



Unity 技术开放日

UNITY OPEN DAY

揭秘Unity的黑盒世界

Unity大中华区高级技术经理

高川

Memory

ShaderLab

ShaderLab

什么是ShaderLab

ShaderLab

ShaderLab Text

```
Shader "Unlit/testshader_multicompile"
{
    SubShader
    {
        Tags { "RenderType"="Opaque" }
        LOD 100

        Pass
        {
            CGPROGRAM
            #pragma vertex vert
            #pragma fragment frag

            #pragma multi_compile _ RED_COLOR GREEN_COLOR BLUE_COLOR

            #include "UnityCG.cginc"







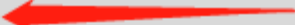

            struct appdata
            {
                float4 vertex : POSITION;
                float2 uv : TEXCOORD0;
            };

            struct v2f
            {
                float2 uv : TEXCOORD0;
                float4 vertex : SV_POSITION;
            };

            v2f vert (appdata v)
```


ShaderLab

Shader Compiler












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|  Console Window Host | 0% |
|  Console Window Host | 0% |
|  Node.js: Server-side JavaScript | 0% |
|  Unity Editor | 0% |
|  Unity Shader Compiler  | 0% |
|  Unity.Licensing.Client | 0% |

ShaderLab

ShaderLab Asset

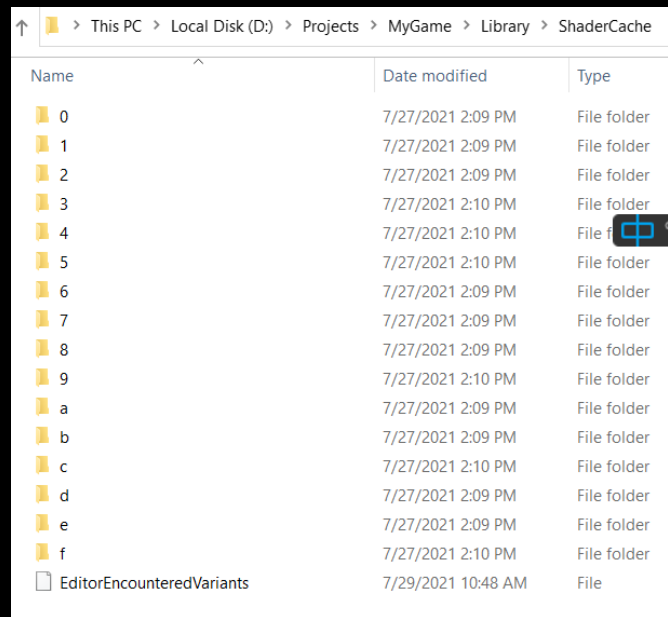
 shader.assetbundle

Name

-  Managed
-  Resources
-  app.info
-  boot.config
-  globalgamemangers
-  globalgamemangers.assets
-  level0
-  level0.resS
-  RuntimeInitializeOnLoads.json
-  ScriptingAssemblies.json
-  sharedassets0.assets

ShaderLab

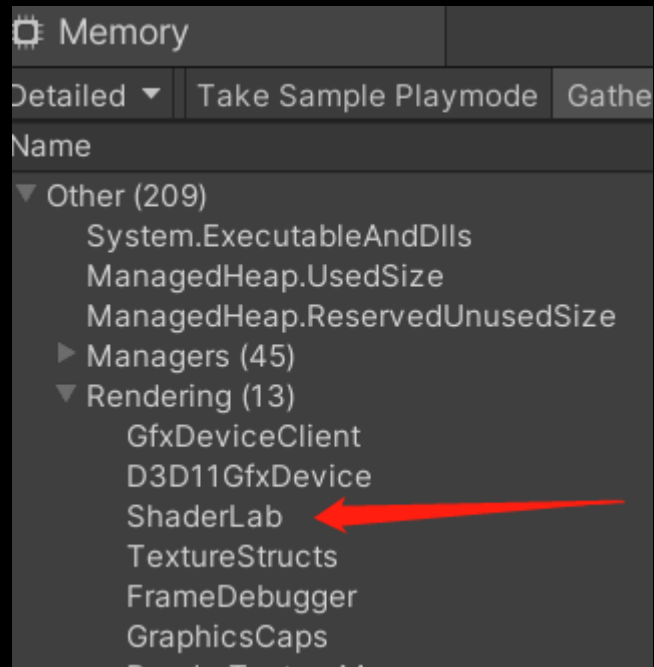
ShaderLab Asset



| Name | Date modified | Type |
|---------------------------|--------------------|-------------|
| 0 | 7/27/2021 2:09 PM | File folder |
| 1 | 7/27/2021 2:09 PM | File folder |
| 2 | 7/27/2021 2:09 PM | File folder |
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| 4 | 7/27/2021 2:10 PM | File folder |
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| 7 | 7/27/2021 2:09 PM | File folder |
| 8 | 7/27/2021 2:09 PM | File folder |
| 9 | 7/27/2021 2:10 PM | File folder |
| a | 7/27/2021 2:09 PM | File folder |
| b | 7/27/2021 2:09 PM | File folder |
| c | 7/27/2021 2:10 PM | File folder |
| d | 7/27/2021 2:09 PM | File folder |
| e | 7/27/2021 2:09 PM | File folder |
| f | 7/27/2021 2:10 PM | File folder |
| EditorEncounteredVariants | 7/29/2021 10:48 AM | File |

ShaderLab

ShaderLab Runtime



ShaderLab

ShaderLab Text

Shader Compiler

ShaderLab Asset

ShaderLab Runtime



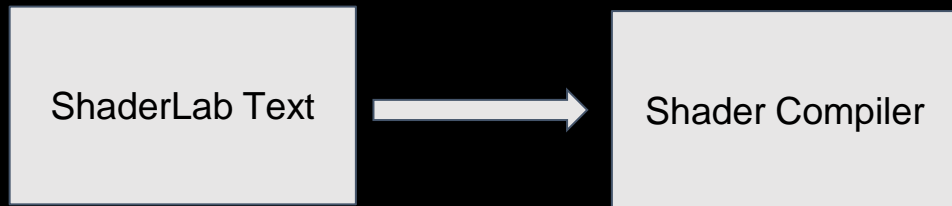
ShaderLab

ShaderLab workflow

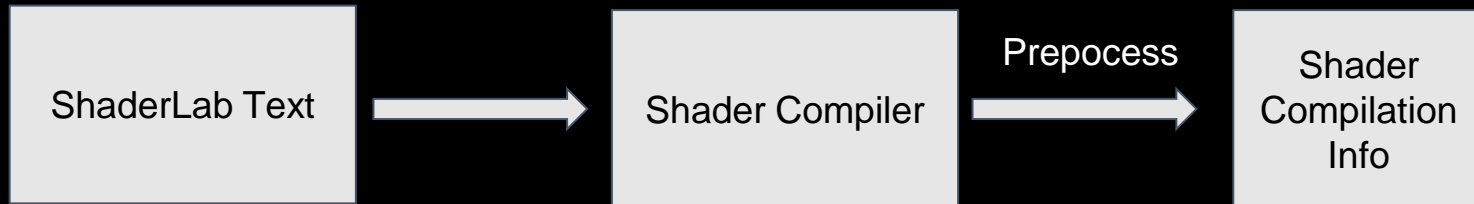
ShaderLab

ShaderLab Text

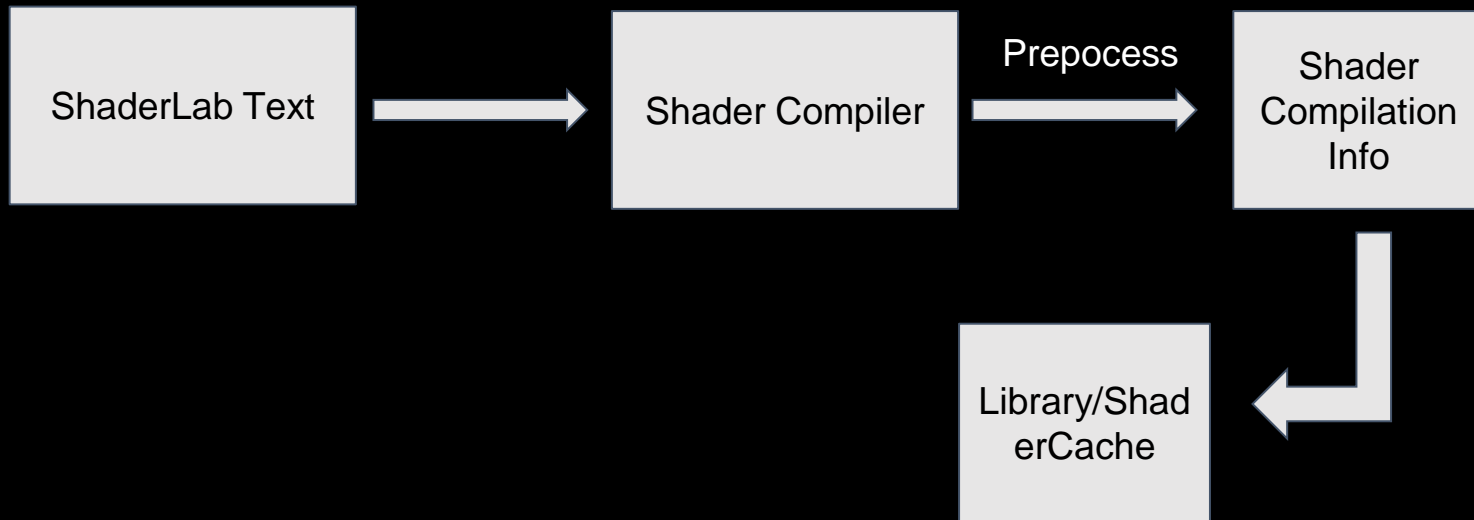
ShaderLab



ShaderLab



ShaderLab

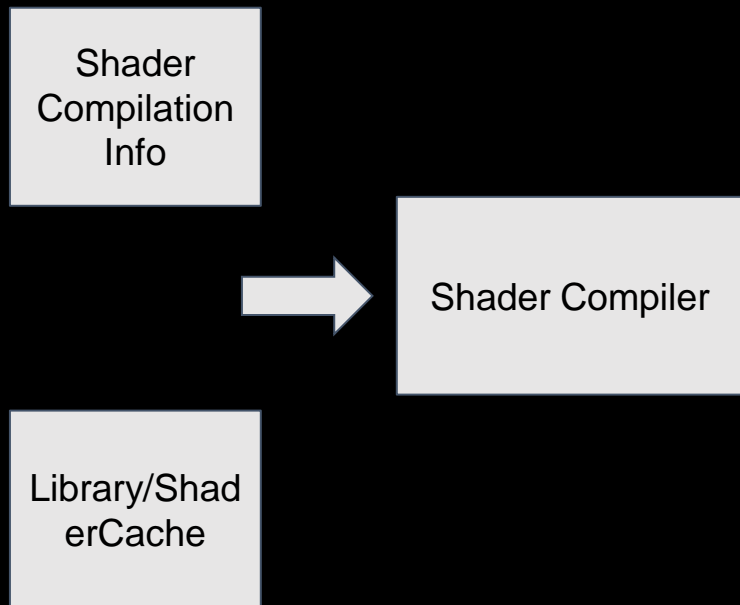


ShaderLab

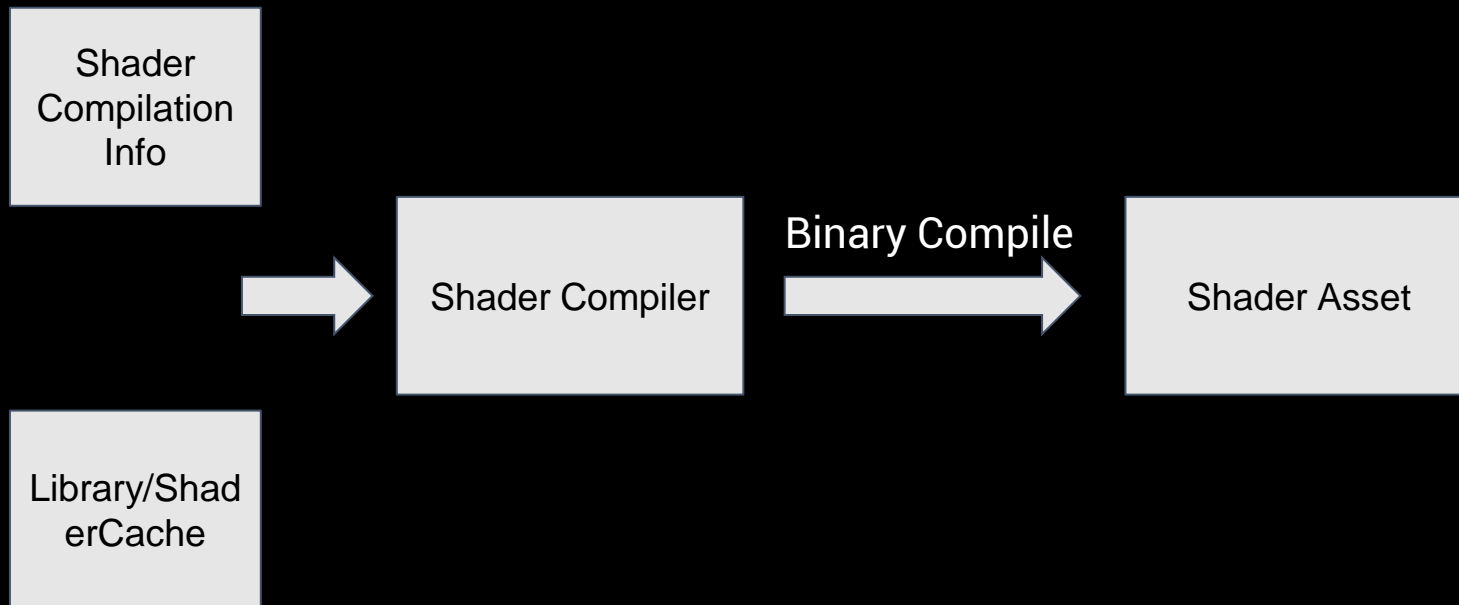
Shader
Compilation
Info

Library/Shad
erCache

ShaderLab



ShaderLab

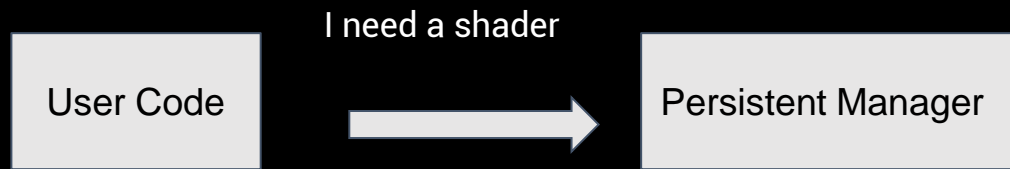


ShaderLab

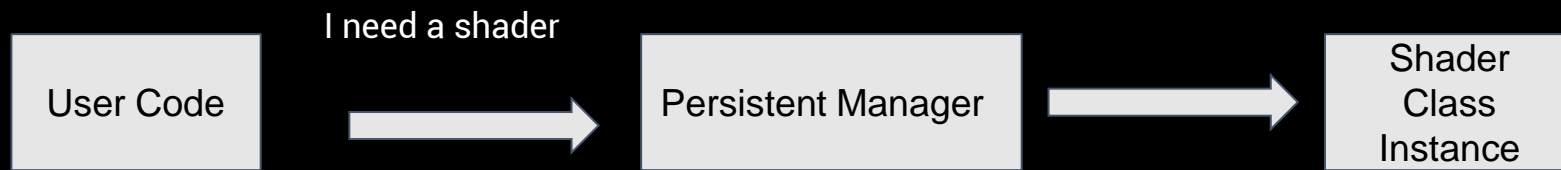
User Code

I need a shader

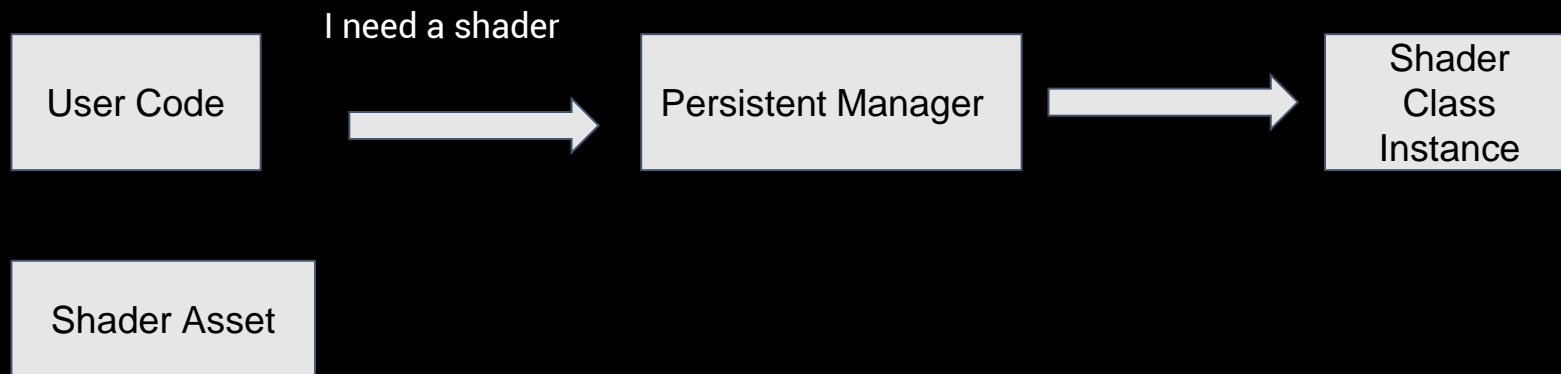
ShaderLab



ShaderLab



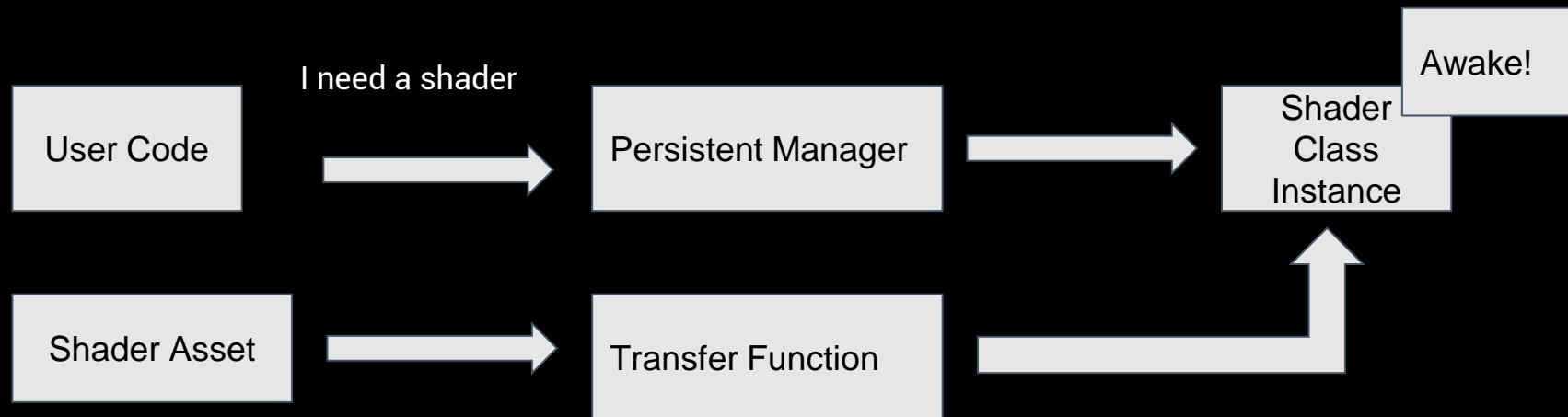
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ShaderLab



ShaderLab



ShaderLab

Warmup
1A

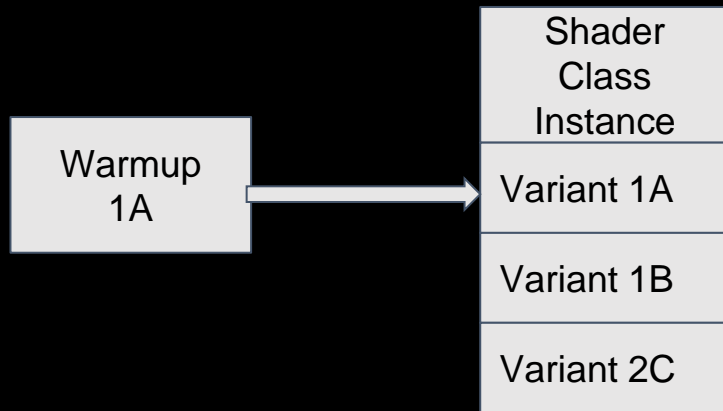
Shader
Class
Instance

Variant 1A

Variant 1B

Variant 2C

ShaderLab



ShaderLab

Warmup
1C

Shader
Class
Instance

Variant 1A

Variant 1B

Variant 2C

ShaderLab

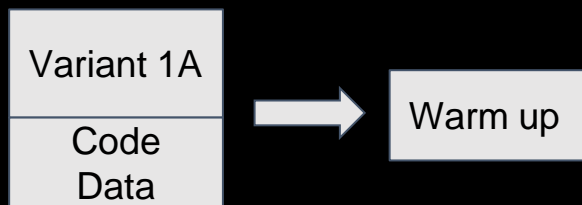
Warmup
1C



?

| |
|-----------------------------|
| Shader Class Instance |
| Variant 1A |
| Variant 1B |
| Variant 2C |

ShaderLab

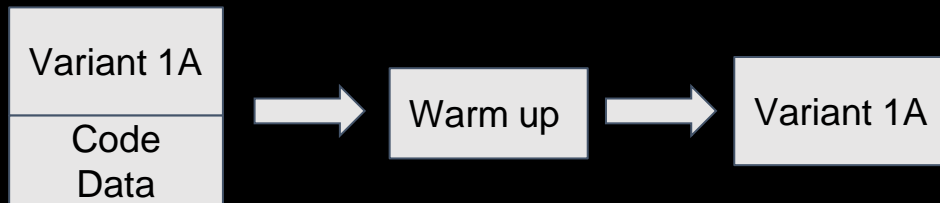


ShaderLab

Variant 1A

Code
Data

ShaderLab



Unity 源码+使用培训
&
Unity 原理培训

The background features a dense, swirling pattern of small, glowing particles in shades of purple, magenta, and teal. These particles are concentrated in the lower and right portions of the frame, creating a sense of movement and depth against the solid black background. The overall effect is reminiscent of a nebula or a microscopic view of a complex material.

THANKS