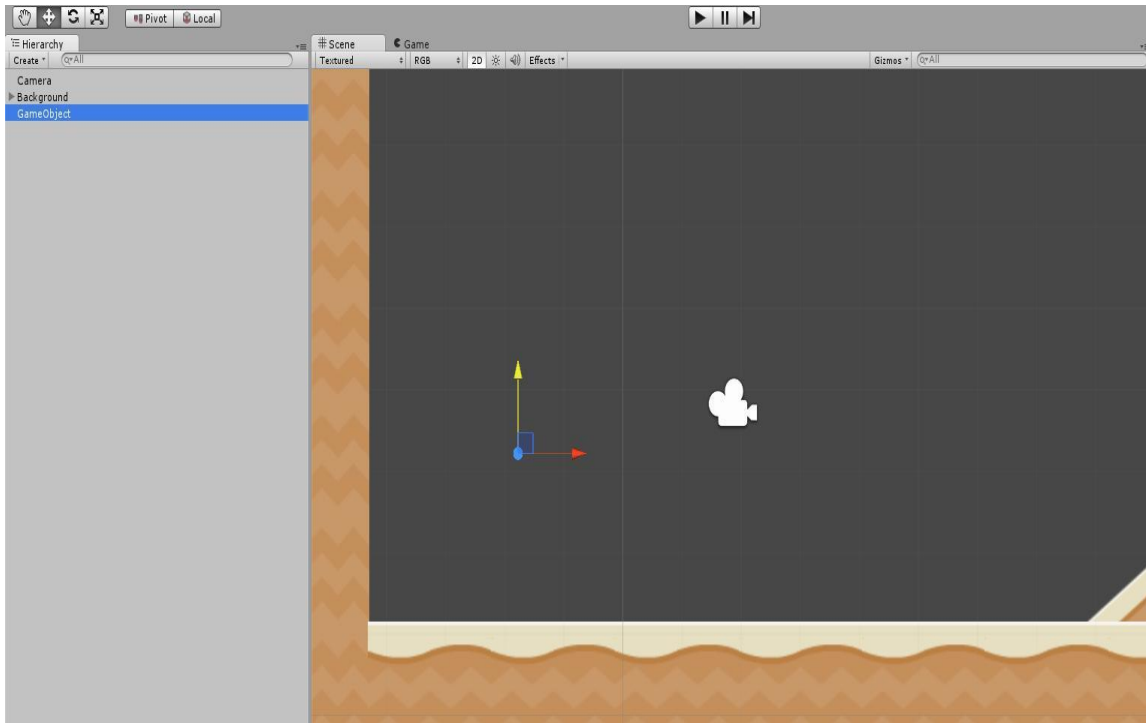


# **2D Vehicle Control Tutorial**

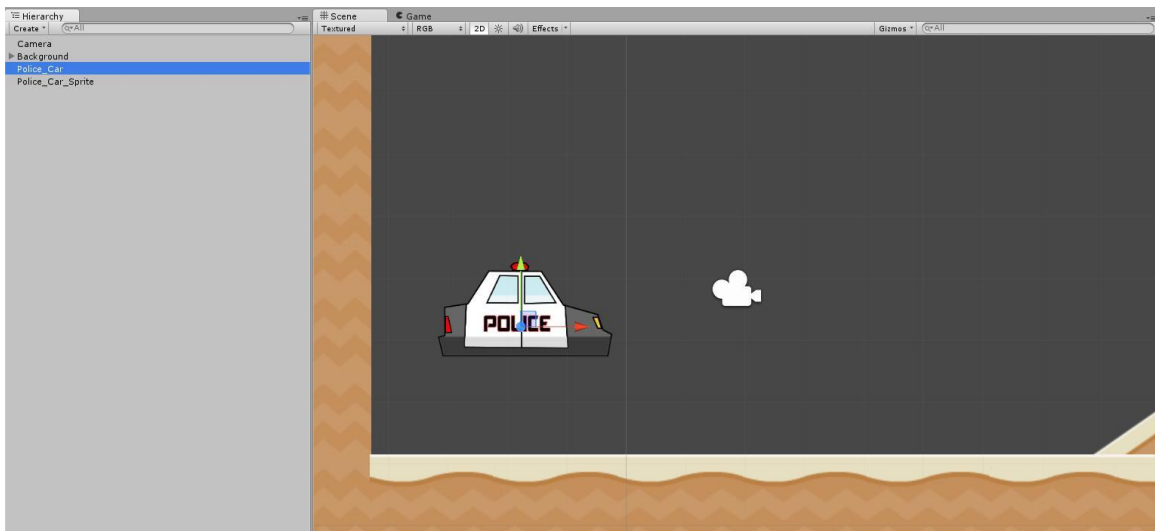
**Dream Games**

## Instructions

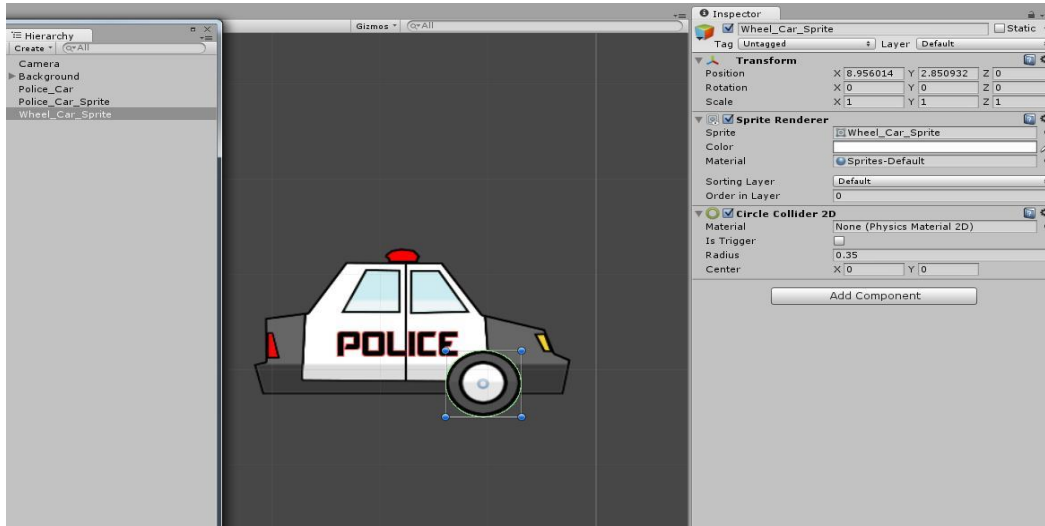
- When you have your project open, first add a new Layer called Vehicle (You can name it whatever you want. Car, bike, etc.)
- Create an empty object and rename it to an appropriate name. Example: Police\_Car



- Place your sprite body car in the scene and center it to the empty game object created.



- Add a collider(s) to the body of the car and adjust them if is necessary.
- Put your front wheel sprite in the editor and move it to the appropriate place of the car.
- Add a CircleCollider2D to the wheel and adjust if is necessary.



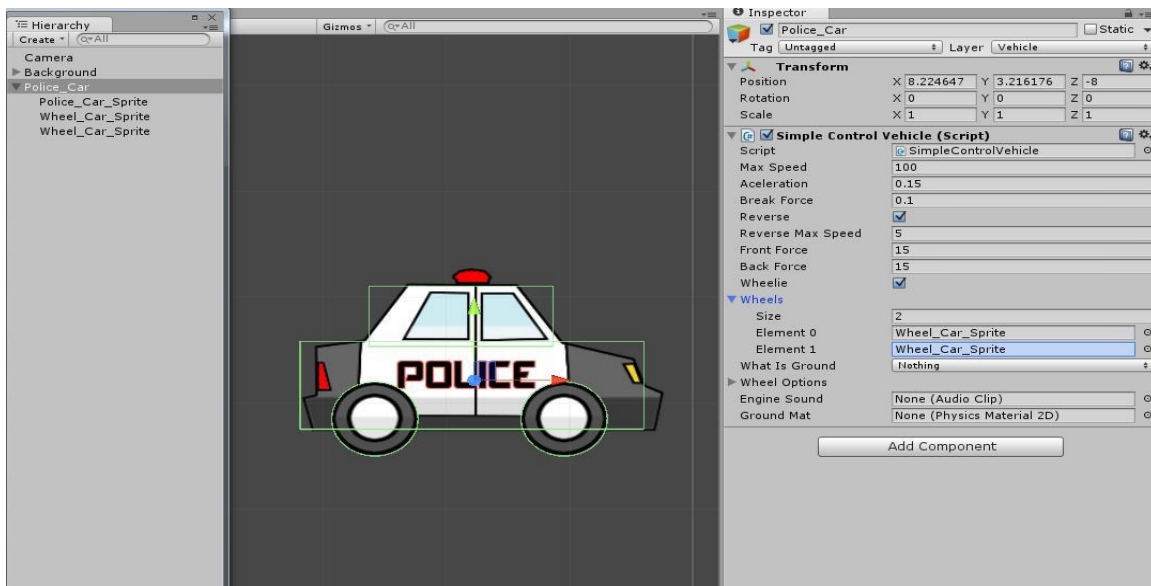
- Duplicate the wheel and move it to the proper place of the back wheel. If you need more wheels just be sure that have a CircleCollider2D.
- Now select the body and the wheels of the car and put inside the empty gameObject (Police\_Car)



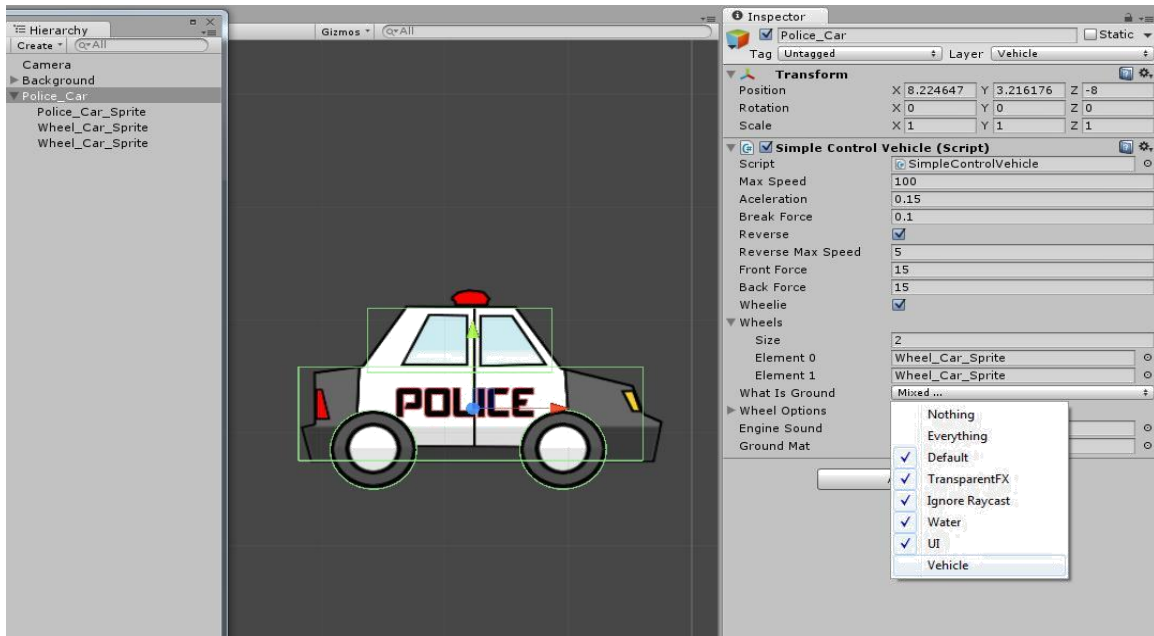
- Select the Police\_Car object and set the layer option to Vehicle. (If unity ask if you want to change children. Select yes, change children.)
- Add the script SimpleControlVehicle to the Police\_Car.

\*If the game is for mobile devices, add the MobileControl script to the Police\_Car too, then, drag and drop the buttons with the 2DColliders added.

- In the script (SimpleControlVehicle), on the wheels option size, write the number of wheels that your vehicle has.
- Drag and drop the wheels from the Hierarchy to the array wheels on the script.

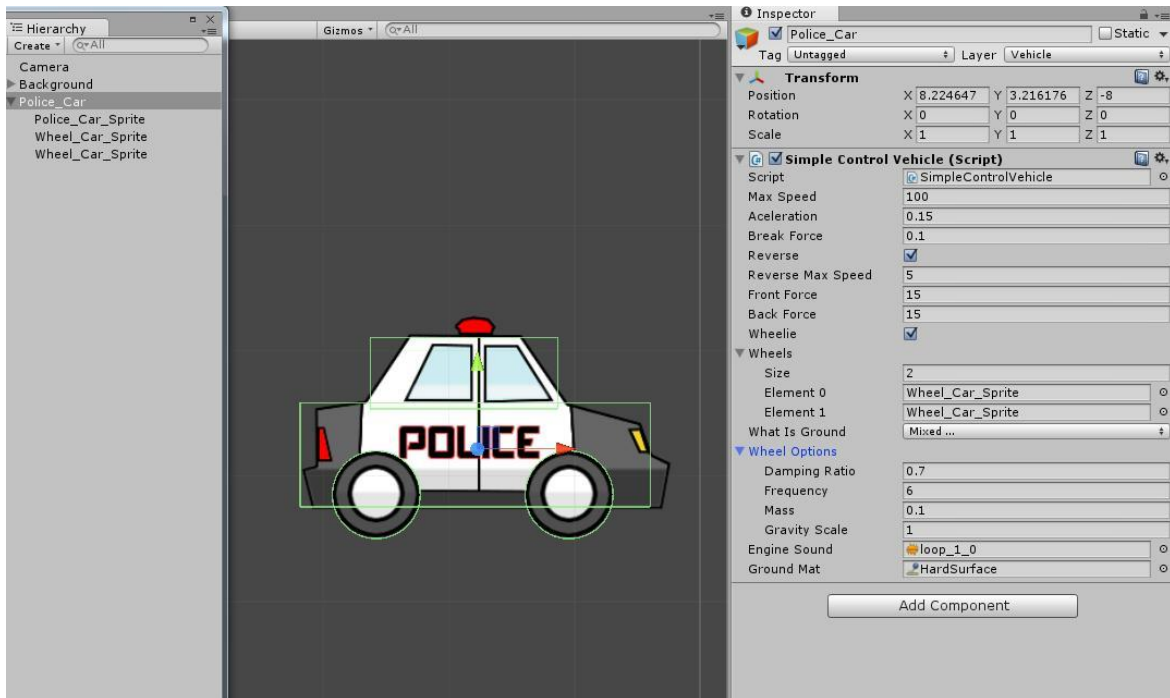


- On the option What Is Ground from the script select all the layers that supposed to be ground. (DO NOT SELECT THE VEHICLE LAYER).



- Select an audio clip for the engine on the Engine Sound option in the script.
- In the Ground Mat option put a physics material that come with the asset “Hard Surface”.  
(If you want an ice effect on the ground or other surface. Create a physics material 2d with different values.)

The final result look like this:



Note: If you want to change mass, gravity scale, etc. Add a Rigidbody2D to the parent and the wheels that you want to add a modified Rigidbody2D

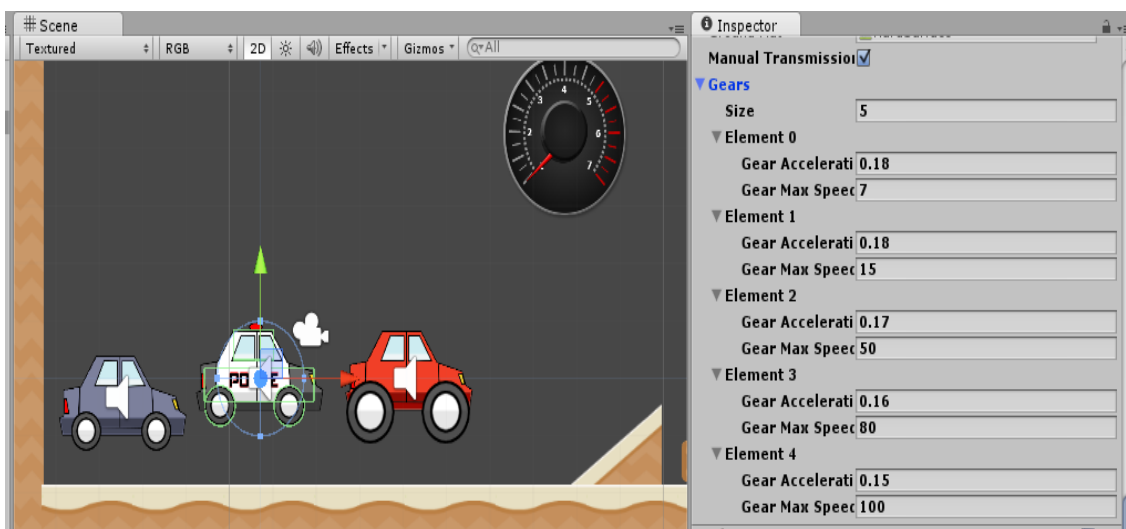
If you want to change the controls. Use the input manager from unity, change the horizontal and vertical controls.

### Manual Transmission

If you want a manual transmission on your vehicle check the manual transmission option on the simple vehicle script.

Write the number of gears that will have your transmission on the size field of the gears option.

Write the max acceleration and maximum speed of each gear. Element 0 in the example will be the gear 1, Element 1 will be the gear 2, etc.



Note: The maxSpeed and acceleration options of the Vehicle Script will be replaced for the values of the actual gear when the manual transmission is enabled.

If you have any questions or comments, send us an email at [dreamgamessr@gmail.com](mailto:dreamgamessr@gmail.com).