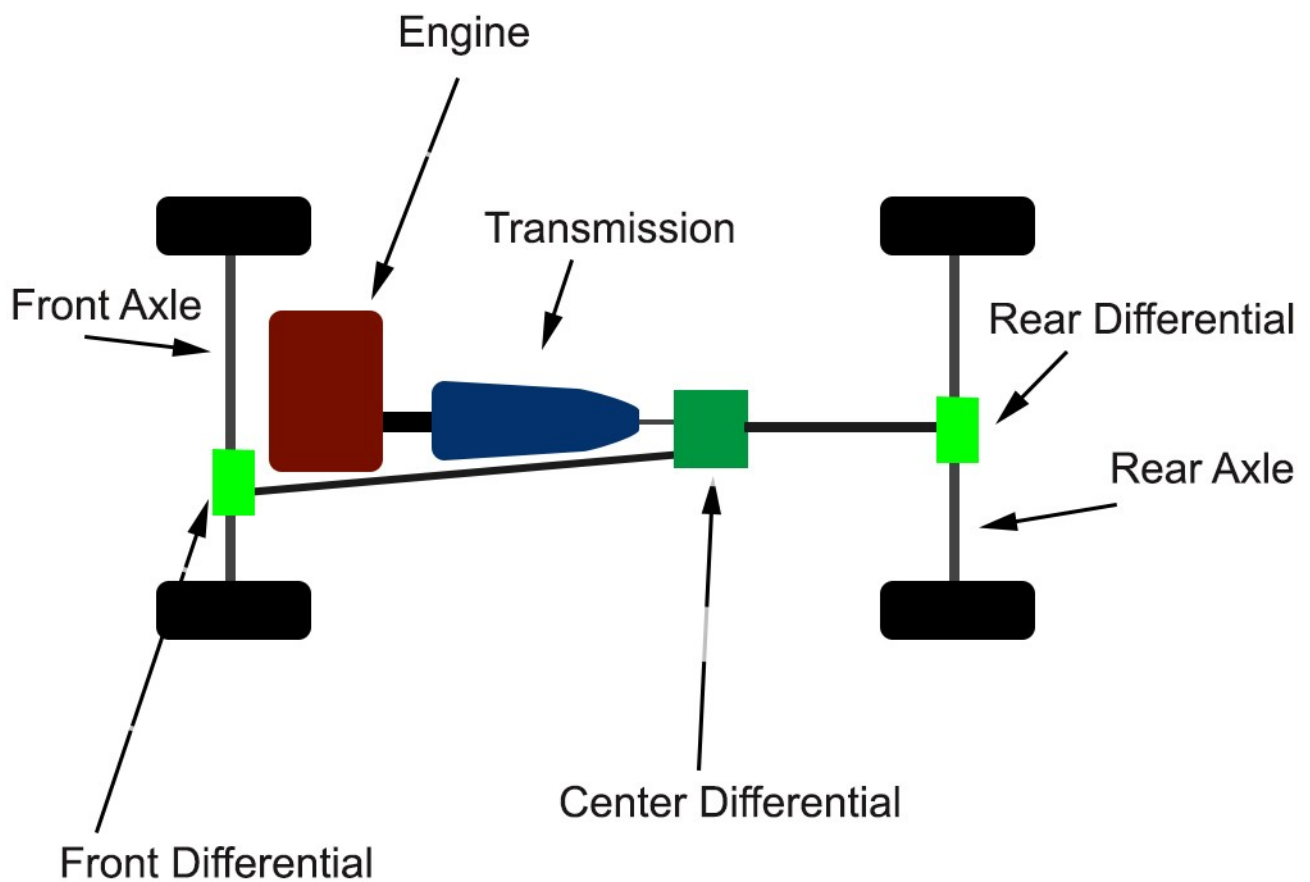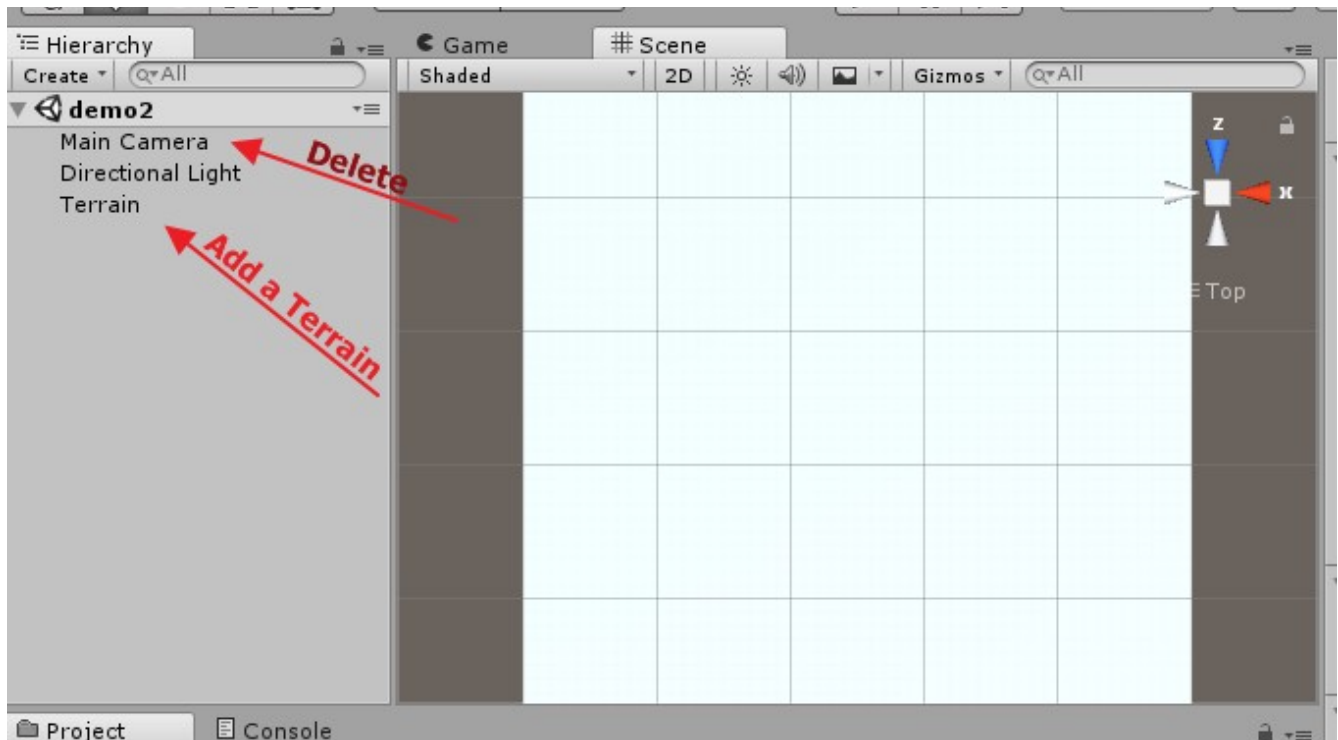<div align="center">Car Components</div>

How To Build A Car:

To build a car GameObject using the "Car Components" Asset, you can use a one of the car prefabs from the *CarComponents\Prefabs\Cars* folder. Or you can start collecting the car components as in the following example.
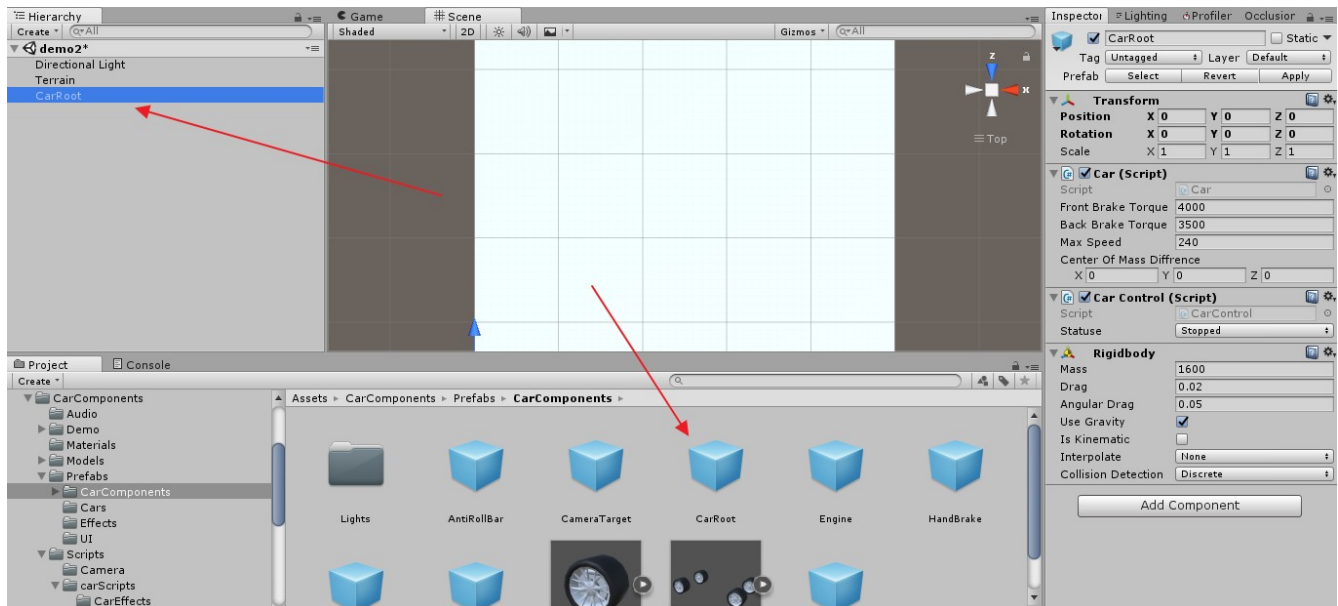
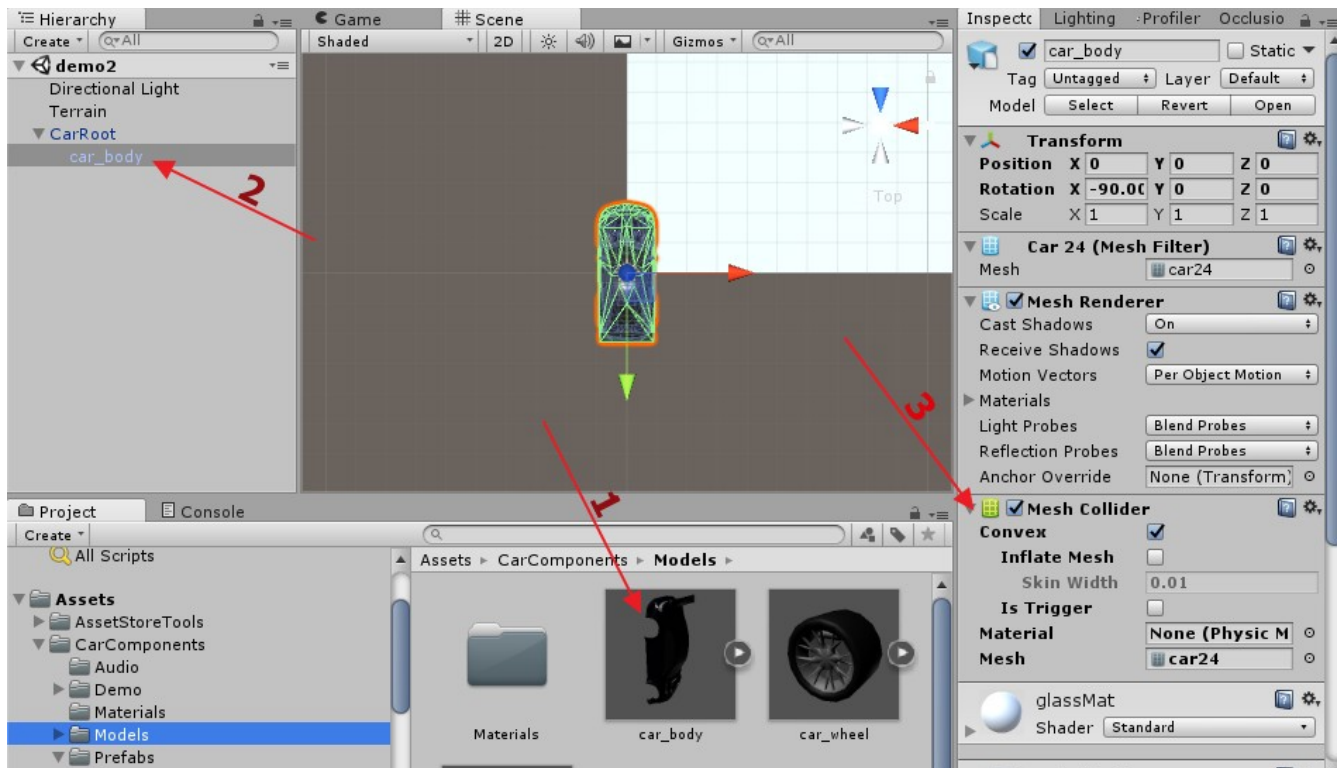1. Its better "at least for me" to start with new Scene.

Illustration 1
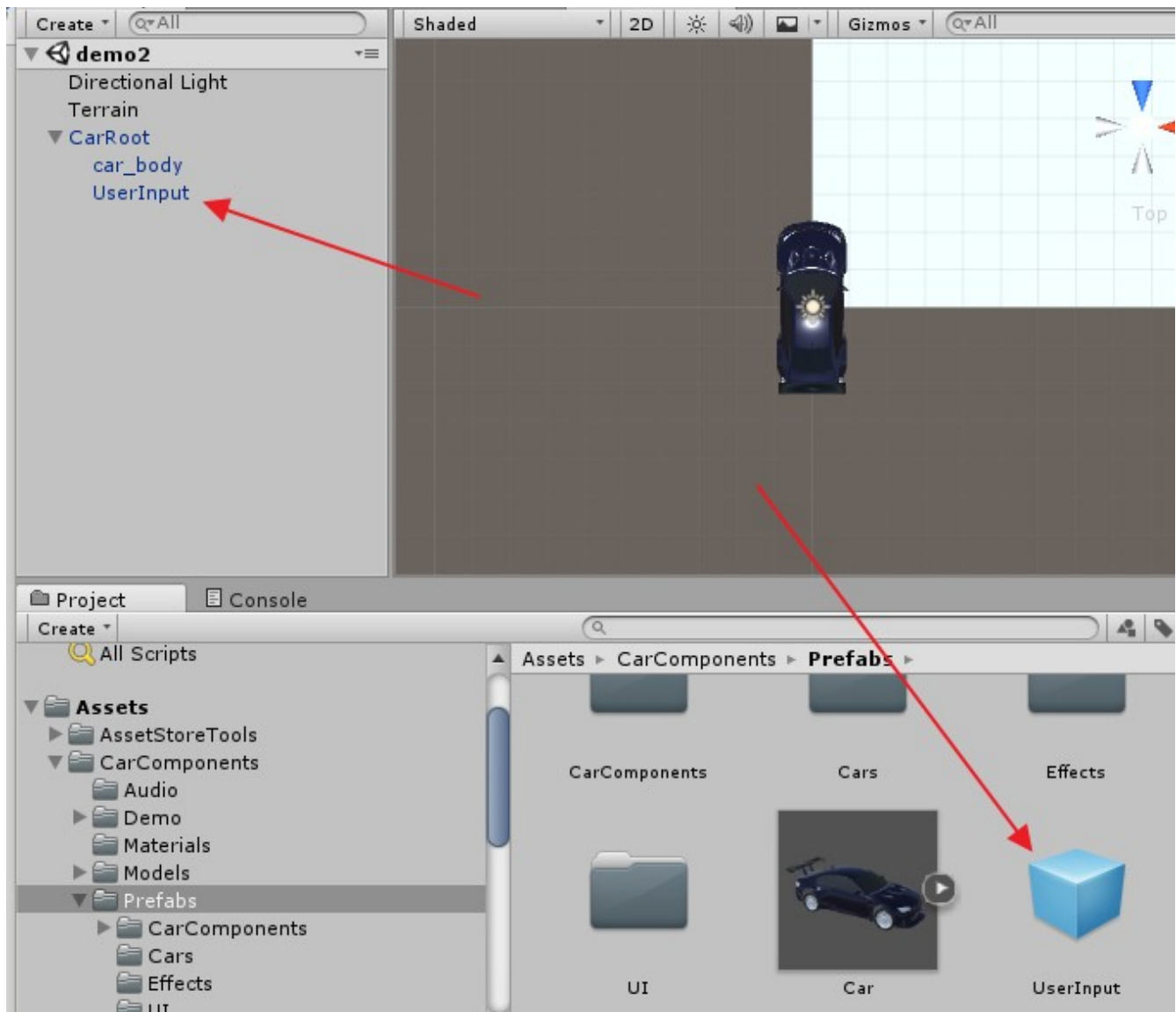
Delete the Main Camera , and add a new Terrain.

Illustration 2

2. Drag the "Car Root" prefab from *CarComponents\Prefabs\CarComponents* to the Scene.

Illustration 3

3. Drag your car body model into the CarRoot game object, and add a Mesh Collider Component to it. Make the Mesh Collider Convex. And Make sure that the Local Position of the car body is at zero.

Illustration 4

4. If You want the Player to control this car, add the "UserInput" prefab to the CarRoot game object. Which it reads the user inputs and send them to the CarControl.

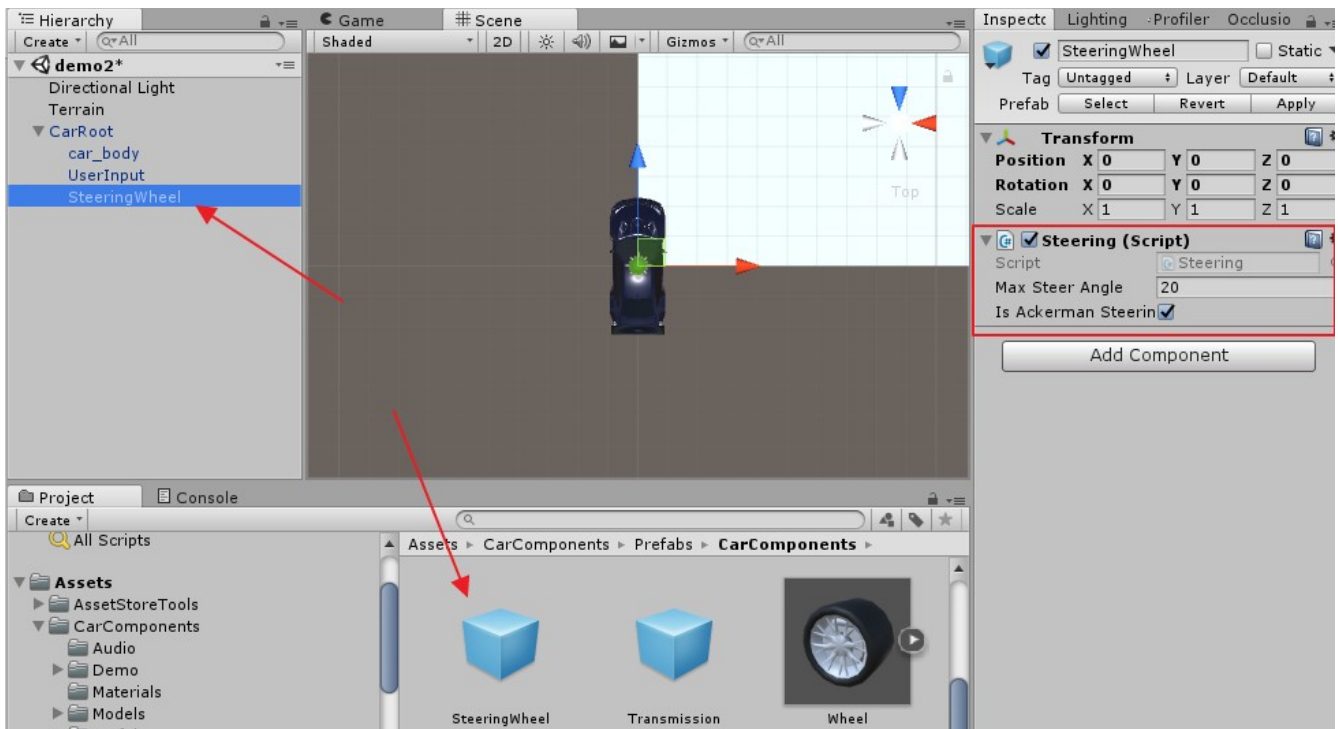The arrows for car acceleration, braking and turning right & left. And the "ctrl" button for Handbrake.

Illustration 5

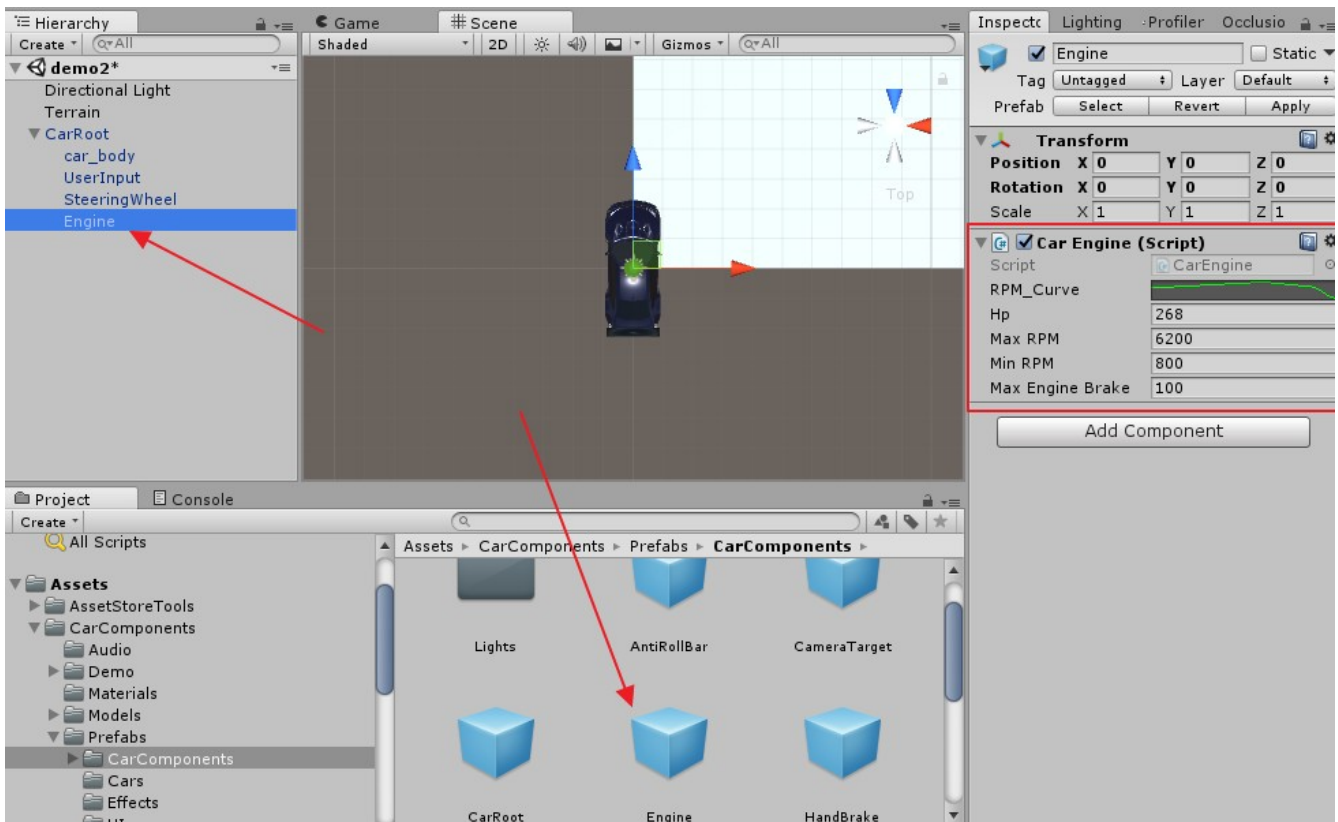5. Add a Steering Wheel.

6. Add an Engine.

Illustration 6

If the Engine HP =0 the Script will read the Engine Torque From the RPM_Curve. Or easier you could give the Engine a HP value and the Script will calculate the Torque for its current rpm.

7. One of the Most important Components is the Transmission. Add the Transmission Prefab to the Car Root, define its Gears Ratio Curve and the Differential ration value.
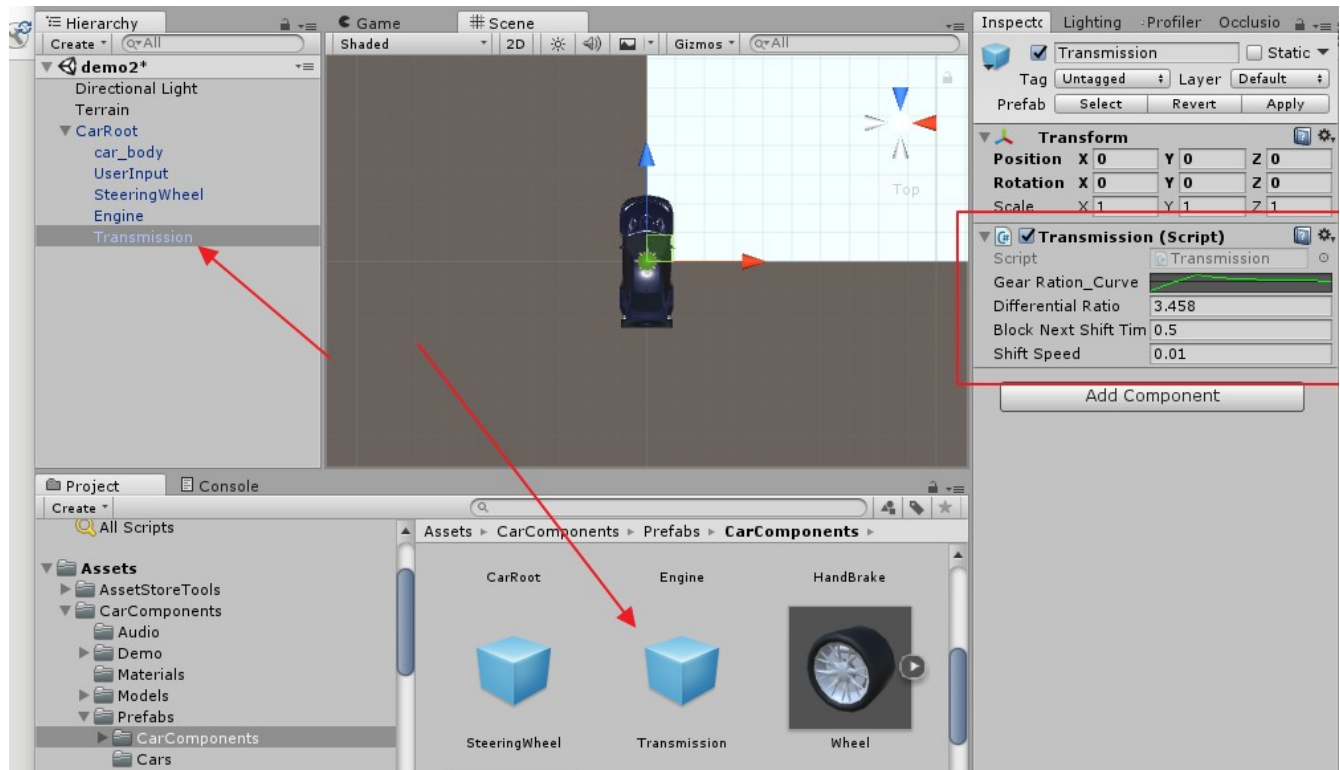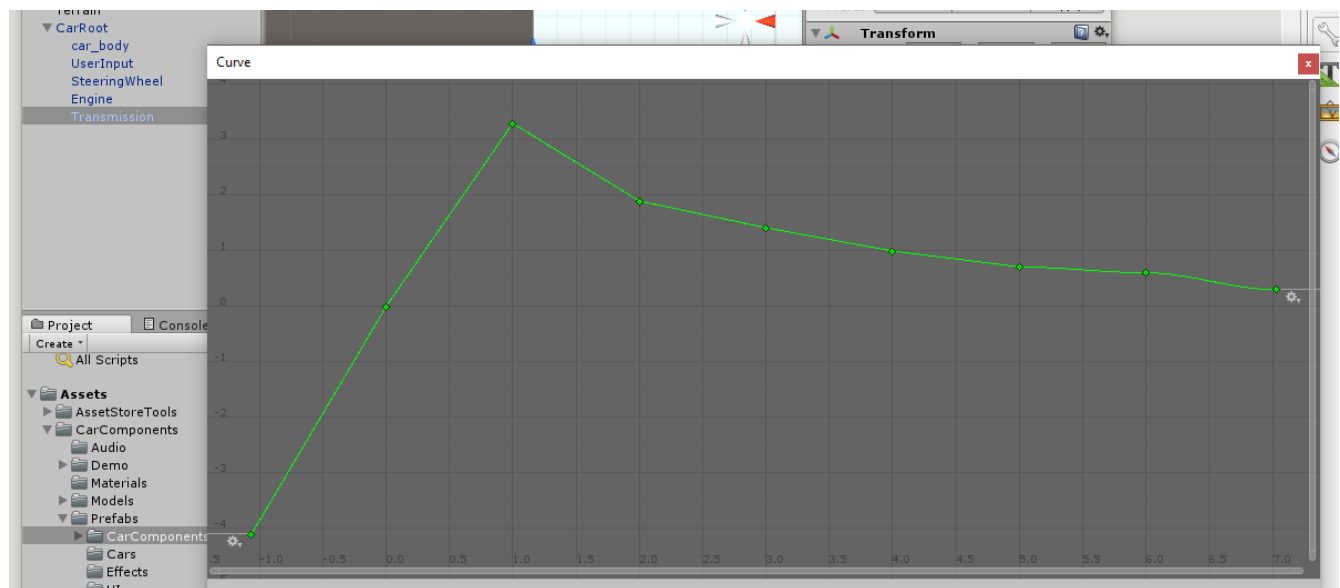

Illustration 7

Illustration 7b
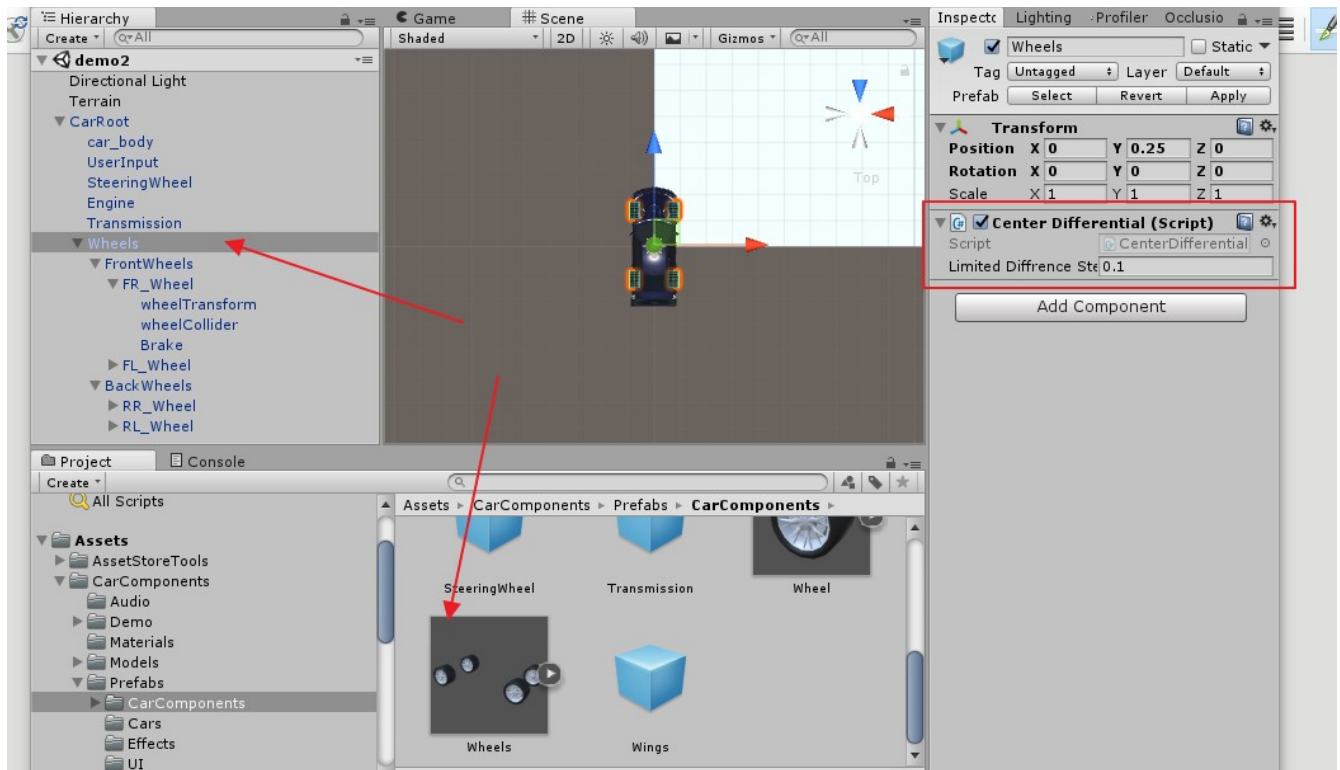
8. Add the Wheels Component.

Illustration 8

The Wheel Component has a Center Differential, which distribute the Torque between the front and rear wheel axles.
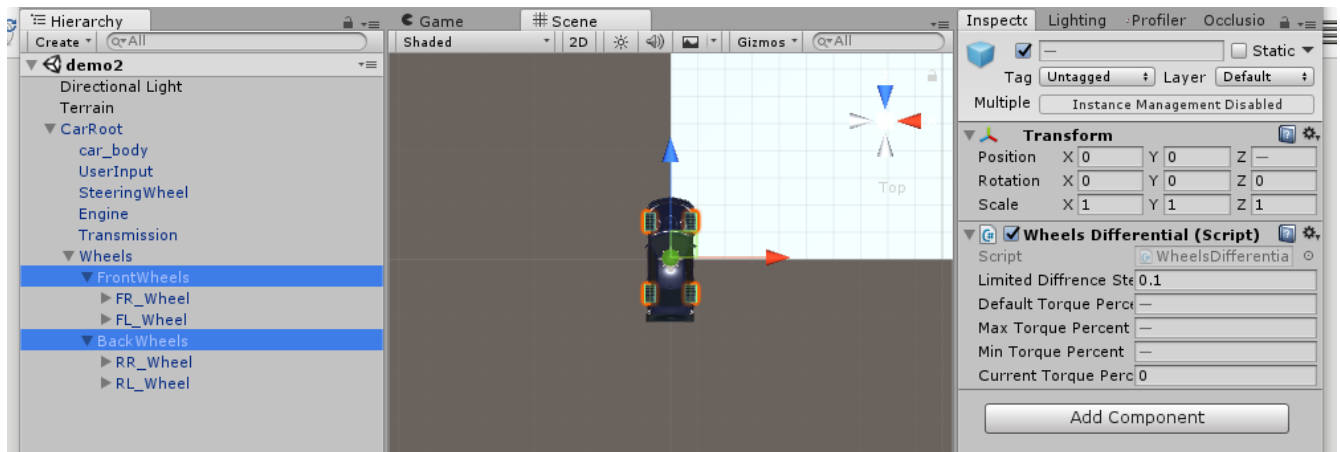

Illustration 8b

To make the Car for example a FWD, select the FrontWheels game object and change the "Default Torque Percent" and "Max & Min Torque Percent" to 1, and in the BackWheels game object, change those values to 0. By default the car is a AWD with Limited Differential.

To make the Differential a non-limited, change the "Limited Difference Step" in the "Wheels", "FrontWheels" and "BackWheels" to 0.

9. Your car should be drivable now, but to make it more realistic and more fun to drive, add the following Prefabs to the car root game object: "HandBrake", "AntiRollBar" & "Wings"
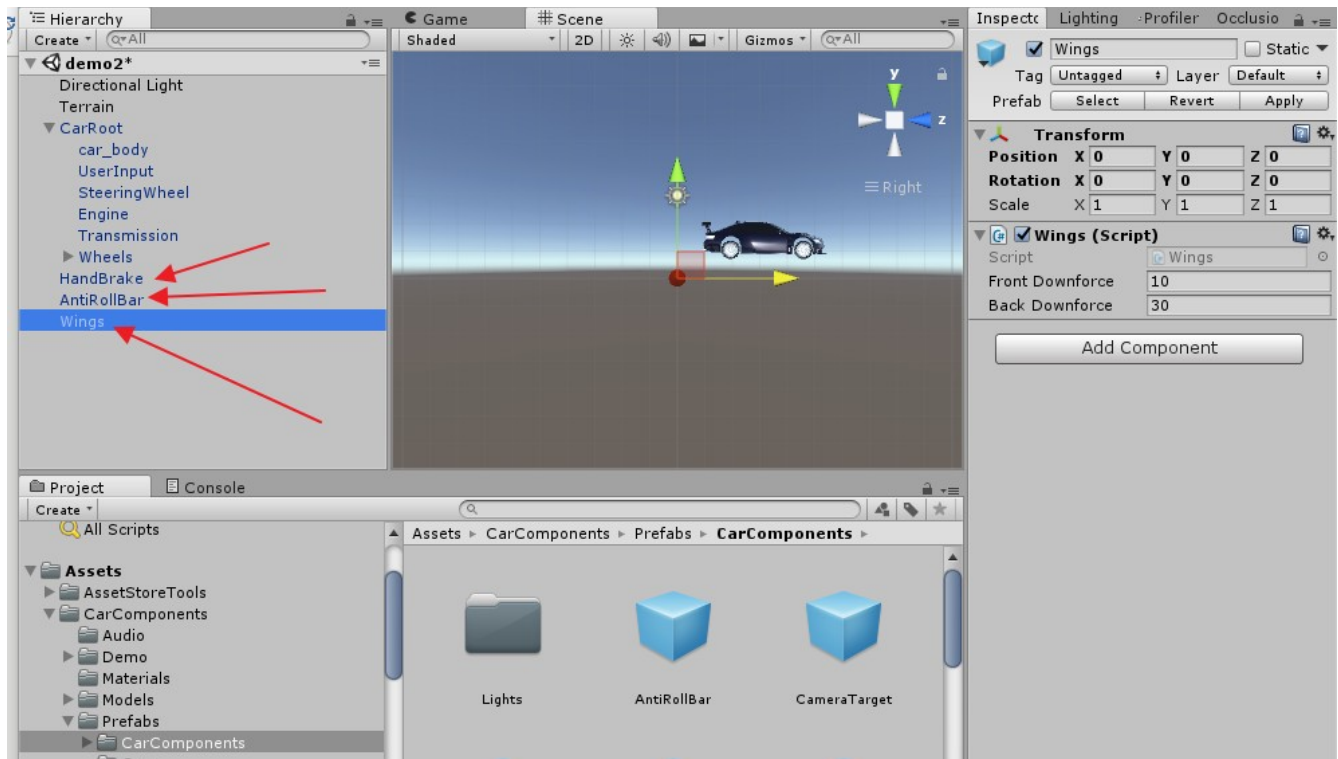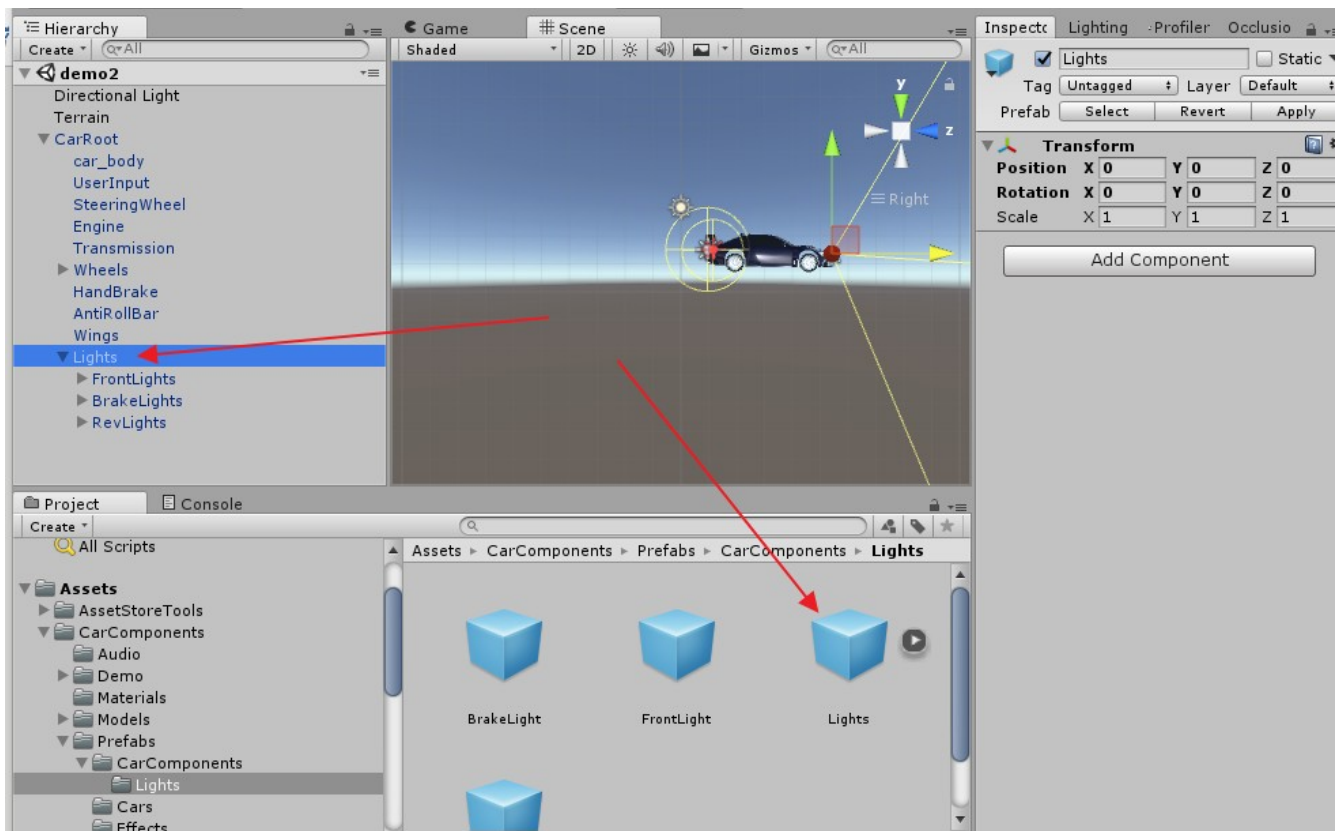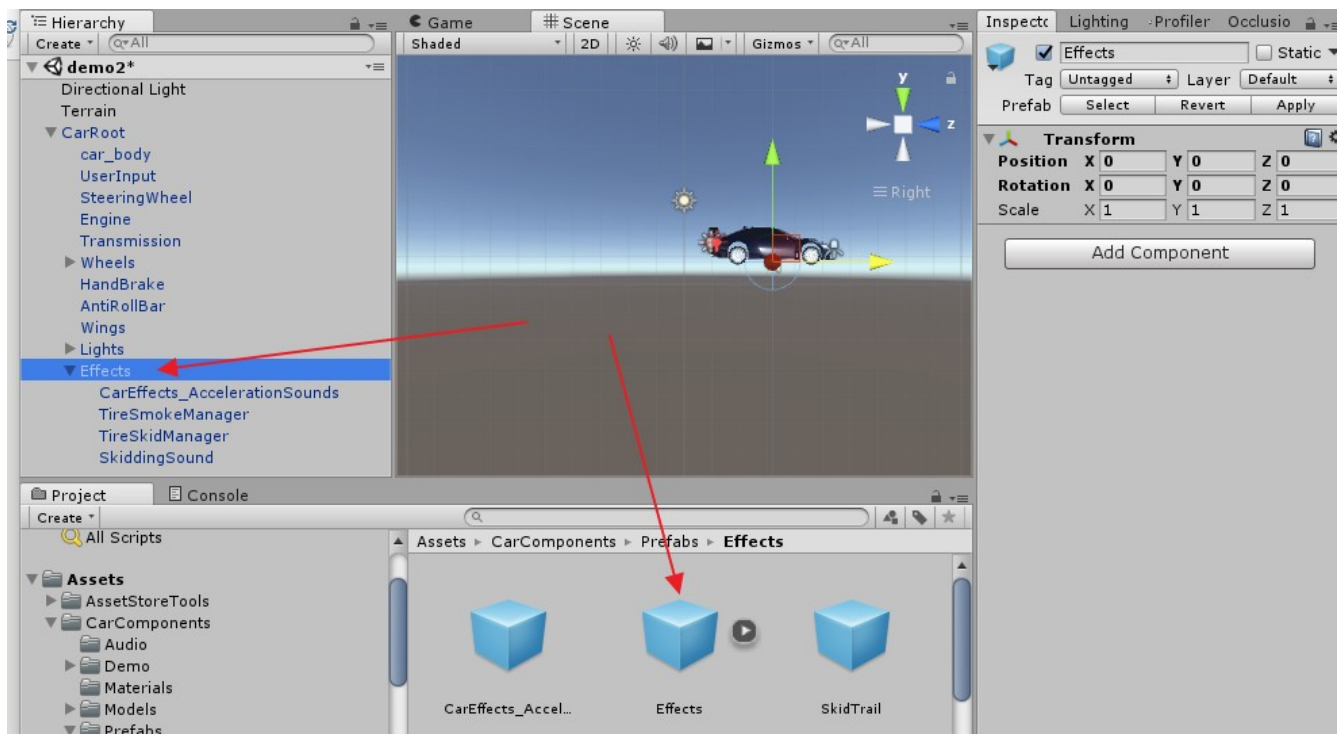

Illustration 9

Illustration 10

10. Add the Lights Prefab and Adjust the lights Positions.

11. To add the car sounds and smoke effects add the "Effects" Prefab.

Illustration 11

12. Now to add a Camera to the Scene that follows the car, Add the Camera Prefab outside the CarRoot.
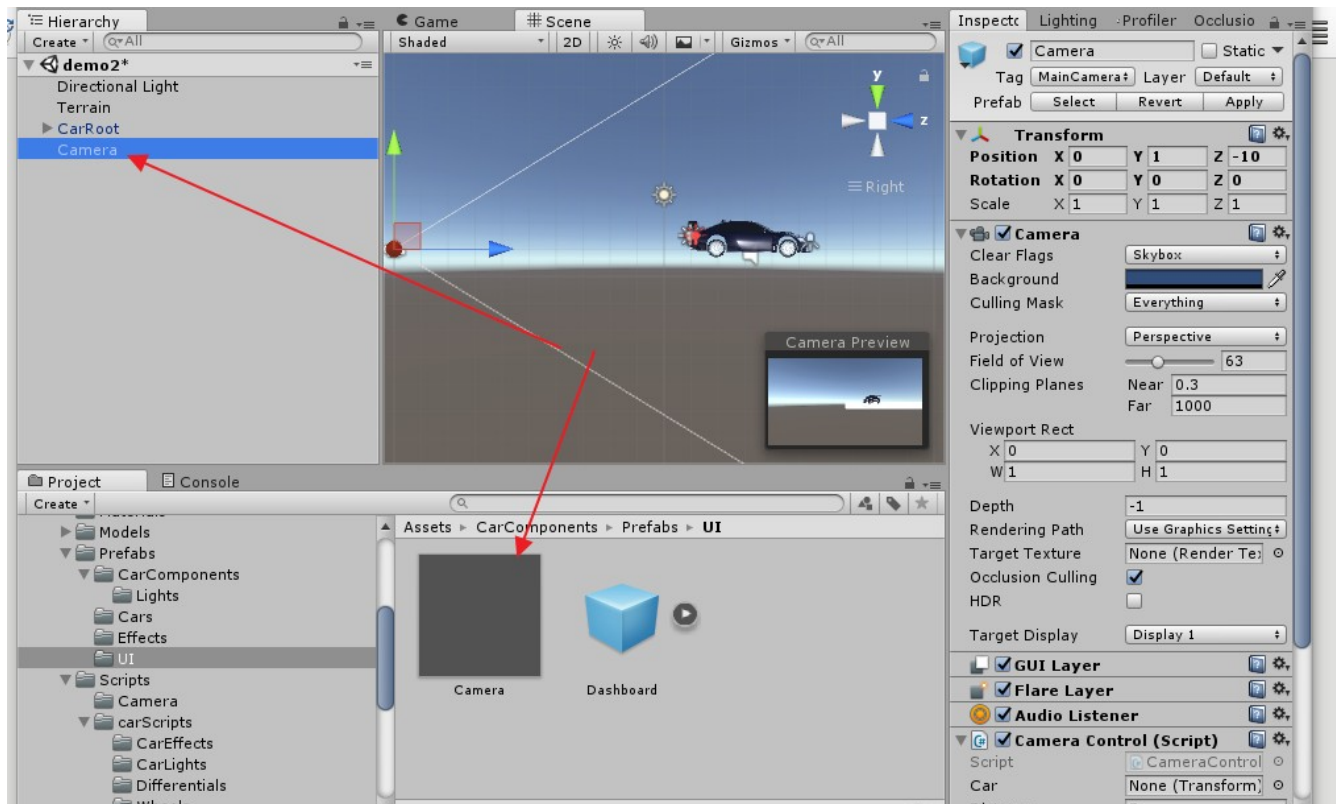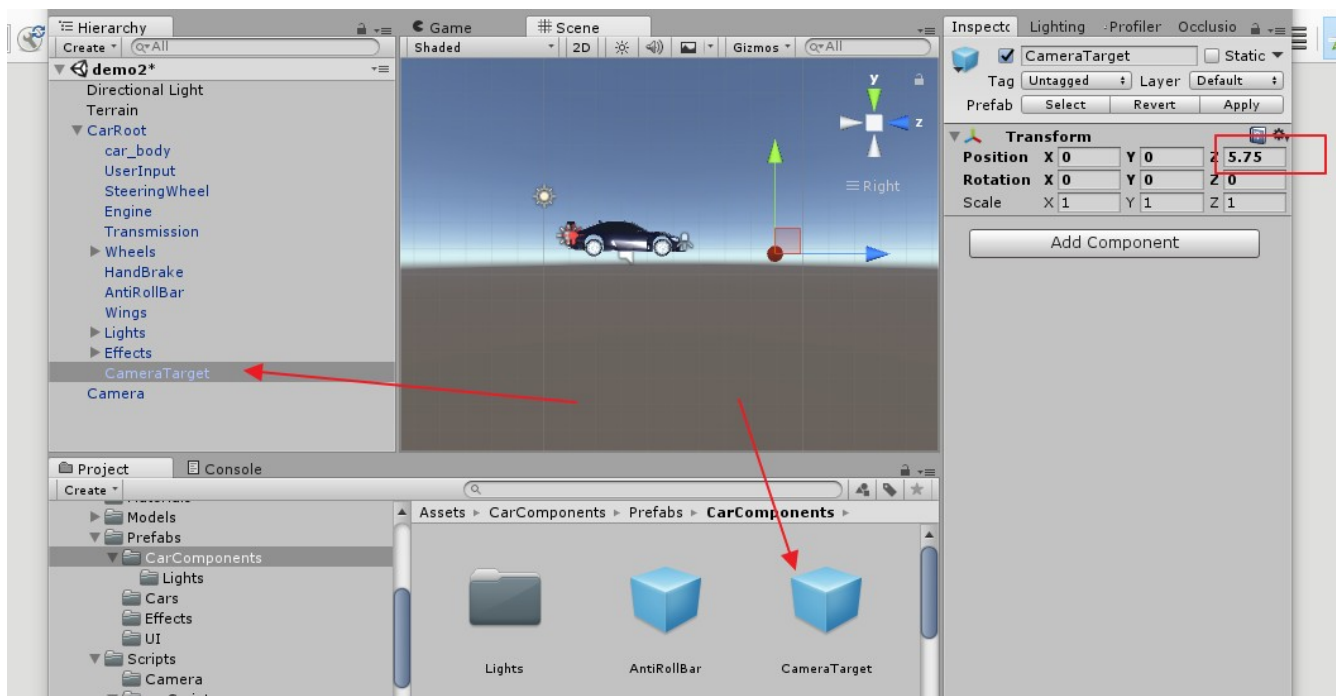

Illustration 12

Illustration 12b

And add "CameraTarget" prefab to the car root, which is a point in front of the car for the camera to look at.

13. To have a Dashboard that shows the car's info, add the "Dashboard" prefab to the Scene.
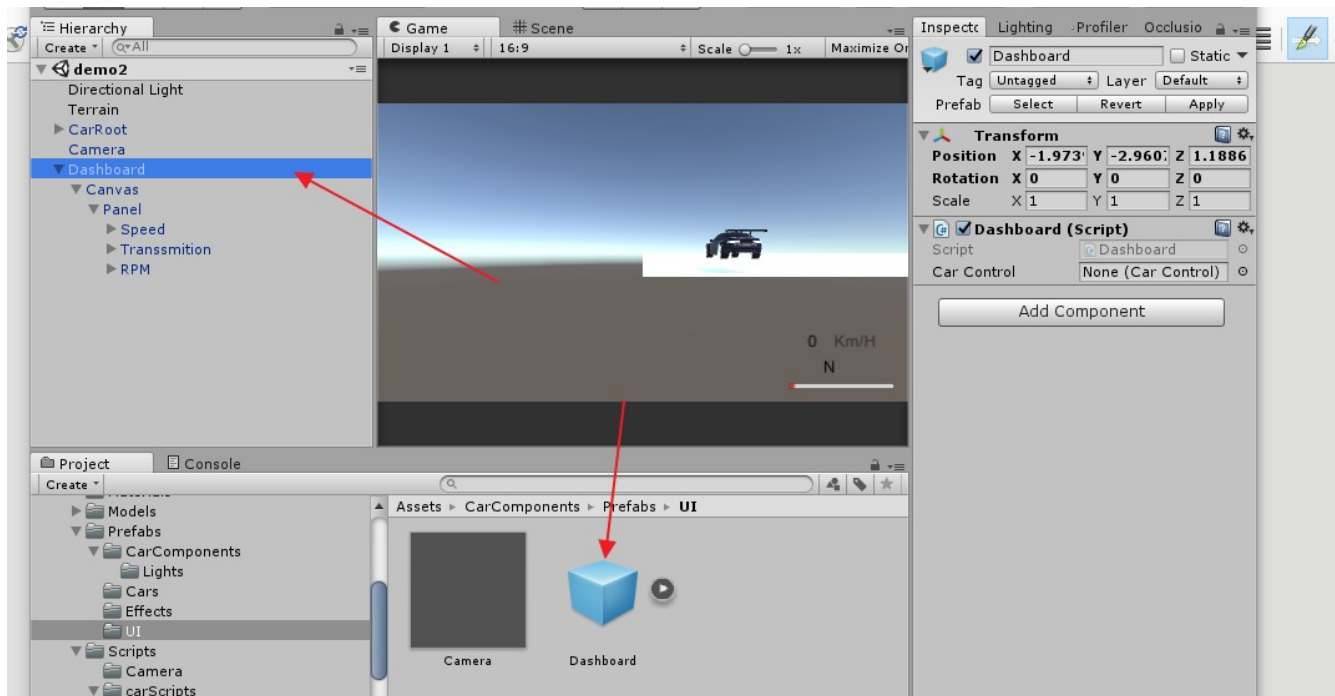

Illustration 13

14. Finally you can save your new car game object in a new prefab, And start the Scene and enjoy driving it.
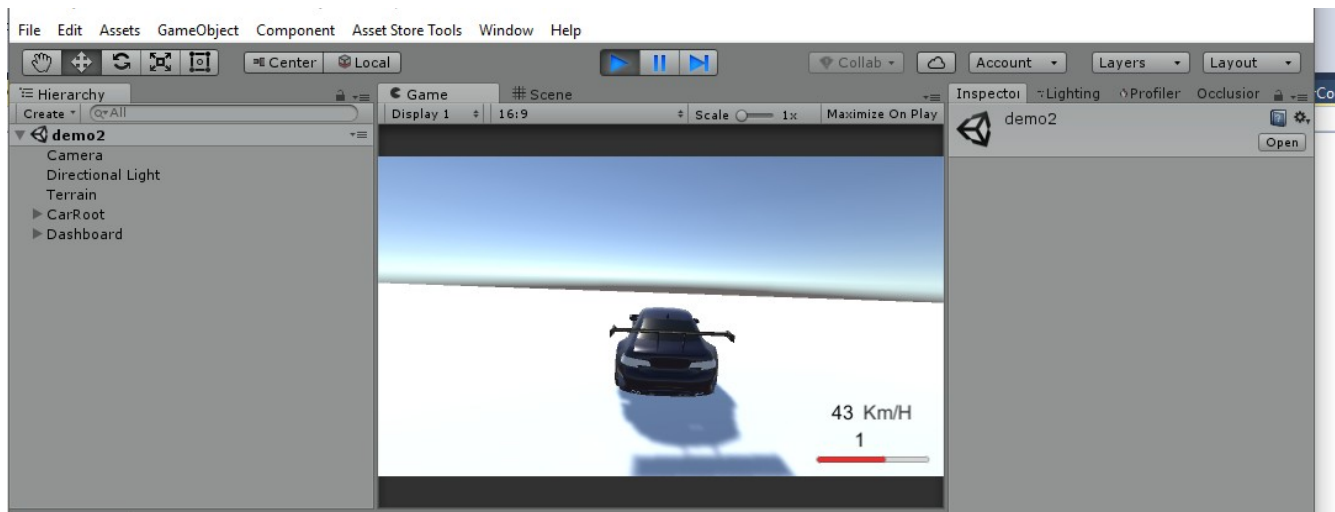

Illustration 14

Please do not hesitate to contact me if you have any further questions at my email:
ashraf82de@yahoo.de