Basic Campfire Kit

Sumário

The assets in this project were created with the Built-in Render Pipeline. If the project is running on Universal Render Pipeline (URP) or High-Definition Render Pipeline (HDRP), the materials for these assets will appear pink.

Render pipeline compatibility

The Built-in Render Pipeline is Unity's default render pipeline. It is a general-purpose render pipeline that has limited options for customization. The Universal Render Pipeline (URP) is a Scriptable Render Pipeline that is quick and easy to customize, and lets you create optimized graphics across a wide range of platforms. The High Definition Render Pipeline (HDRP) is a Scriptable Render Pipeline that lets you create cutting-edge, high-fidelity graphics on high-end platforms.

Setting Up the Universal Render Pipeline (URP) in Unity

The Universal Render Pipeline (URP) is a flexible and optimized solution for achieving high performance across various platforms, from mobile devices to consoles. Here's a step-by-step guide to setting up URP in your Unity project:

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1. Create or Open a Unity Project

1. Open Unity Hub and create a new project.
2. Select the **3D (URP)** template if starting a new project.
    - If you're working on an existing project, proceed to the next step.

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2. Install the Universal Render Pipeline

1. Open the **Package Manager**:
    - In Unity, go to **Window > Package Manager**.
2. Select **Unity Registry** in the top-left dropdown.
3. Search for **Universal RP** and click **Install**.

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3. Configure the Render Pipeline Asset

1. Create a URP asset:
    - Right-click in the **Project** panel and select: **Create > Rendering > Universal Render Pipeline > Pipeline Asset (Forward Renderer)**.
2. This will generate two files:
    - **UniversalRenderPipelineAsset**: Defines the overall pipeline settings.
    - **ForwardRenderer**: Controls how cameras render the scene.

3. Assign the asset to your project:
    - Go to **Edit > Project Settings > Graphics**.
    - Drag the **UniversalRenderPipelineAsset** to the **Scriptable Render Pipeline Settings** field.

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4. Upgrade Existing Materials

If you're migrating an existing project:

1. Go to **Edit > Render Pipeline > Universal Render Pipeline > Upgrade Project Materials to URP Materials**.
2. This will convert old materials to URP-compatible ones.

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5. Configure Cameras

Ensure all project cameras are set up for URP:

1. Select each camera in your scene.
2. Check that the **Renderer Type** is set to **UniversalRenderer** in the **Camera** component.

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6. (Optional) Enable Post-Processing

1. In the **Inspector**, select the **UniversalRenderPipelineAsset**.
2. Enable the **Post Processing** option.
3. Add a **Volume** to your scene:
    - Create an empty GameObject and add the **Volume** component.
    - Create a new post-processing profile by clicking **New**.
    - Add effects such as **Bloom**, **Color Grading**, etc.

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7. Test the Render Pipeline

1. Run the project to verify the graphical behavior.
2. Adjust lighting and material settings as needed to optimize visuals.

Additional Resources

- Official URP Documentation
- Introduction to Universal Render Pipeline (Unity Learn)

- Video: Setting Up URP in Unity (YouTube)

This guide ensures a quick setup of URP to take advantage of its performance and visual quality benefits.

Setting Up the High Definition Render Pipeline (HDRP) in Unity

The High Definition Render Pipeline (HDRP) is designed for high-end graphics on powerful platforms like PCs and consoles. It delivers advanced visual effects, making it ideal for photorealistic rendering. Follow this guide to configure HDRP in your Unity project:

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1. Create or Open a Unity Project

1. Open Unity Hub and create a new project.
2. Select the **3D (HDRP)** template if starting a new project.
    - If you're working on an existing project, proceed to the next step.

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2. Install the High Definition Render Pipeline

1. Open the **Package Manager**:
    - In Unity, go to **Window > Package Manager**.
2. Select **Unity Registry** from the dropdown in the top-left corner.
3. Search for **High Definition RP** and click **Install**.

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3. Configure the Render Pipeline Asset

1. Create an HDRP asset:
    - Right-click in the **Project** panel and select: **Create > Rendering > High Definition Render Pipeline Asset**.
2. This will create two assets:
    - **HDRenderPipelineAsset**: Defines HDRP settings like shadows, lighting, and quality.
    - **Default Settings Asset**: Configures project-wide HDRP properties.
3. Assign the HDRP asset:
    - Go to **Edit > Project Settings > Graphics**.
    - Drag the **HDRenderPipelineAsset** to the **Scriptable Render Pipeline Settings** field.

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4. Upgrade Existing Materials

If you're migrating an existing project:

1. Go to **Edit > Render Pipeline > High Definition Render Pipeline > Upgrade Project Materials to HDRP Materials**.
2. This will convert old materials to HDRP-compatible ones.

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5. Adjust Scene Settings

1. HDRP uses **Volume Components** to manage rendering settings like lighting and post-processing.
    - Add a new GameObject and attach a **Volume** component.
    - Create a profile and configure effects such as **Ambient Occlusion**, **Bloom**, and **Screen Space Reflections**.
2. Set up a **Sky and Fog Volume**:
    - Use components like **HDRI Sky** or **Physically Based Sky** for realistic sky rendering.

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6. Configure Lights

1. HDRP introduces advanced lighting options:
    - For each light, adjust settings such as **Intensity**, **Color Temperature**, and **Shadow Resolution** in the **Inspector**.
2. Enable **Ray-Tracing** if your project and hardware support it:
    - Go to **Edit > Project Settings > HDRP Default Settings** and enable ray-tracing features.

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7. Test the Render Pipeline

1. Run your project to ensure the HDRP setup works correctly.
2. Optimize settings like texture resolution and shadow quality to balance performance and visuals.

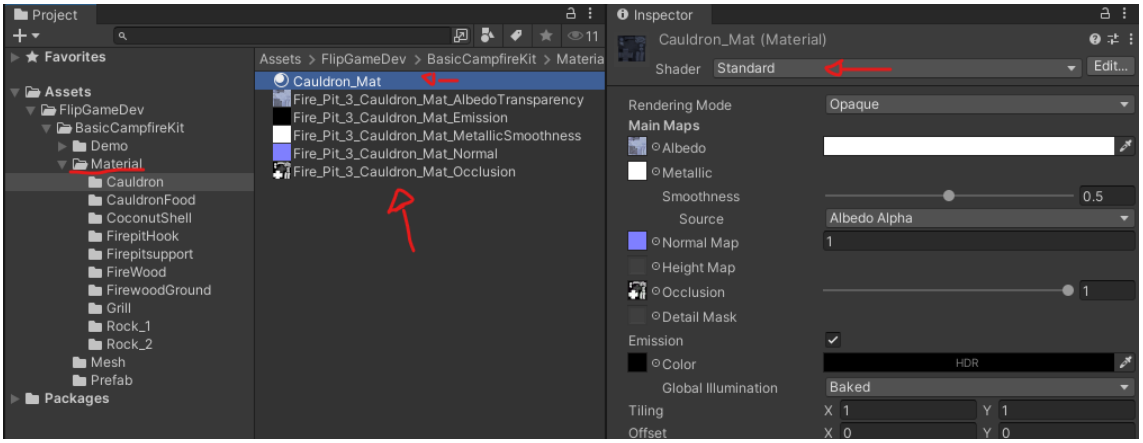
Additional Resources

- Official HDRP Documentation
- Getting Started with HDRP (Unity Learn)
- Video: Setting Up HDRP in Unity (YouTube)

This tutorial helps you set up HDRP to create stunning visuals and achieve photorealistic quality in your Unity project.

Material

The default shader used is **Standard (Built-in)** in Unity's Built-in Render Pipeline.
Depending on the desired effect, materials may vary in **Rendering Mode**, **Smoothness**, and **Render Queue** fields.
The standard textures used in this project include **Albedo with Transparency**, **Emission**, **Normal**, and, depending on the material setup, also **Specular** or **Metallic** maps.



Meshes and Prefabs

The prefabs are organized to preserve the mesh structure as much as possible, containing:

- A **Parent Object** to represent the item.
- An **Offset Object** to facilitate pivot adjustments.
- And finally, the **Mesh**, with well-divided components for easy customization.