



VG ENGINE 101

Tutorial



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GameObjects

Include

```
#include "engine/game/gameObject.h"
```

Creation

Example of creating a GameObject named "Foo":

```
GameObject *Foo = new GameObject("Foo");           // Creating GameObject
Scene mScene = new Scene();                         // Creating Scene (if not already created)
mScene->getObjectPool()->addGameObject(test);       // Adding GameObject to the scene
```

See "Components" section on how to add components for your GameObject.

Components

Drawable component

Include

```
#include "engine/game/quadrangleComponent.h"       // For drawable quadrangles
#include "engine/game/triangleComponent.h"          // For drawable triangles
```

Creation

With texture:

```
// Creating quadrangleComponent with the texture "test.png"
QuadrangleComponent *quadre = Game::getInstance()->getFactory()-
>createRenderComponent<QuadrangleComponent>("test.png");
```

```
// Creating triangleComponent with the texture "test.png"
TriangleComponent *triangle = Game::getInstance()->getFactory()-
>createRenderComponent<TriangleComponent>("test.png");
```

Without texture: Coming Soon™

Remember!

If you create drawable component with texture it is loaded from Asset folder set in game project!

Text Component

Include

```
#include "engine/game/textComponent.h"
```

Creation

```
// Creating text component with font & size
```

```
TextComponent* Text = game->getFactory()->create("arial.ttf", 16u);
Text->setText("test"); // Optional: Modify the text
Text->setColour(0, 0, 255); // Optional: Modify the color (numbers between 0 and 255)
MyTextObject->addComponent(Text); // Add textComponent to your GameObject
```

Your Own Components

Example of creating a component called "MyComponent"

MyComponent.h

```
#include <engine/game/component.h> //Include the base header
class MyComponent :public vg::Component //Public to vg::Component
{
public:
    TestComponent();
    ~TestComponent();
};
```

Example of creating a System called "MySystem"

MySystem.h

```
#include "engine/game/system.h"

using namespace vg;
class MySystem : public System
{
    ShipSystem();
    ~ShipSystem();
    void update(
};
```

MySystem.cpp

```

#include "MySystem.h"
#include "engine/game/game.h"

using namespace vg;

MySystem::MySystem() :System()
{
    // Add your own code here
}

void MySystem::update(std::vector<vg::gameObject*> *gameObjects, float deltaTime)
{
    if ((*it)->getName() == "mygameobject")
    {
        // Add your own logic here
    }
}

```

Usage

Example of calling your own component in main.cpp

```

MyComponent *myComponent = new MyComponent();
object->addComponent(myComponent);

MySystem *system = new MySystem(); // Remember to include

```

Sound

Include

```
#include "engine/sound/AudioManager.h"
```

Creation

```
vg::sound::Sound* testSound = new vg::sound::Sound("shoot.mp3"); // Creating a new sound
```

Usage

```
Game::getInstance()->getAudioManager()->addSound(*testSound); // Playing the made sound object
```

Custom Shader

Creation

Place the shader source files to "ProjectFolder/assets/shaders".

Usage

```
Game::getInstance()->getGraphics()->switchShader("vertex.glsl", "fragment.glsl");
```

Input

Include

```
#include "engine/input/input.h"
```

Usage

```
vg::input::Input::getTouchX();           // Get X position  
vg::input::Input::getTouchY();           // Get Y position  
vg::input::Input::getSensorX();           // Get accelerometers X position  
vg::input::Input::getSensorY();           // Get accelerometers Y position  
vg::input::Input::getIsTouchReleased();  // Check if touch is ended
```