** – All assets from the Unreal Marketplace, Quixel Megascans, Sketchfab, and other sources are available in one place.

- **High-Quality Free Assets** – Many assets, including grass, rocks, landscapes, and materials, are available free for UE users. To select free assets, you just need to change the price tag to show only free assets. (We'll be using mostly free assets or creating our own ones.)

- **One-Click Import** – Assets can be downloaded and added directly to your project from inside Unreal Engine.

- **Wide Range of Categories** – Includes foliage, architecture sets, characters, surfaces, decals, and terrain tools.

- **Optimized for UE5** – Assets follow Nanite, Lumen, and modern UE workflow standards.

2.2 Accessing FAB in Unreal Engine

1. Open the `Content Drawer`.

2. Click on the **Fab** button at the bottom toolbar.

3. Browse categories such as:

   - Foliage (grass, bushes, trees)
   - Surfaces (brick, wood, concrete)
   - Architecture
   - Props and furniture

4. Select an asset and click `Add to Project`.

   Example: FAB Grass is one of the commonly used assets for painting natural grass onto landscapes using the Foliage Mode.

3 Creating a New Level

3.1 Starting a Level From Scratch

1. Go to `Content Drawer` → `Right CLick` → `New Level`.

2. Select **Empty Level**.

3. The level will initially appear blank.

3.2 Add Essential Actors

Before constructing architecture, click Window → Env. Light Mixture, then add the following:

- Sky Atmosphere
- Directional Light (sun)
- Sky Light
- Player Start
- Exponential Height Fog

Shortcut: Press Ctrl + L to rotate sunlight interactively.

4 Basic Shapes (Primitives)

4.1 Available Shapes

Under the Place Actors Panel → Shapes:

- Cube
- Sphere
- Cylinder
- Cone
- Plane

4.2 Adding Shapes

- Drag shape into the viewport, or
- Right-click in the viewport → Add Shape.

5 Building a Simple Room

This section provides a clear step-by-step workflow to construct a basic house or room using Unreal Engine's shapes and Modeling Mode. The goal is to create a floor, four walls, a ceiling, a door opening, and add indoor spot lights.

5.1 Step 1: Create the Floor

1. Go to the `Landscape Mode` from the selection mode and add a **landscape** into the viewport.

2. This forms the base floor of your level.

5.2 Step 2: Make a Door Opening

Drag the **Door** static mesh present in the content drawer.

5.2.1 Making the Door:

1. You will see 3 static meshes and a blueprint frame.
2. You have to use the DoorFrame_Corner and DoorFrame_Edge static meshes.
3. Create a door using them.
4. Use the Shift key to select multiple objects/assets and duplicate to make the door faster.

5.3 Step 3: Create the Walls

Create four walls:

1. Drag a **Cube** into the viewport.
2. Move it to one side of the floor.
3. Duplicate the wall using **Alt + Drag**.
4. Position duplicates to form all four sides.

5.4 Step 5: Adding Spot Lights Inside the Room

1. Open the `Place Actors` panel.
2. Search for **Spot Light**.
3. Drag the Spot Light into the room interior.
4. Position the Spot Light near the ceiling and aim it downward using the rotation tool (E).
5. Duplicate multiple Spot Lights (Alt + Drag) for even lighting in the room.

5.5 Step 6: Test the Space

- Press **Play** to explore the room.
- Walk around using WASD.
- Ensure the lighting, ceiling height, and door opening feel correct.

6 Foliage

Unreal Engine's **Foliage Mode** allows fast placement of grass, plants, rocks, and other natural assets across large surfaces.

6.1 Using FAB Grass

1. Go to the top-left corner and switch to `Foliage Mode`.
2. In the Foliage panel, click the **+ Add** button and search for `FAB Grass`.
3. Enable the checkbox next to the grass asset.
4. Adjust brush settings:
    - Brush Size
    - Density (amount of grass per stroke)
    - Paint Radius
5. Click and drag across your landscape to paint grass.

   Tip: To erase grass, hold **Shift** while painting.

7 Precision Tools

7.1 Transform Controls

Use the Details panel for:

- Exact location values

- Rotation in degrees

- Scale values

7.2 Snapping Controls

- Translation Snap: 10 units (default)

- Rotation Snap: 10 degrees (default)

- Scale Snap: optional

8 Play Testing

8.1 Testing Your Level

- Add a **Player Start** from Place Actors Panel to make a starting point for your player.

- Press **Play** to enter gameplay preview.

- Use WASD to move, mouse to look.

- Press ESC to exit.