

easy **Power Lines** editor

Version 1.1.1

Introduction

This tool helps you to create power lines. Now you don't need to use 3ds max or blender to create wire. Wires will be generated easily in the unity editor. Also, it uses LOD technique to have a faster rendering process, it is effective in huge scenes.

This asset contains some examples that you can use in your project. You can use your own models too.

Quick Access

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 - Connecting two power poles
 - Custom connection (Service line)



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- **PowerLinesRenderer Component**

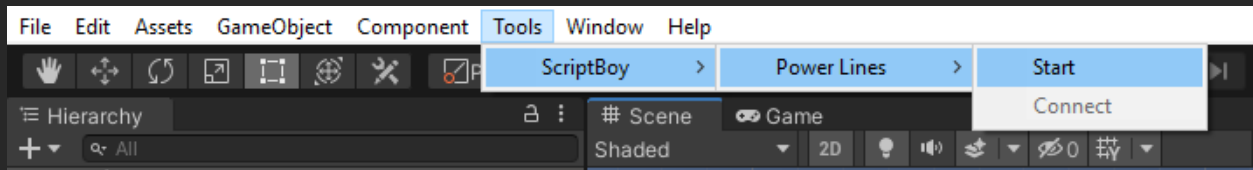
- **LOD Technique**

- **Enable Anti-Aliasing**

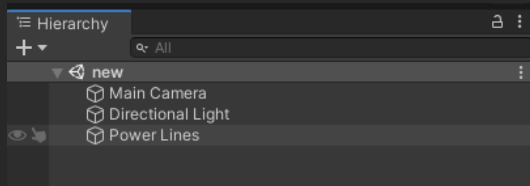
- **Rules**

PowerLines Component

Go to **Tools > ScriptBoy > PowerLines > Start**



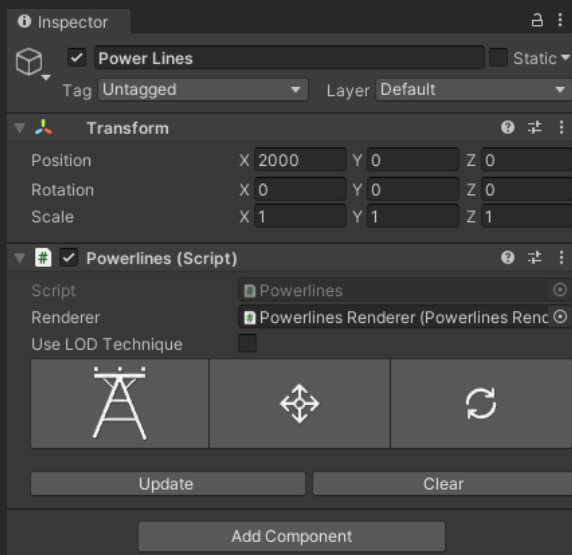
Now you have a new GameObject with **PowerLines Component**.



You need a ground to plant on it. Make sure it has **Collider Component**.

You can select **GameObject > 3D Object > Plane** or **GameObject > 3D Object > Terrain**

Click on Power Lines GameObject.



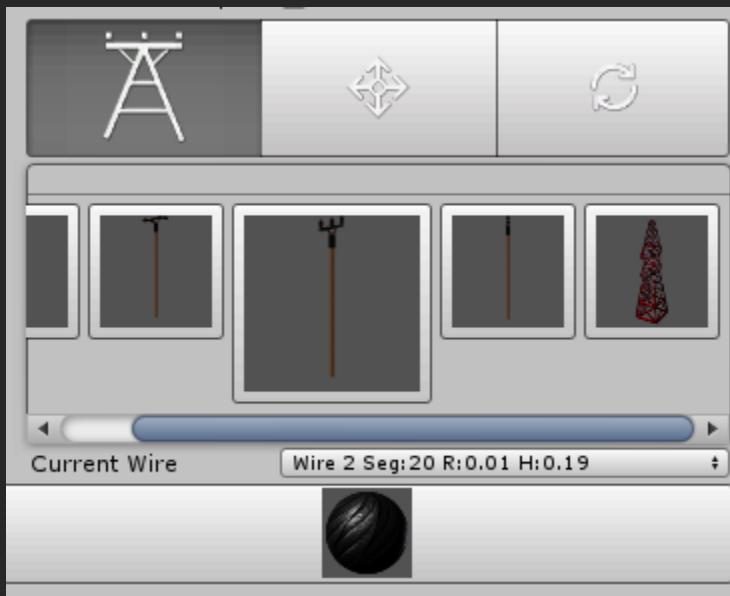
We have three tabs in **PowerLines Component** :

1. Main Tool
2. Move Tool
3. Rotate Tool

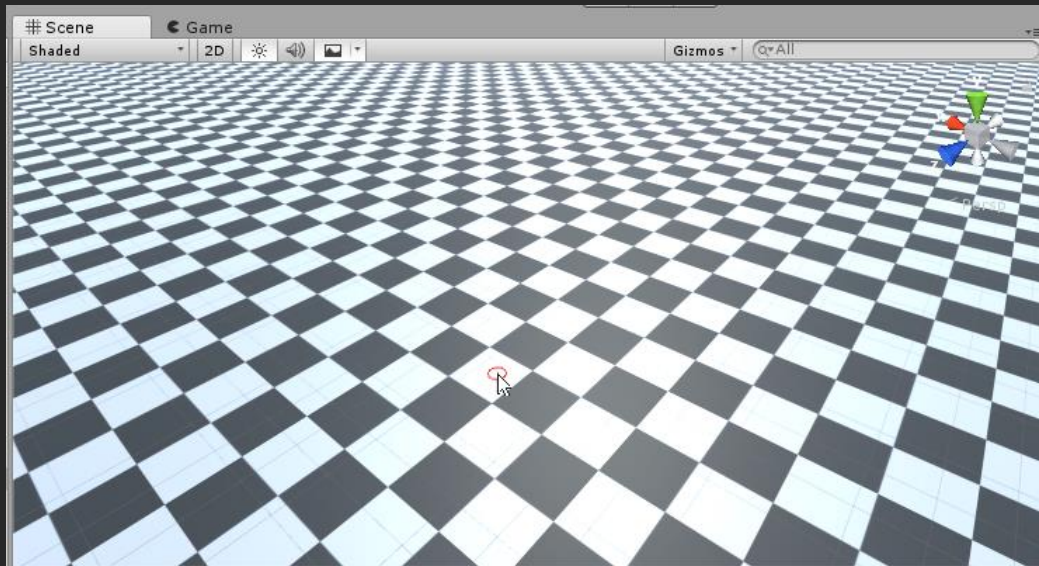
Click on first one.



Main Tool



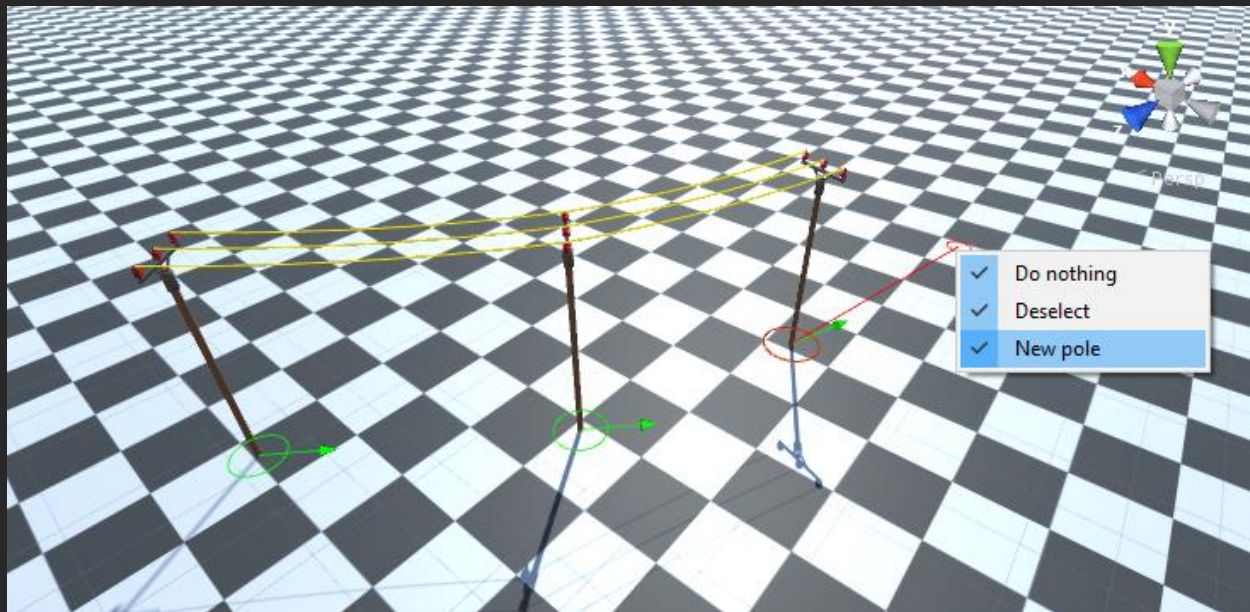
You have a list of power poles and wires. Do your selections and go to **Scene View**.



Left click and select New Pole.



We created a power pole, to create more power poles just repeat this action. The new power pole will be connected to the last selected power pole.

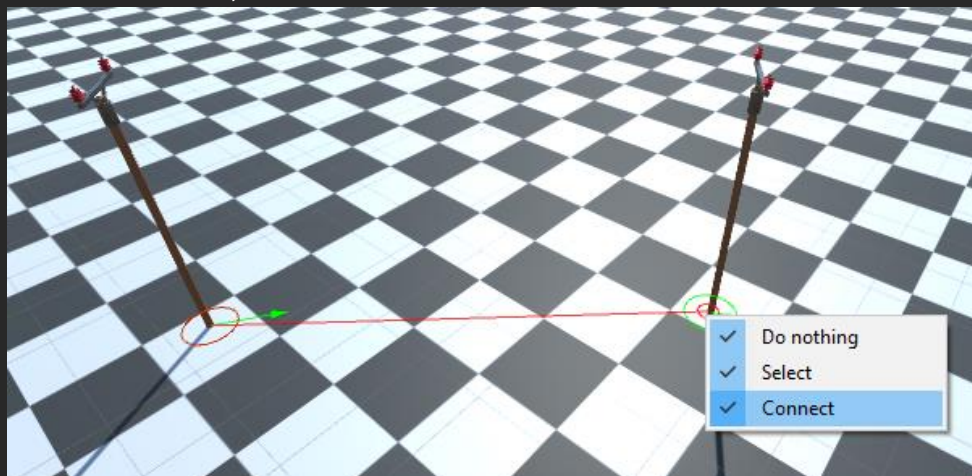


Power Pole handle selection

All power poles have a circle **green** handle. The **red** handle shows that it is selected. You can select or deselect by clicking on the circle handle.

Connecting two power poles

Select one of them, then left click on the next one and choose Connect.



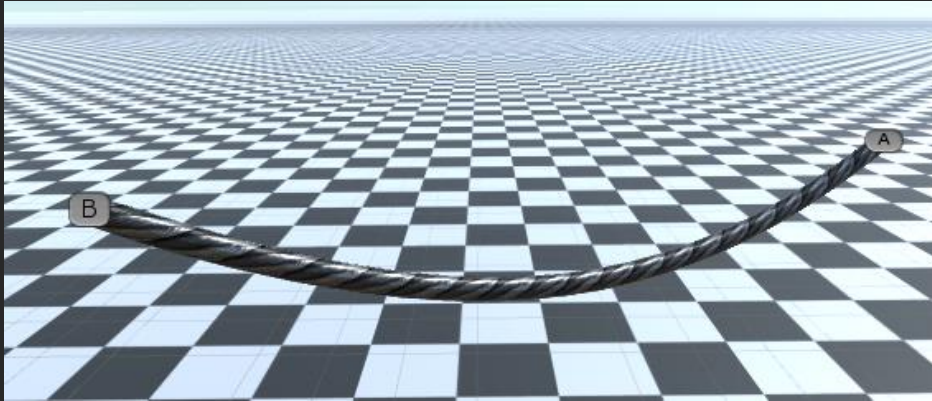
Custom connection (Service line)

In default you can only make connections between power poles.

There are 2 ways to create a custom connection.

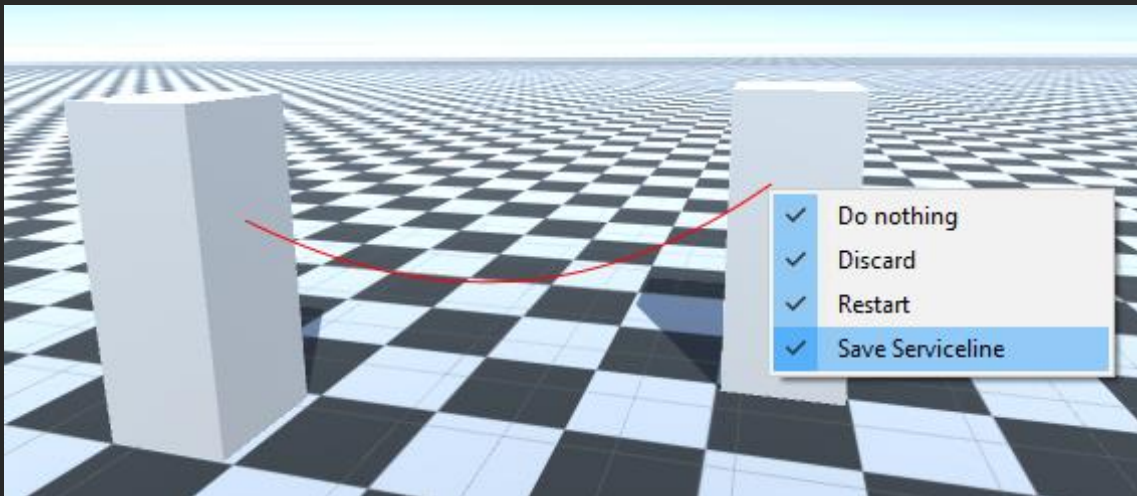
A:

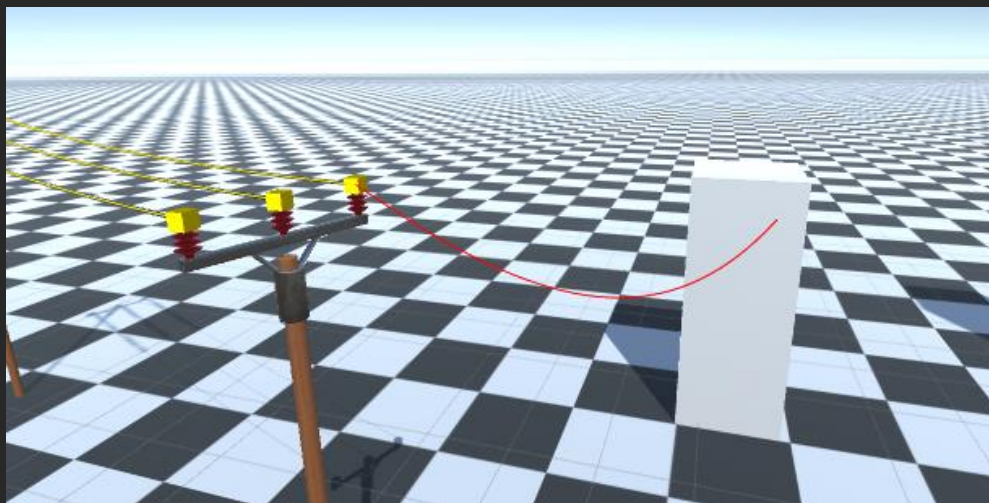
Select two GameObjects and then go to **Tools > ScriptBoy > PowerLines > Connect**



B:

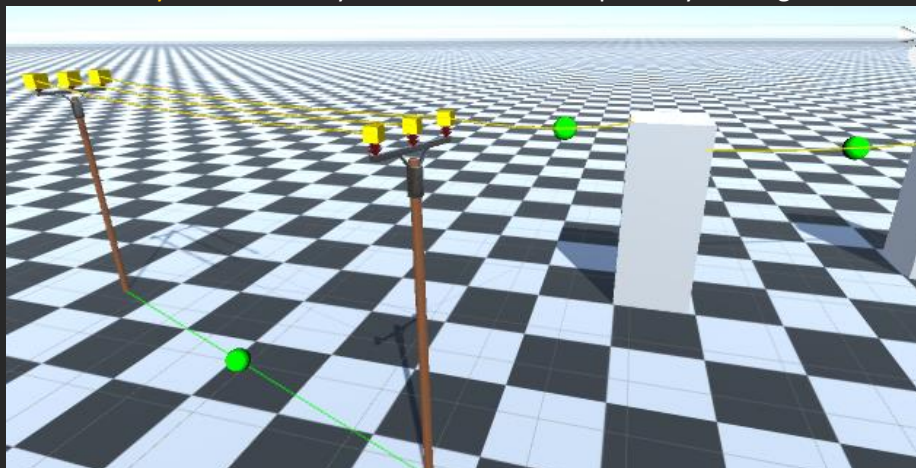
Go to the Main Tool tab, then Hold the shift button. Now if you left click on any surface, your Service line creation will be started. First point you click is the start point. If you click again you have 4 options, you can save this service line (the last point you click will be the end point) or discard it.



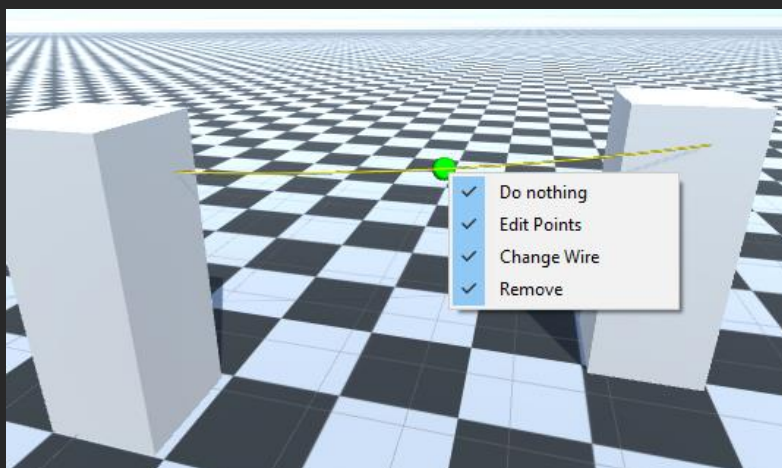


By holding the shift button you will see some other handles.

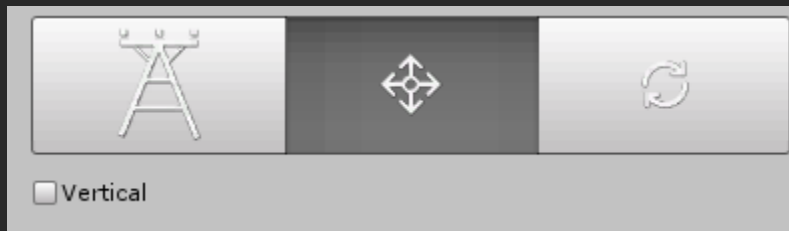
You can use **yellow cube** as your service line start point by clicking on it.



The **green sphere** shows connections. If you left click on it you can edit, remove or change wire.



Move Tool

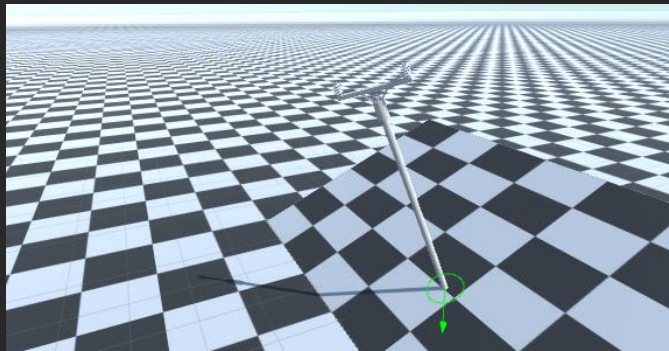


You can select your power pole by clicking on its handle, and then drag it to change position.

Position y axis will be set based on ground height.

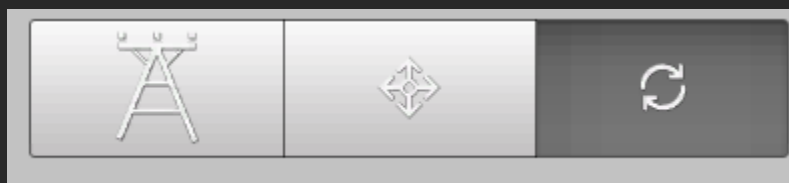
☒ Vertical

It makes the power pole vertical to the ground.

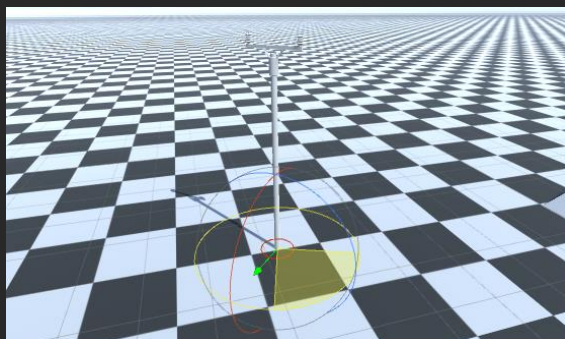


You can hold the shift button to get better results on a rough surface.

Rotate Tool



You can rotate your power pole.



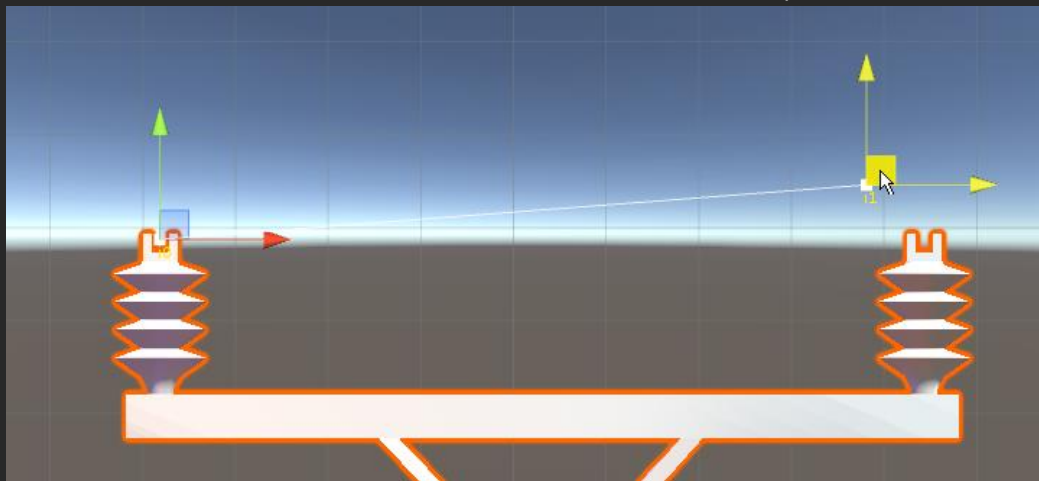
Use Your Custom Power Pole

Add your 3d model to the scene and select it.

Go to **Tools > Script Boy > PowerLines > Components > PowerPole** to add **PowerPole Component** to your selected GameObject.

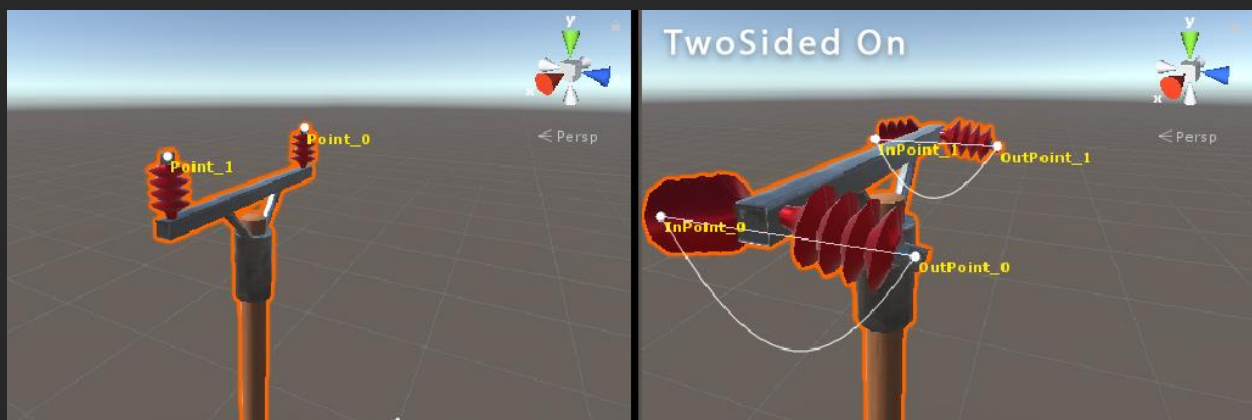


Set the number of Connectors and use handles to set the correct position.



☒ Two Sided

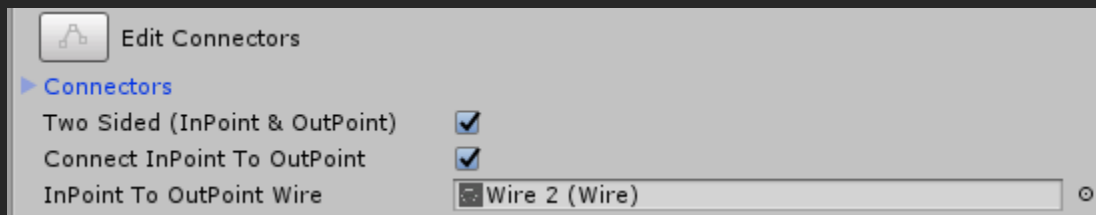
Enable this if your power pole is two sided.



As you see in pictures **out** points must be in **Z+ direction**.

☑ Connect InPoint To OutPoint

If your power pole is two sided and there isn't any wire connection between sides, you can enable **Connect InPoint To OutPoint** and set **InPoint To OutPoint Wire** .



Attention, this connection is only displayed when you have [PowerLines Component](#) in your scene.



Power Pole Prefab :

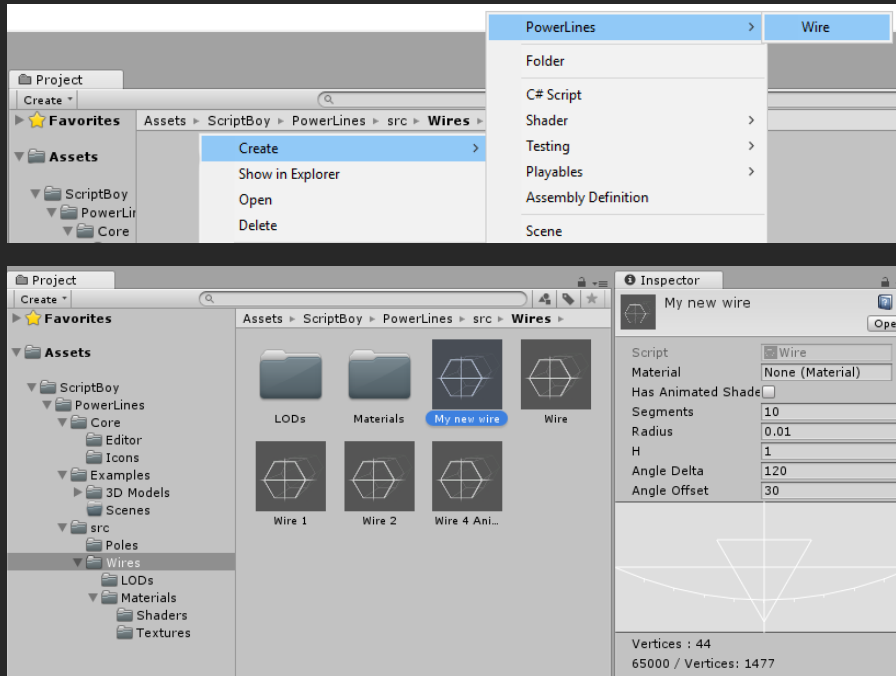
After creating your power pole you need to save it as **Prefab**.

In the Project window go to [Assets/ScriptBoy/PowerLines/src/Poles](#) then drag your power pole GameObject from the Hierarchy window into the Project window.

Now you can see your power pole in [PowerLines Component](#), and use it.

Create Your Custom Wire

In the Project window go to **Assets/ScriptBoy/PowerLines/src/Wires** then right click and select **Create > PowerLines > Wire**



Now you can see your new wire in **PowerLines Component**, and use it.

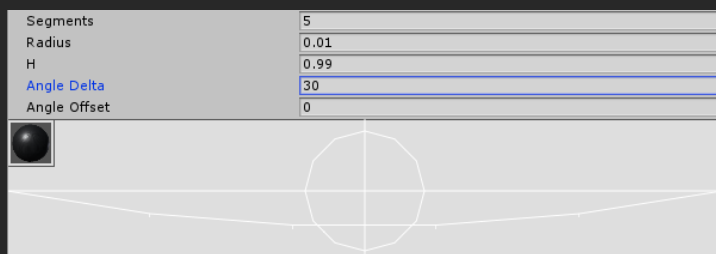
Wire (ScriptableObject)

Material : You can set your custom material or just use existing materials in this package.



☒ **Has Animated Shader :** Enable this if your material has an animated shader.

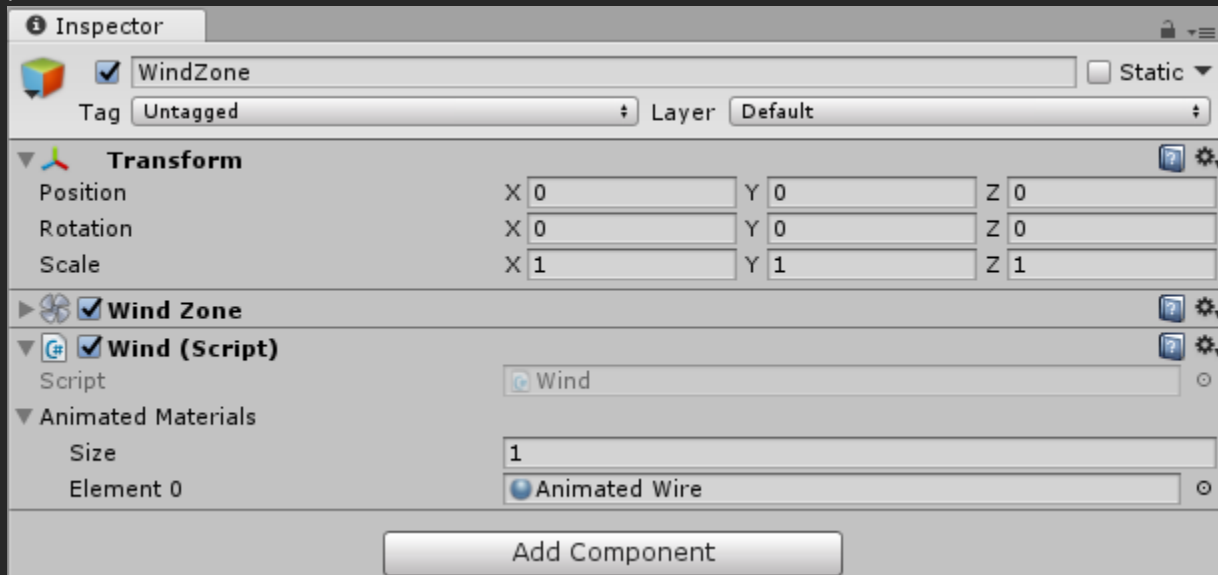
There are some parameters that allow you to completely customize your wire, and see your changes in preview.



Wind And Animated Shader

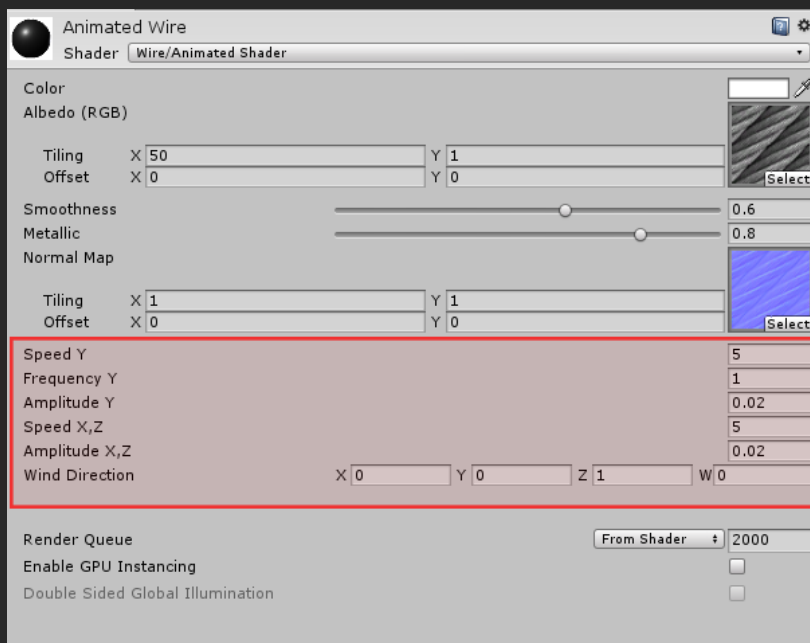
Go to **GameObject > 3D Object > Wind Zone** then go to **Tools > Script Boy > PowerLines > Components > Wind** to add **Wind Component**.

In **Wind Component** set materials with an animated shader. This **Component** updates the Wind Direction parameter in materials. **It's not a wind simulation.**



Animated Shader

There is one animated shader. You can use your own shader or just change its parameters to get more realistic result.



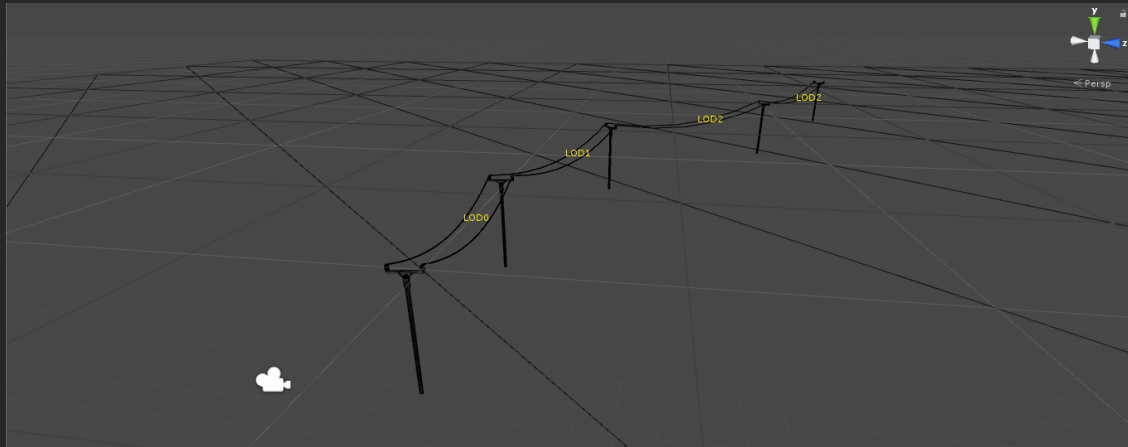
PowerLinesRenderer Component

This Component will be created after you select [PowerLines Component](#).

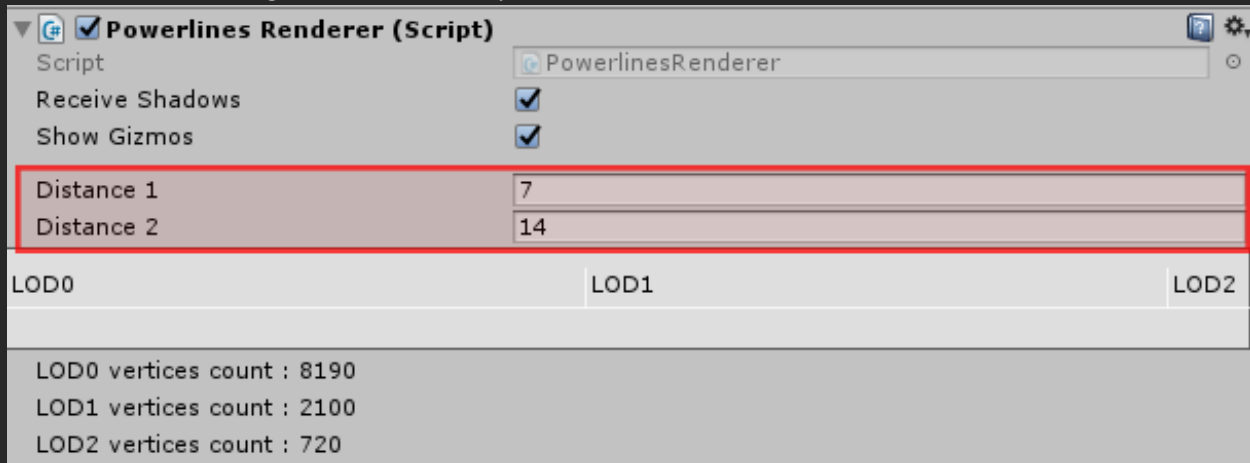
[PowerLines Component](#) generates all meshes and then stores them in [PowerLinesRenderer](#).

LOD Technique

To use this feature select your PowerLines GameObject then enable UseLODTechnique . Now the LOD will be switched based on distance from the camera.



You can set distances between each LOD group in [PowerLinesRenderer](#), and enable Show Gizmos to see which LOD is being rendered like the picture above.

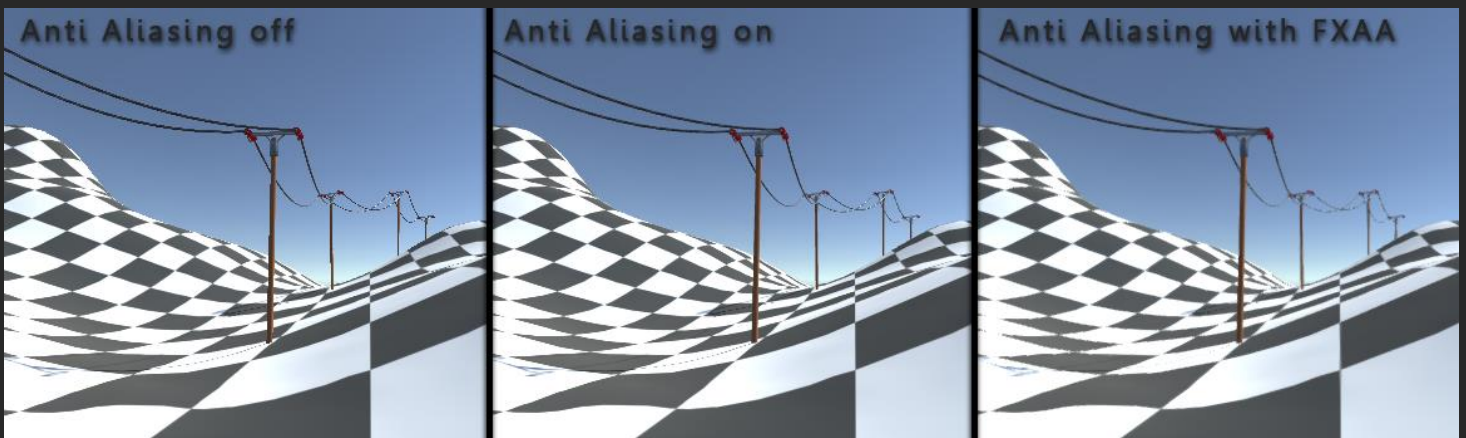
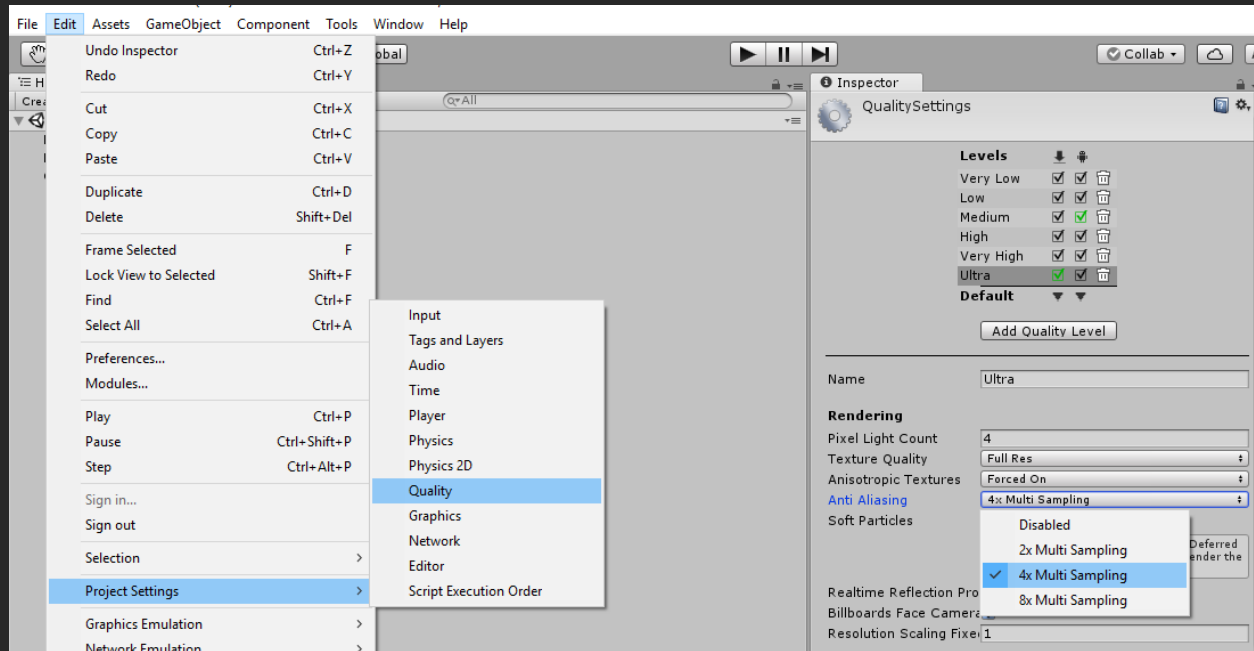


LOD0 is your default meshes that generated with the wire you set for each connection. LOD1 and LOD2 are meshes that generated with special wires that are in [Assets/ScriptBoy/PowerLines/src/Wires/LODs](#) .

You shouldn't delete wires from [.../src/Wires/LODs](#) folder, you can't add another wire (e.g. LOD3), and you are just able to edit LOD1 and LOD2 wires.

Enable Anti-Aliasing

Wire is a thin mesh and doesn't look good from far distance. It's better to enable **Anti-Aliasing** or use **FXAA** (fast approximate anti-aliasing).



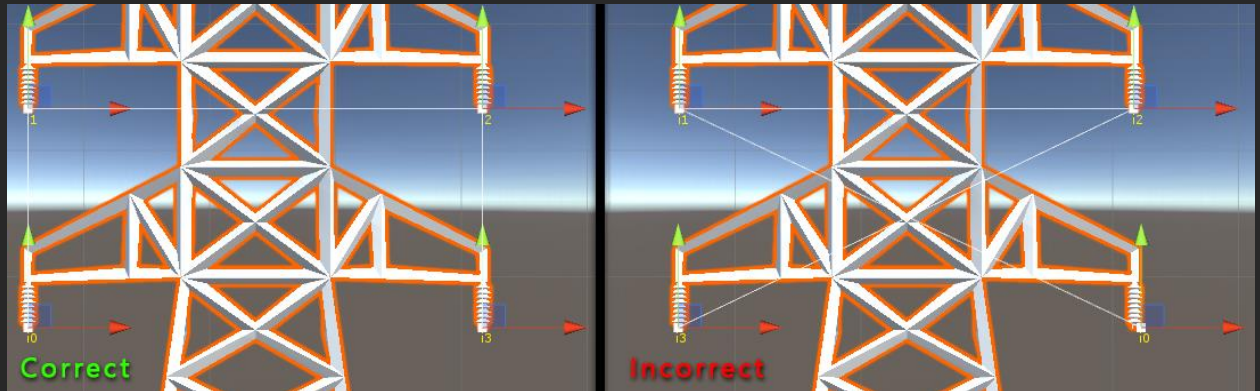
You can find many free FXAA effects from the internet.

Here is a free FXAA : <https://github.com/jintiao/FXAA>

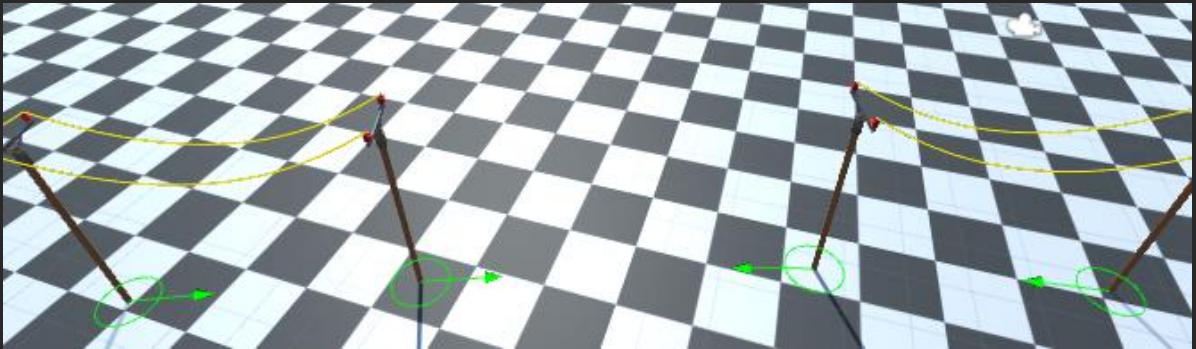
Second link : https://drive.google.com/file/d/1MuDxYEKpIrYv8FxP6v1Qs_d4TBF8QLV4/view?usp=sharing

Rules

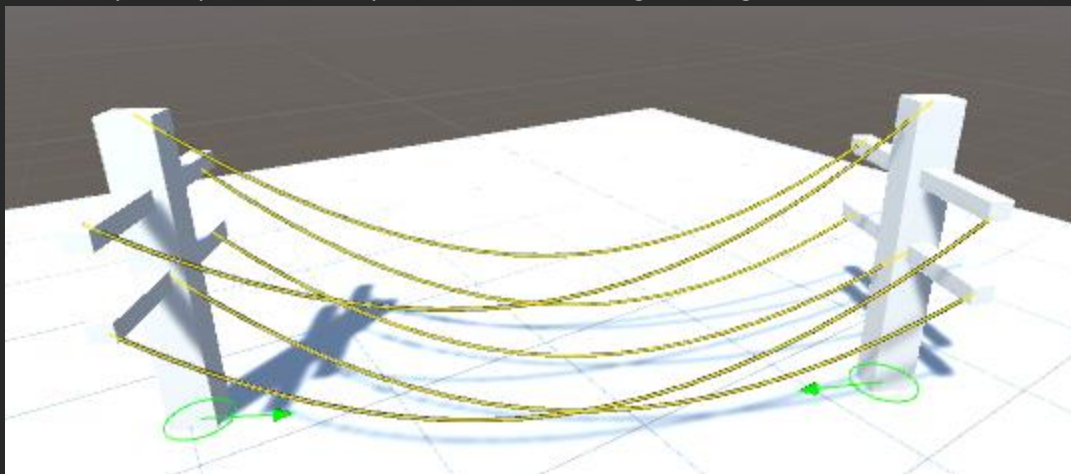
- A. Power Pole connectors position should be clockwise.



- B. Avoid connecting two power poles that have opposite directions. For simple power pole with few connectors, everything work well (all example power pole in this package are correct and you can do that without problem)



but for a power pole with many connectors , we will get wrong connections.



If this happened for you and you can't fix your power pole direction, you can use service line connection instead.

- C. All power pole prefabs must be in [Assets/ScriptBoy/PowerLines/src/Poles](#) folder.
- D. All wires must be in [Assets/ScriptBoy/PowerLines/src/Wires](#) folder.
- E. Do not remove wires in [Assets/ScriptBoy/PowerLines/src/Wires/LODs](#)

... THE END ...

It's better to Watch this video : <https://youtu.be/dbo20BNZC1g>

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Good luck ☺

ScriptBoy