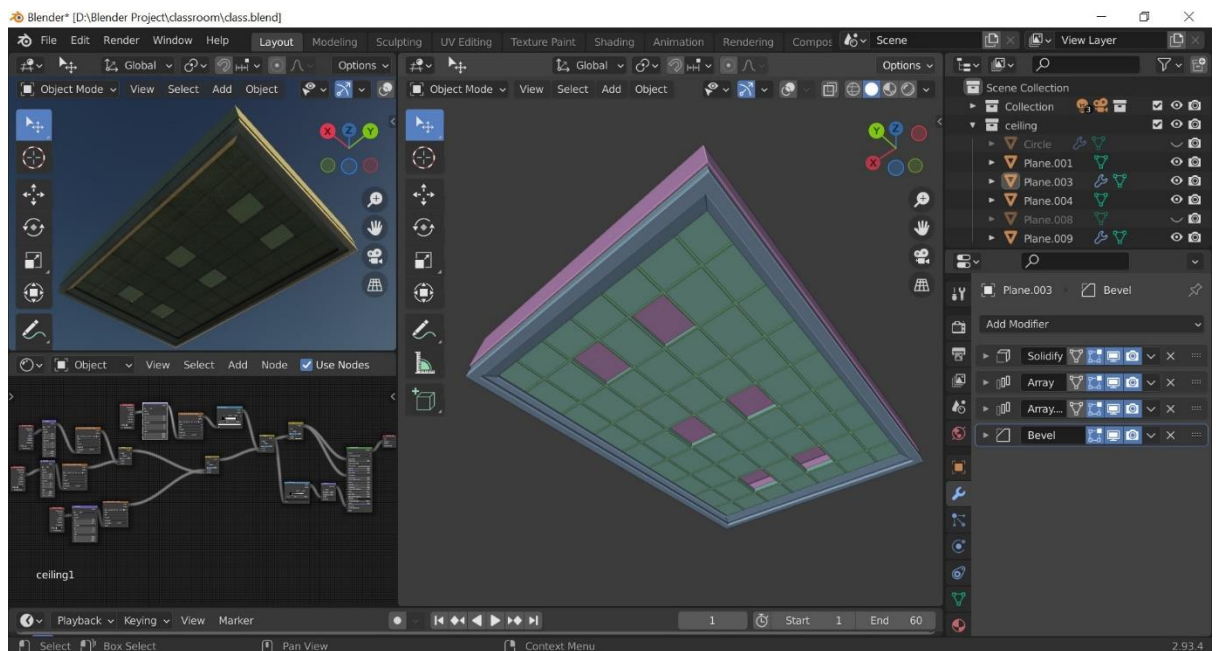
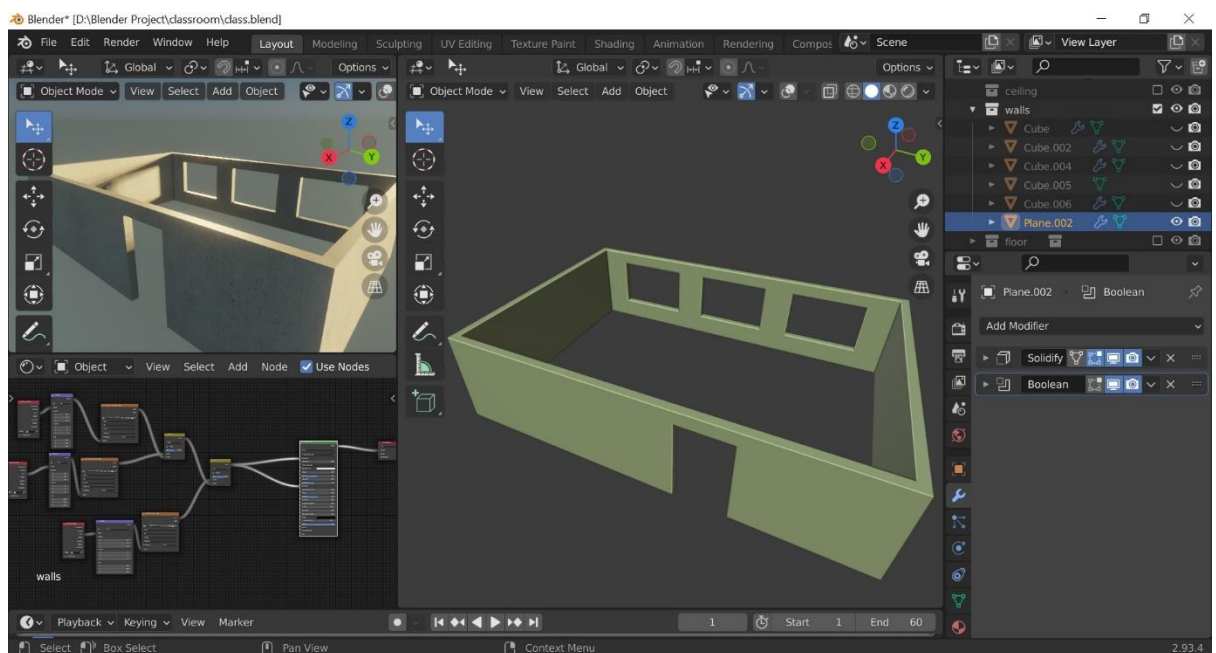


1. Ceiling



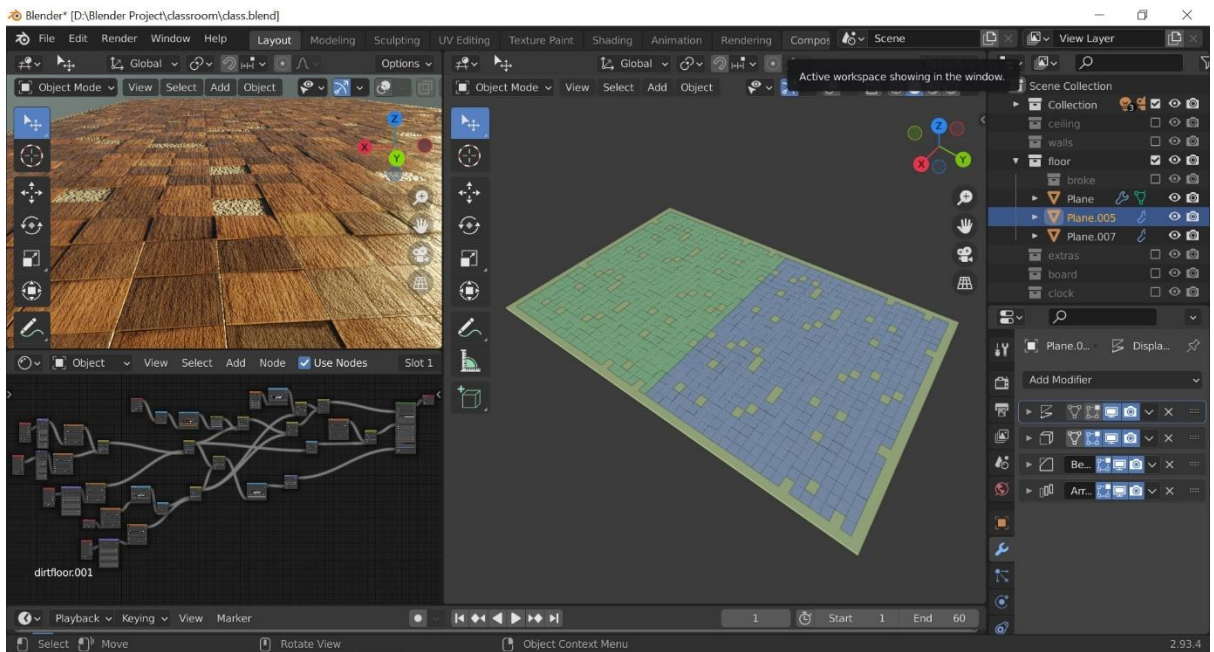
For the classroom's ceiling I made it from several **Plane** meshes and also, I added some modifiers to make it easier to create the ceiling such as an **Array**, **Bevel**, and **Solidify** modifier. **Array** modifier makes me easier to duplicate shapes with offsets, **Bevel** modifier helps me to create sloped corners on the mesh, and **Solidify** modifier helps me to make the mesh surface thicker. Moreover, I also added some **Image Textures** for the classroom's ceiling material and mixed those **Image Textures** to get a nice texture for the classroom's ceiling.

2. Walls



For the classroom's walls, I made it from a **Plane** mesh by adding two modifiers, that is **Solidify** and **Boolean** modifier. **Solidify** modifier helps me to increase the thickness of the wall surface that I want, while the **Boolean** modifier helps me to create empty spaces for classroom windows and doors, this modifier uses another shape to cut, combine, or perform a different operation. For this classroom's walls, I using **Difference** which will combine meshes in a subtractive way or I can say it will use another mesh to cut the current mesh. For the classroom's walls material, I added three **Image Textures** of wall texture and mixed them to get a nice texture for the classroom's walls.

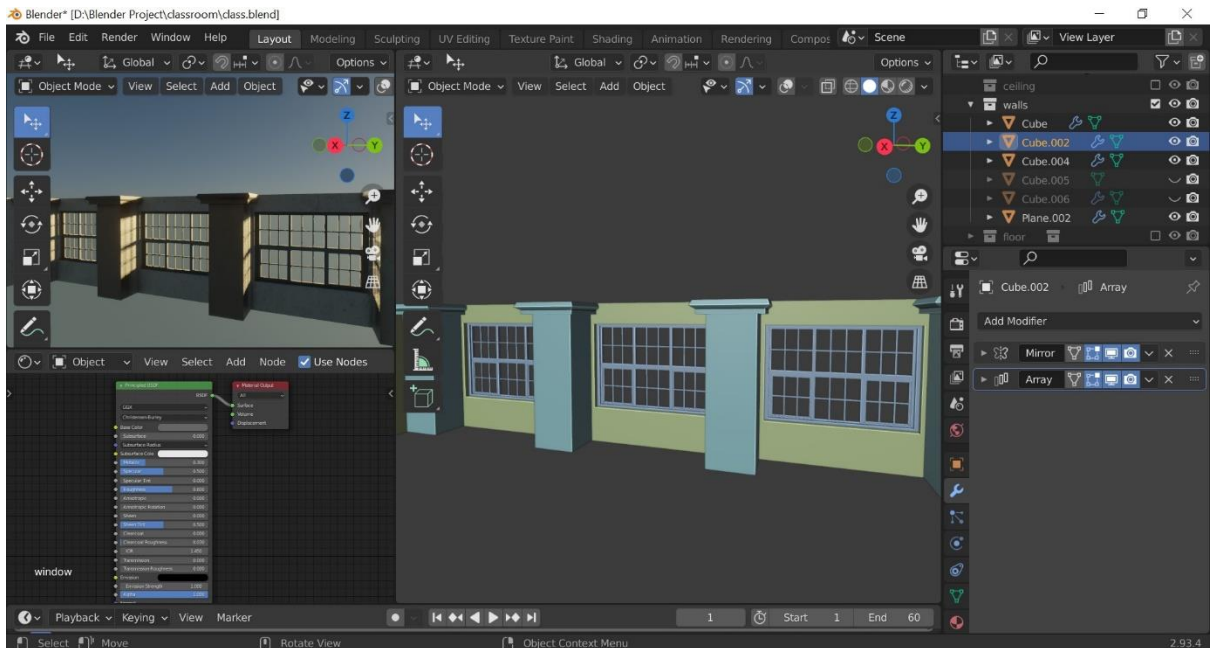
3. Floor and Tiles



For the classroom's floor and tiles, I also make it from several **Plane** mesh, one **Plane** is for the class floor and it has the same material texture as the class wall, the other two **Planes** is for the class tiles and it has a more complex material texture, the tile texture consists of several **Image Textures** that mixed into one texture to get a nice texture for the classroom's tiles and also, I added a **Bump** node to make the tiles look smoother glossy “glaze” and make it look like real tiles. For class floor tiles, I also use some modifiers such as **Displace**, **Solidify**, **Bevel**, and **Array** modifiers. The **Displace** modifier makes the tiles look not installed evenly on the classroom floor. The **Displace** modifier displaces vertices in a mesh based on the intensity of a texture. Either procedural or image textures can be used. The **Solidify** modifier makes the tile surface thicker, the **Bevel** modifier creates sloped corners at each end of the tile, and the **Array** modifier helps me to duplicate more tiles. On the class tiles, it can also be seen that there are several tiles that have been randomly removed

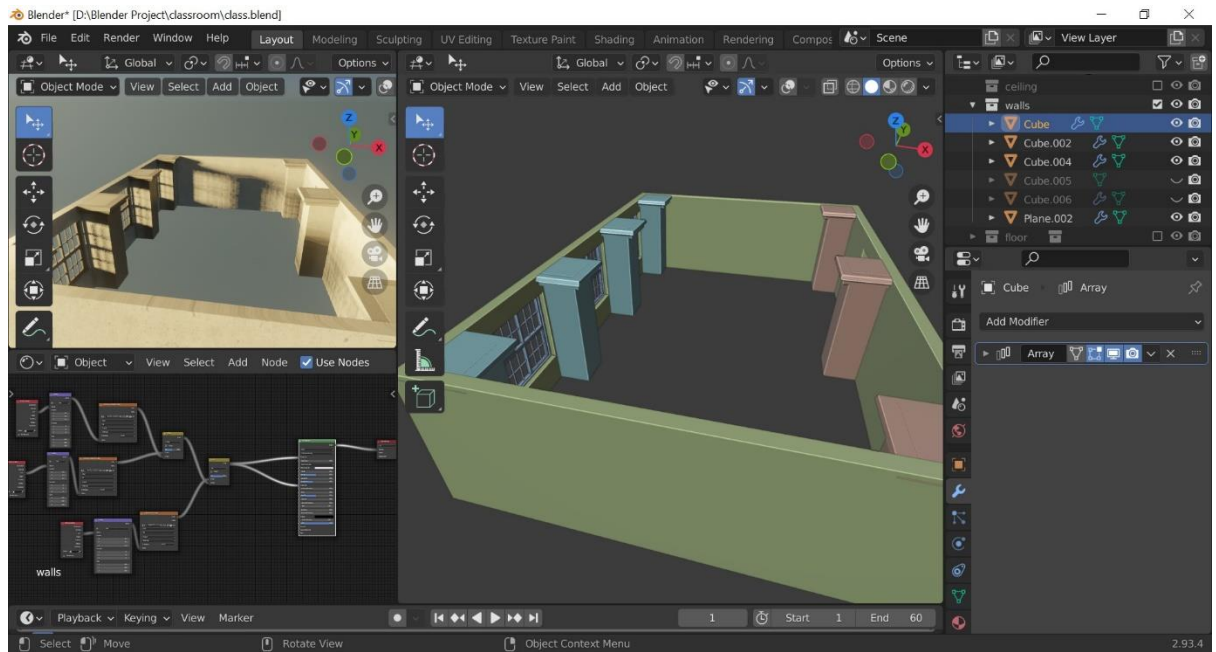
and only the lower wall is visible. On the damaged or removed part of the tile, I made the texture same as the floor texture but I added a **Bump** node to make the wall texture look more real.

4. Windows



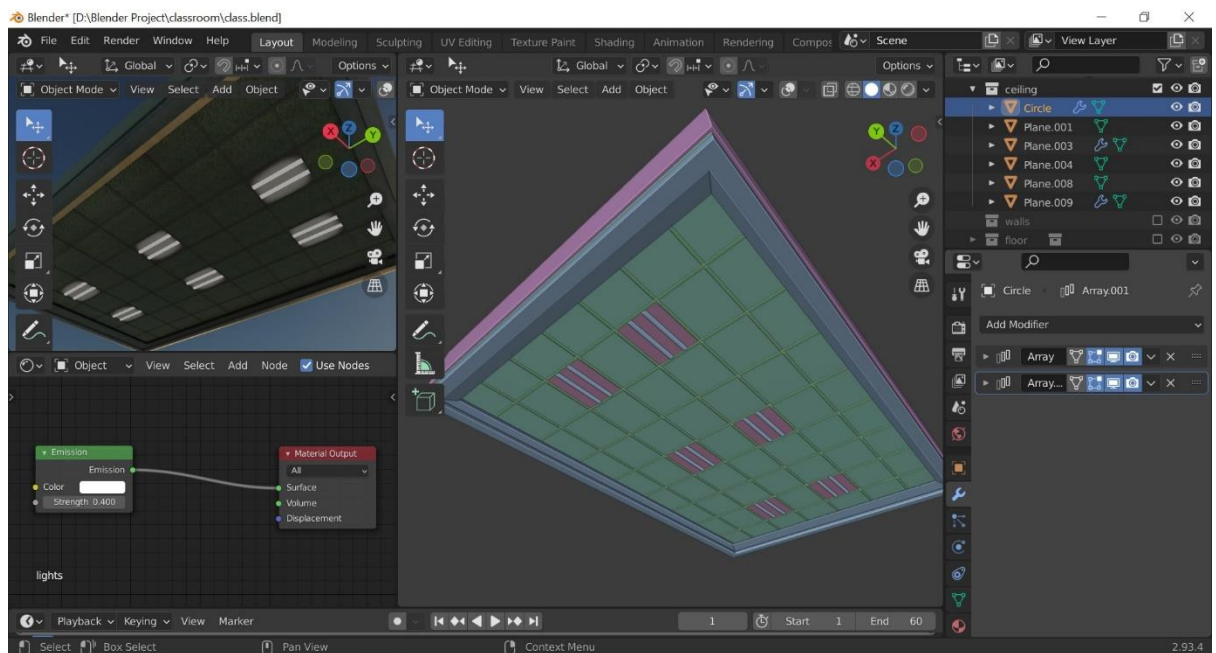
For the classroom's windows, I made it from **Cube** mesh by using two modifiers such as **Mirror** and **Array** modifier. The **Mirror** modifier mirrors a mesh along its local X, Y, and/or Z-axis, across the object origin. The **Mirror** modifier makes it easy for me to create windows by mirroring the sides of the window along the Y-axis, across the object origin. The **Array** modifier helps me to duplicate the window into three windows along the Y-axis. For the window material itself, I just changed the material colour to dark grey with a little bit of **Metallic** and **Roughness** added.

5. Poles



For the classroom's poles, I made it from **Cube** mesh by using **Array** modifier to help me to duplicate the pole into several poles along the Y-axis. For the pole material texture, I use the same texture as the classroom's walls texture.

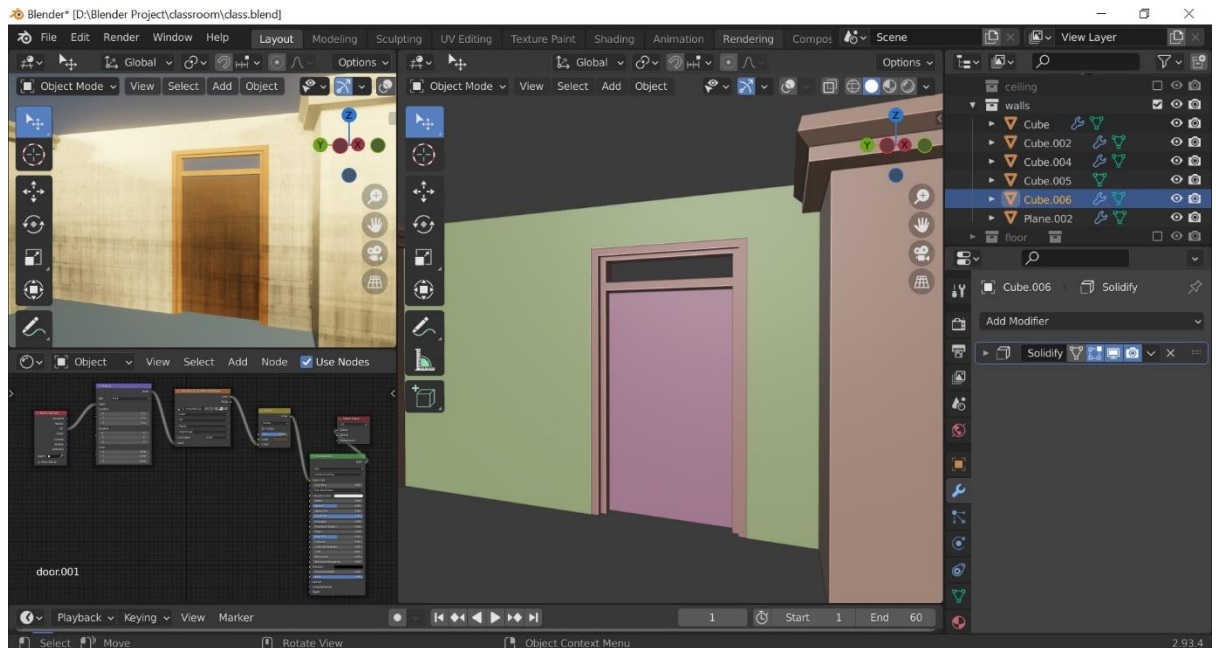
6. Lamps



For the classroom lamps, I made it from the **Circle** mesh by using the **Array** modifier to help me to duplicate the lamp into several lamps along the X and Y-axis. For the lamp's material, I used the **Emission** surface with white colour to create the glow effect like a real lamp and also, I changed the class's ceiling material where the

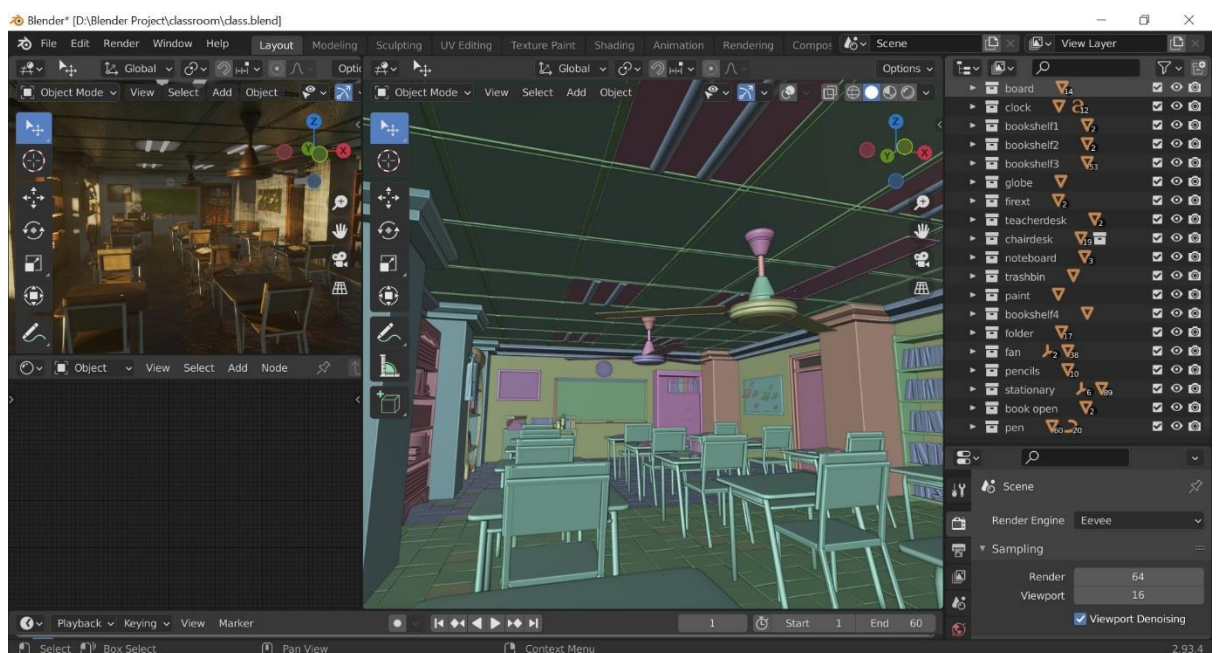
lamp is located with several **Image Textures** and mix them to get a nice texture and can add to the impression of a bright lamp on the classroom's ceiling.

7. Door



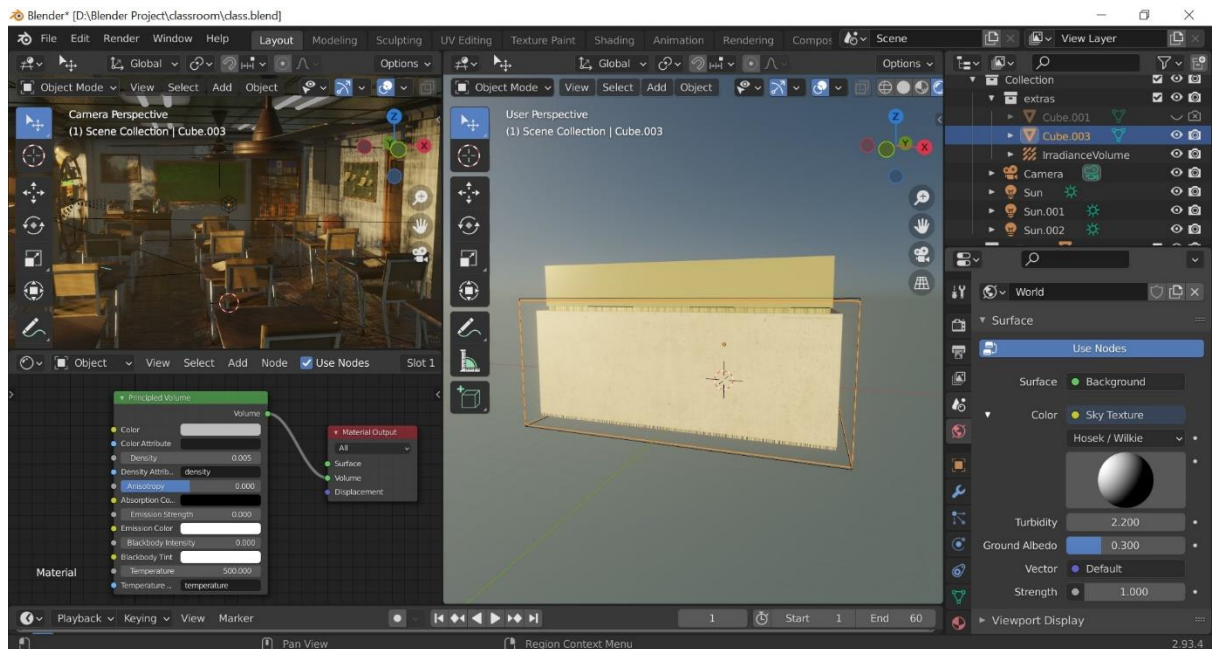
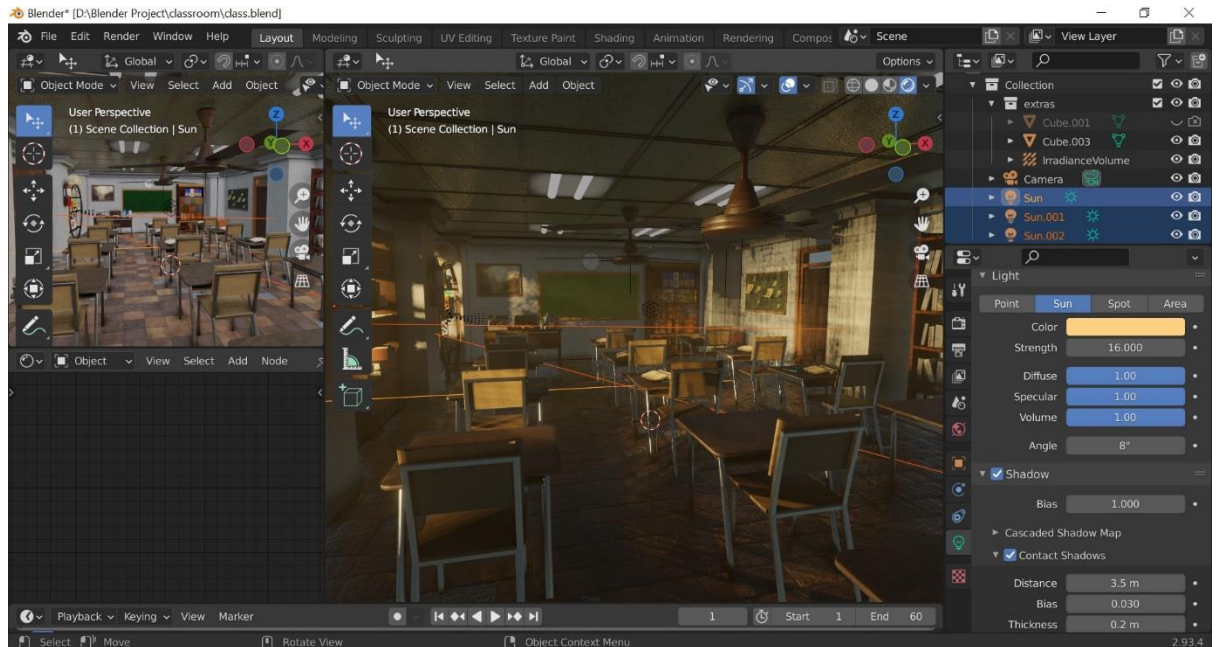
For the classroom door, I made it from **Cube** mesh by using the **Solidify** modifier to make the door surface thicker. For the door material itself, I use an **Image Texture** with a wood texture to make the impression the classroom door is made of wood. For the inner door frame, I made the material colour lighter while the class door itself was darker.

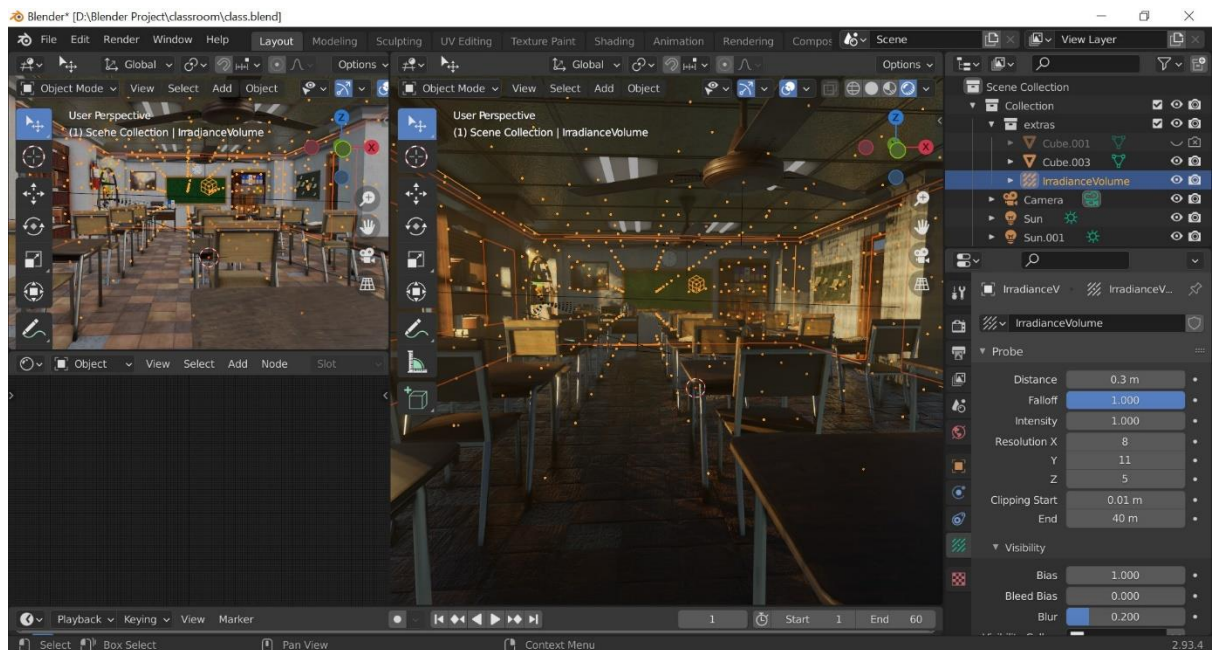
8. Objects



The classroom consists of several class objects such as boards, wall clocks, chairs, desks, books, bookshelves, stationery, trash can, painting, globe, documents, fire extinguisher, and fans. Honestly, I didn't create all the class objects, I took some objects from the internet and changed them a bit because of a lack of time to make them one by one.

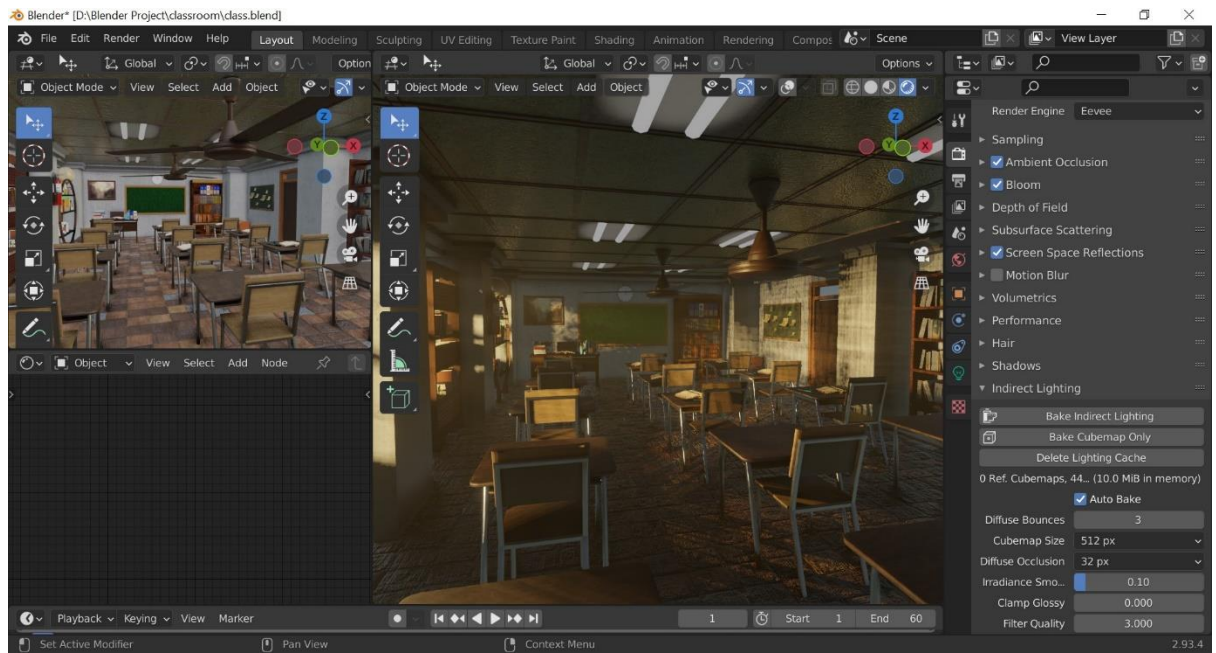
9. Extras





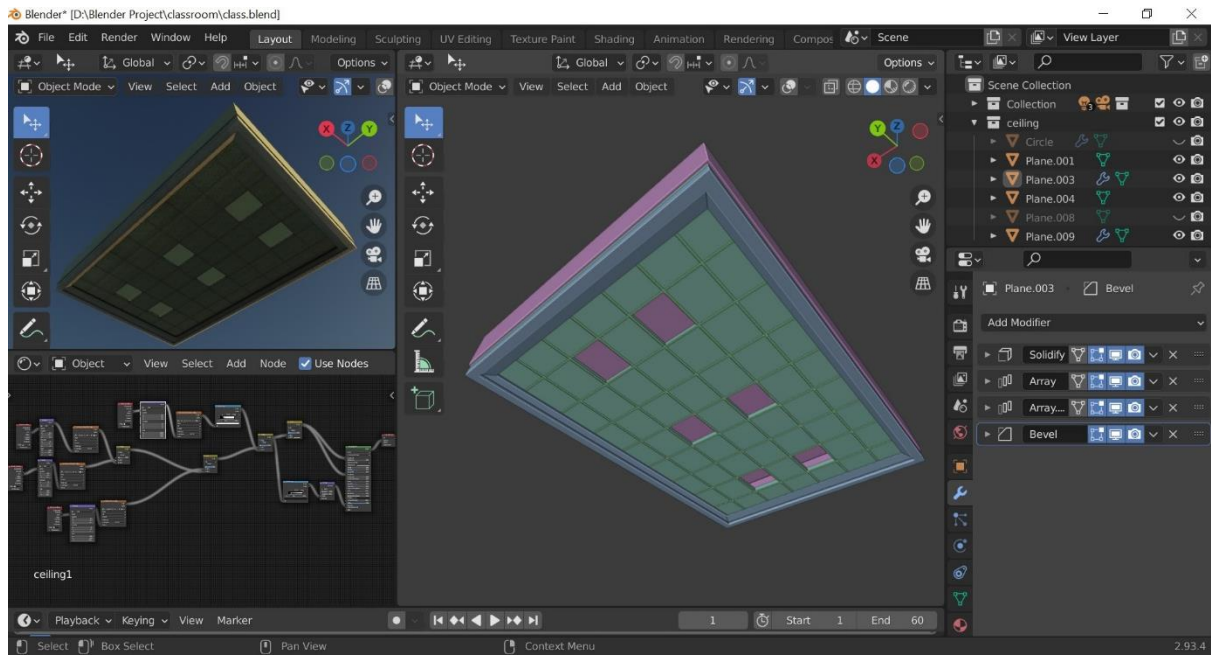
I also add some extras for the classroom, such as for the lighting I set it to **Sun** and change the colour to warm yellow more like sunlight colour, and enable the **Shadow**. For the world background colour, I changed the colour to **Sky Texture** to get a background colour that looks like a blue sky. Also, I add a new **Cube** mesh with a **Wire** display and add a **Principled Volume** to the material volume then, I reduce the **Density** and **Temperature** of the mesh, this will make the effect of sunlight entering the classroom look more real. I also added an **Irradiance Volume** light probe. Diffuse indirect lighting is stored in volumetric arrays. These arrays are defined by the user using **Irradiance Volume** objects. They control how arrays are placed in the world as well as their resolution. It is a grid or array of dots that when baking captures the bounce light from the surrounding area. During rendering, these dots then act as lights emitting this indirect light back into the scene. This way the irradiance volume can help me get smoother light and tint the colour of the light according to the surrounding area.

10. Scene Render Properties

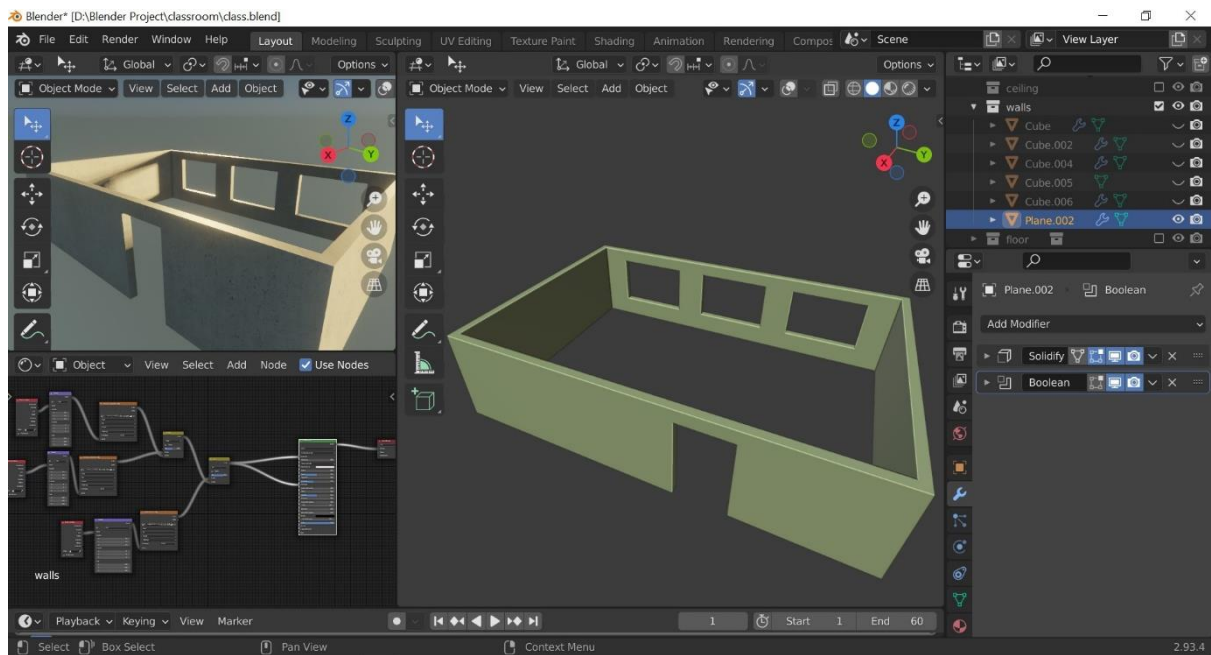


In render properties, I use **Eevee** as the render engine because my device is not capable to render the scene using the **Cycles** render engine. In addition, I also enabled **Ambient Occlusion** to simulate medium-scale indirect shadowing, enabled **Bloom** to make high brightness pixels and generate a glowing effect especially to the shape that has an **Emission** surface, and enabled **Screen Space Reflections** to make all materials meet the depth buffer and the previous frame colour to create more accurate reflection than reflection probes. Also, I baked the **Indirect Lighting** to enable the effect of the **Irradiance Volume** light probe.

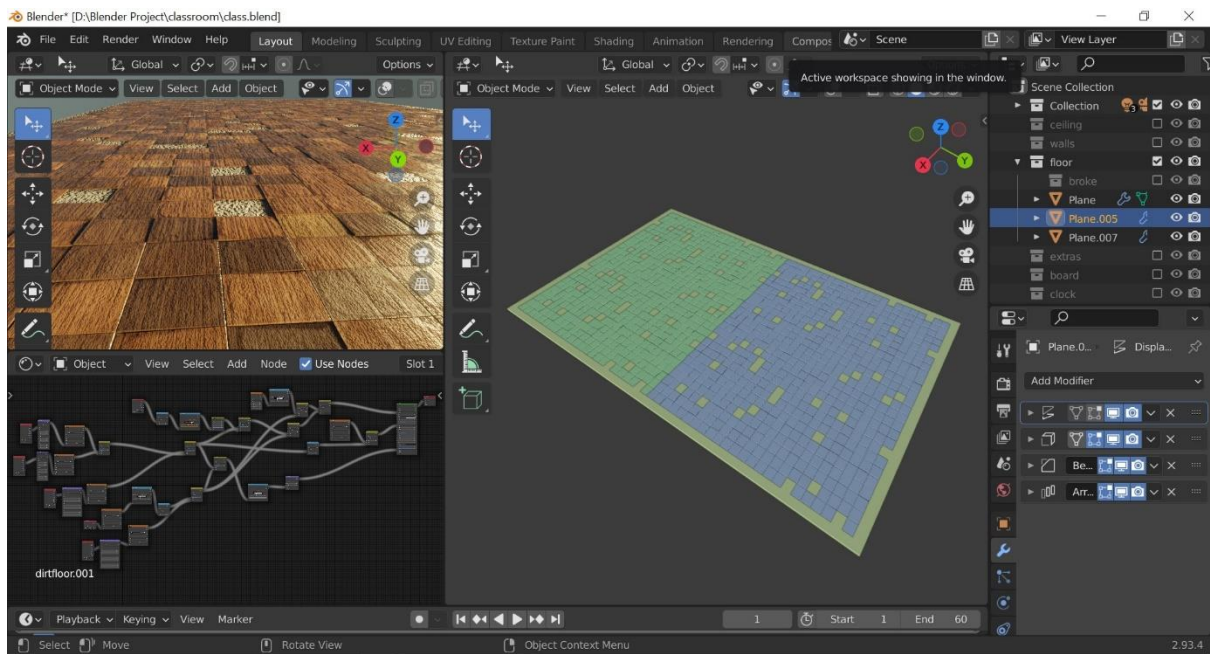
RESULT



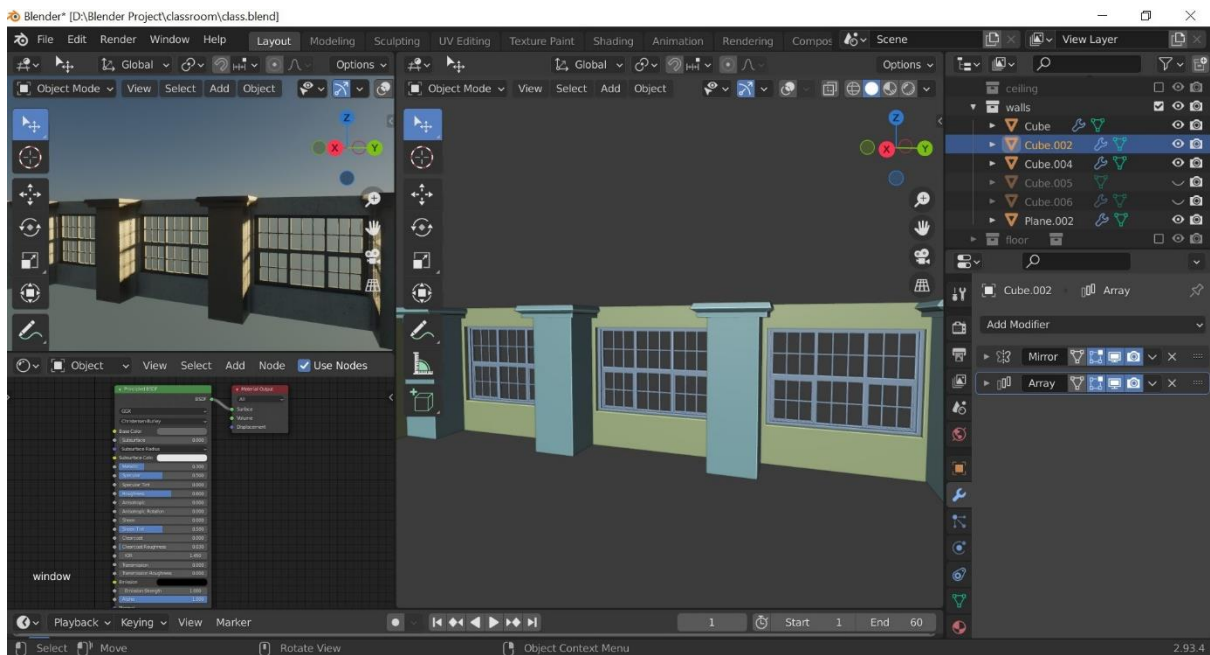
The classroom's ceiling



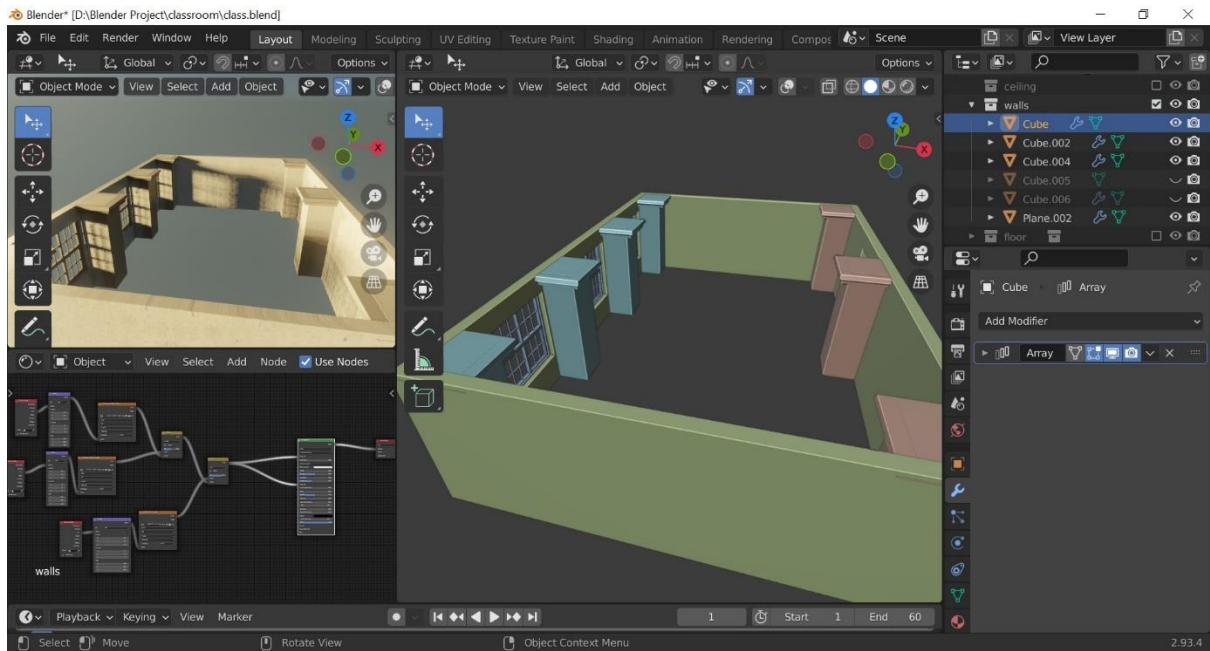
The classroom's walls



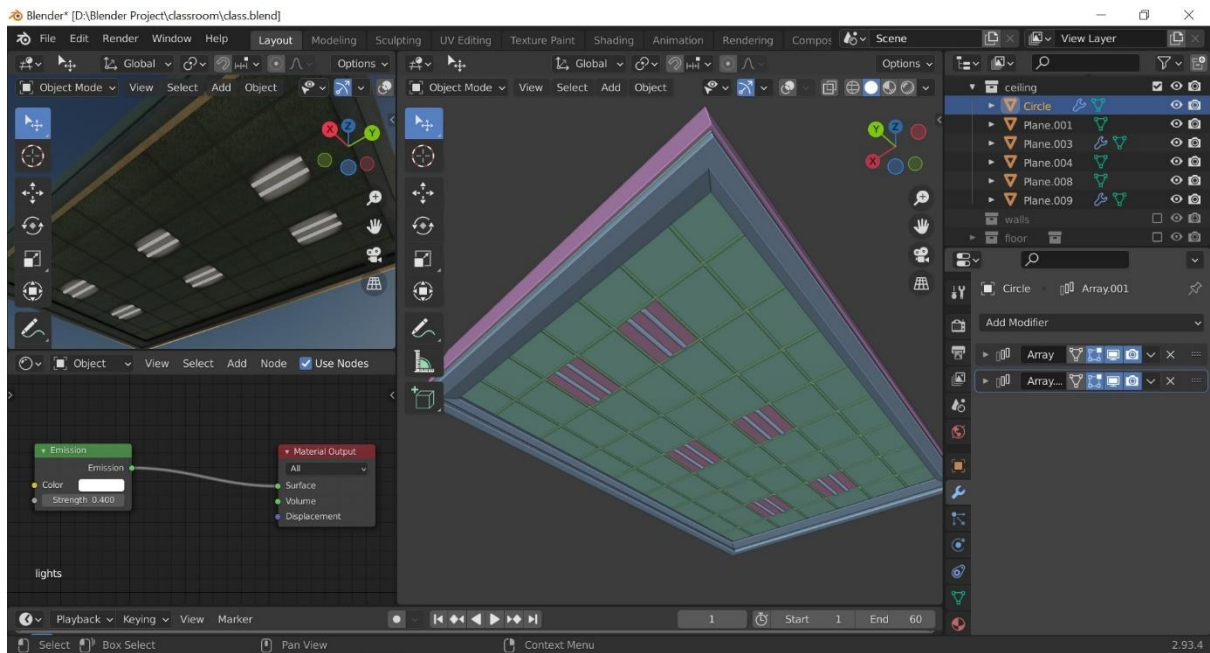
The classroom's floor and tiles



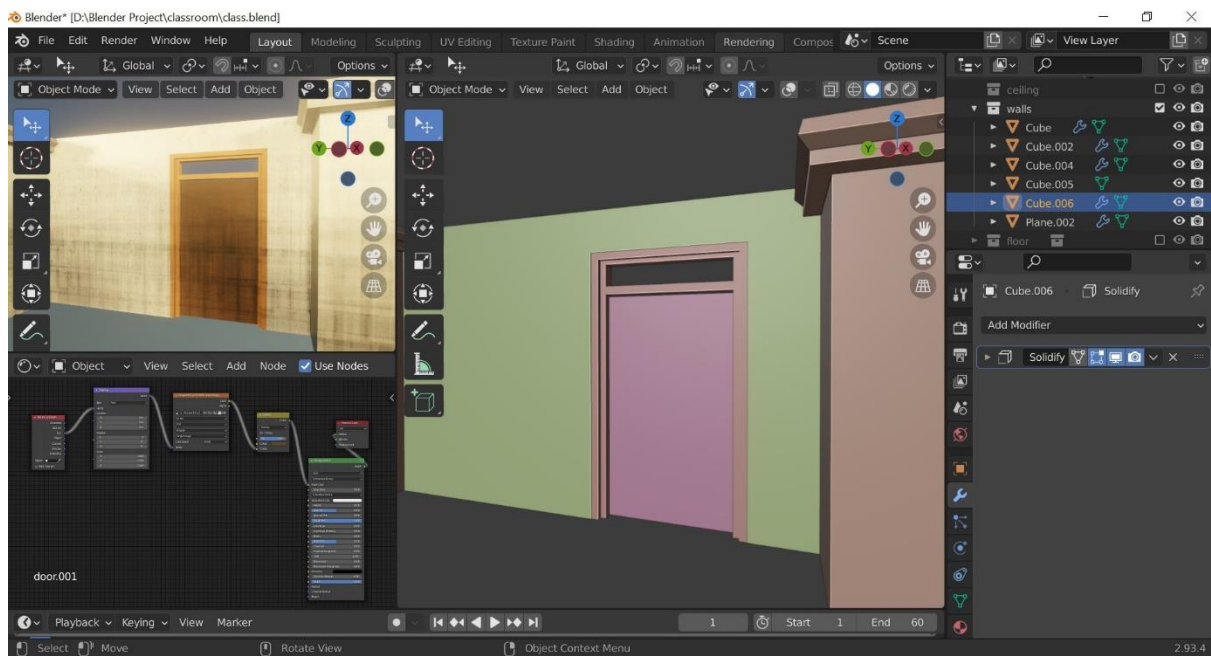
The classroom's windows



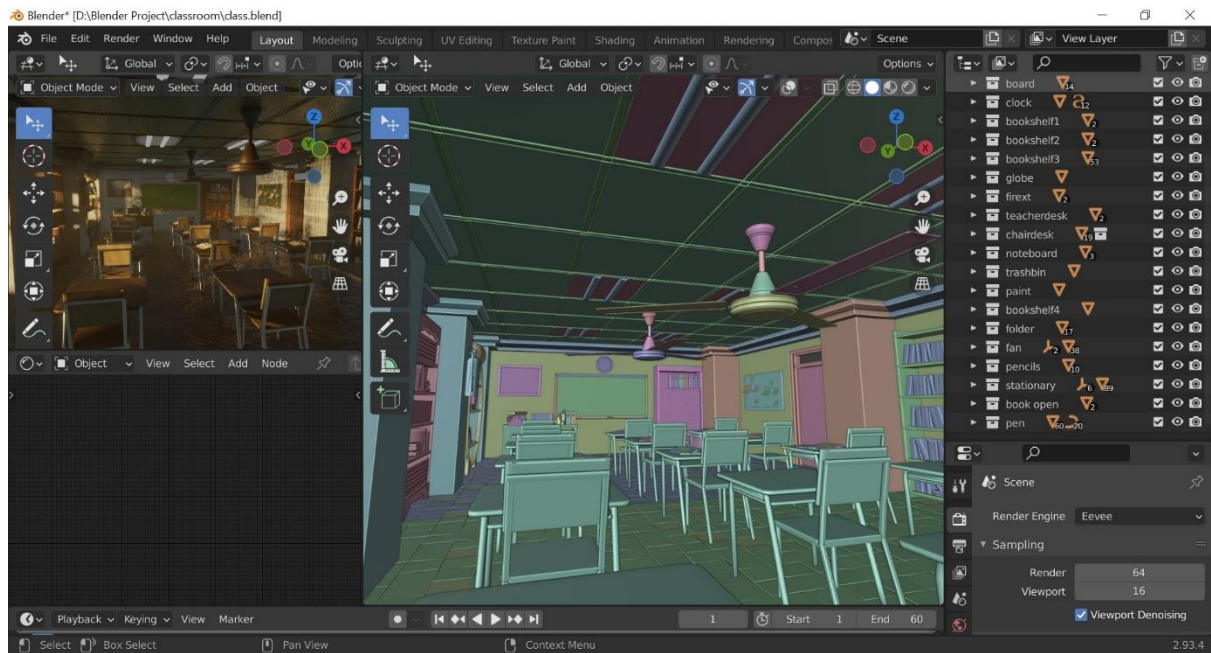
The classroom's poles



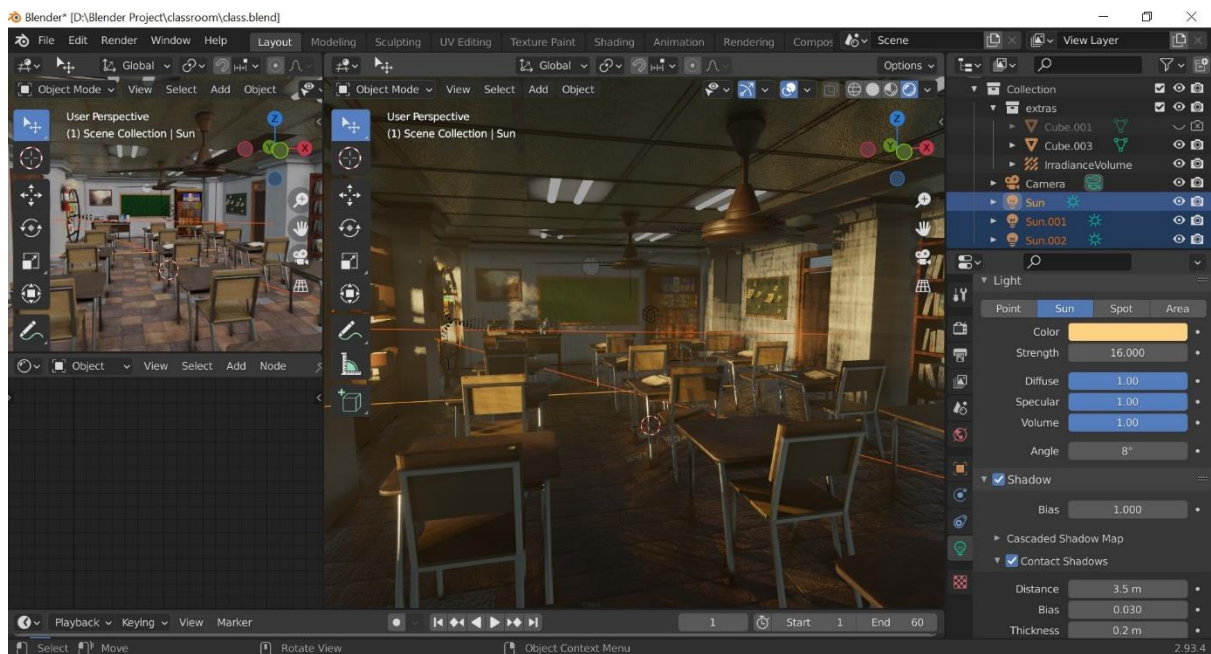
The classroom's lamps



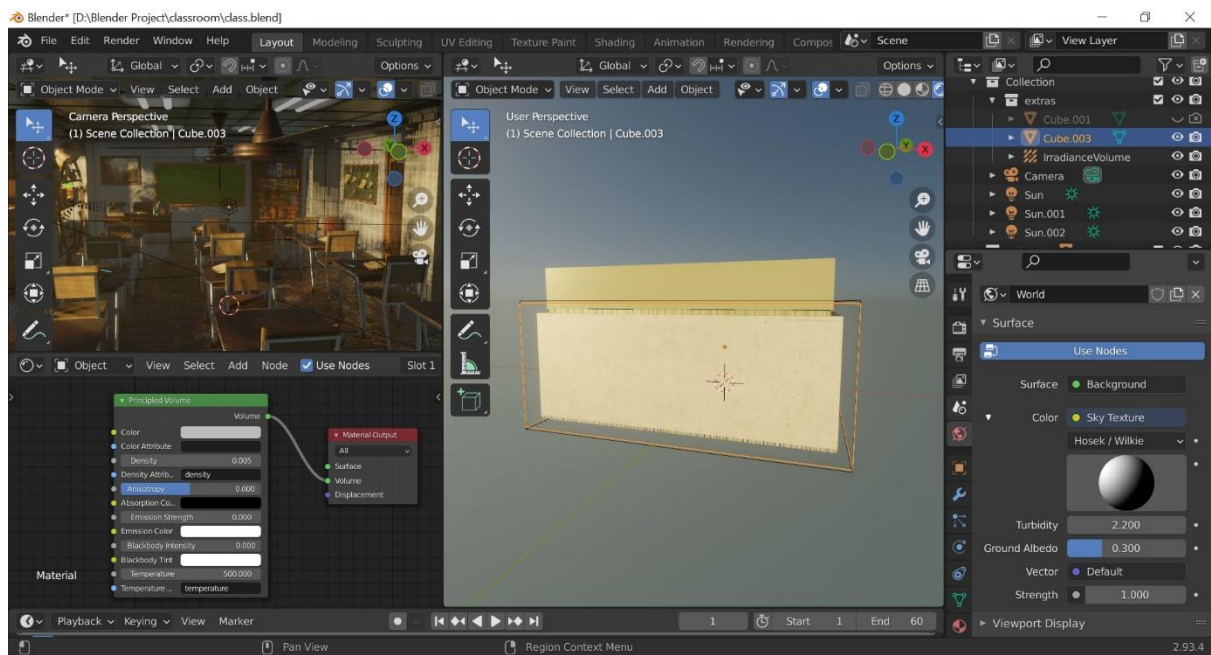
The classroom's door



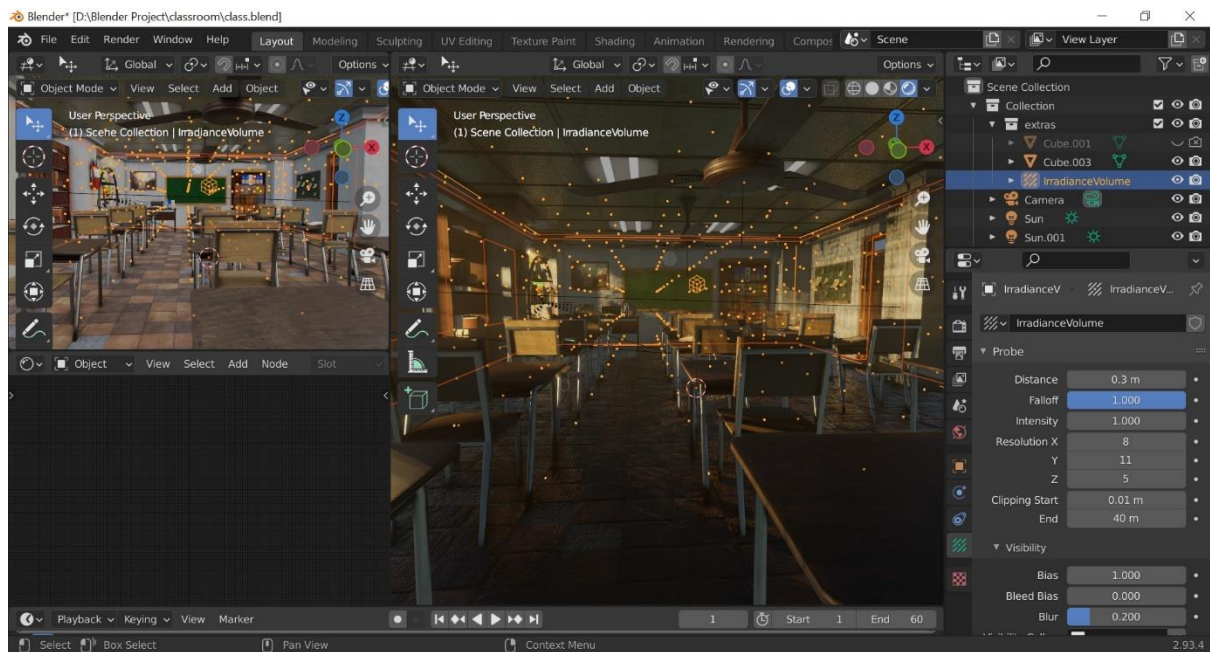
The classroom's objects



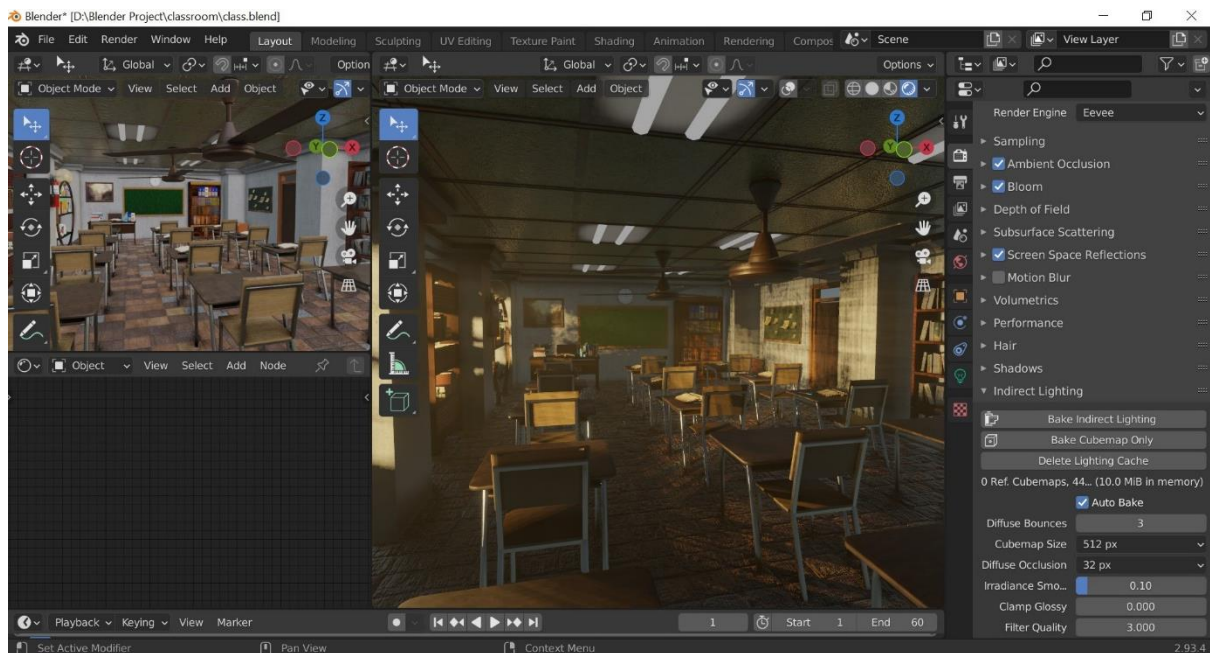
The classroom's sun lighting



The classroom's world background, density, and temperature



The classroom's irradiance volume



The classroom's render properties



The classroom's render result