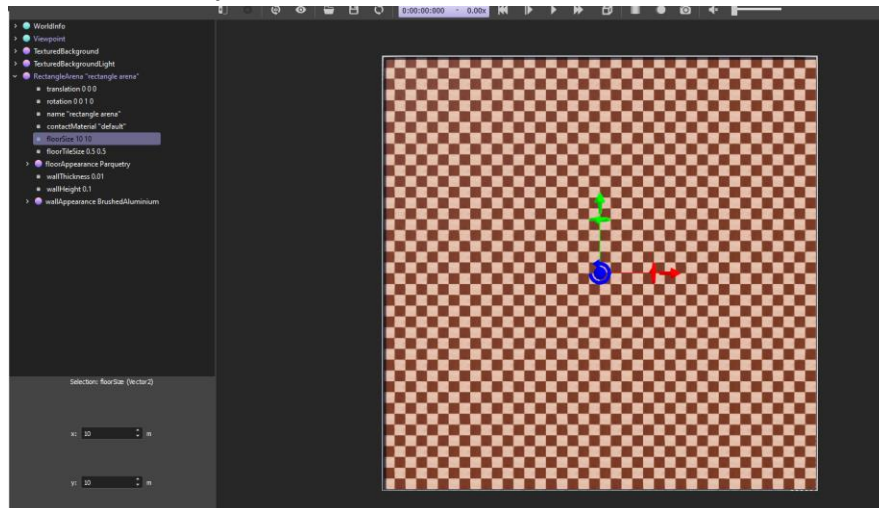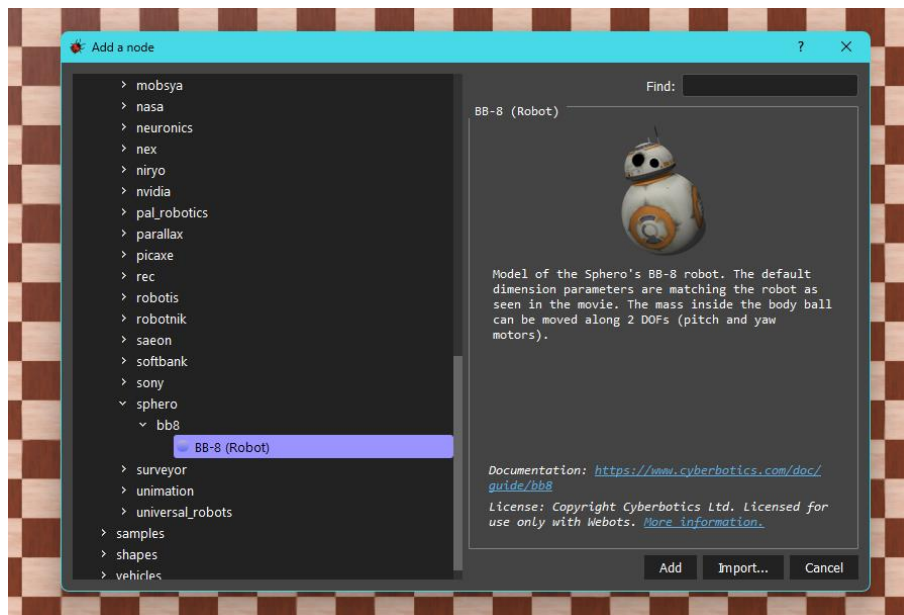Nama   : Pusaka Manggala
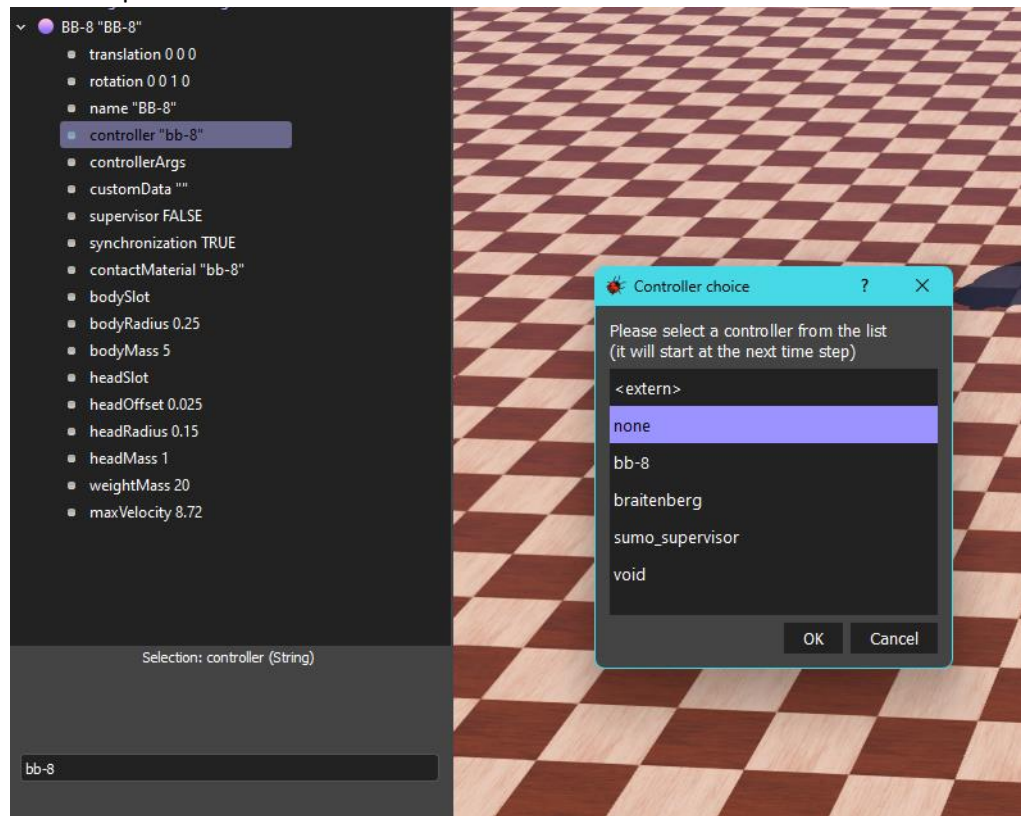NIM   : 1103194021

Tutorial 7 : The Supervisor

1. Buat Project baru dengan nama my_supervisor
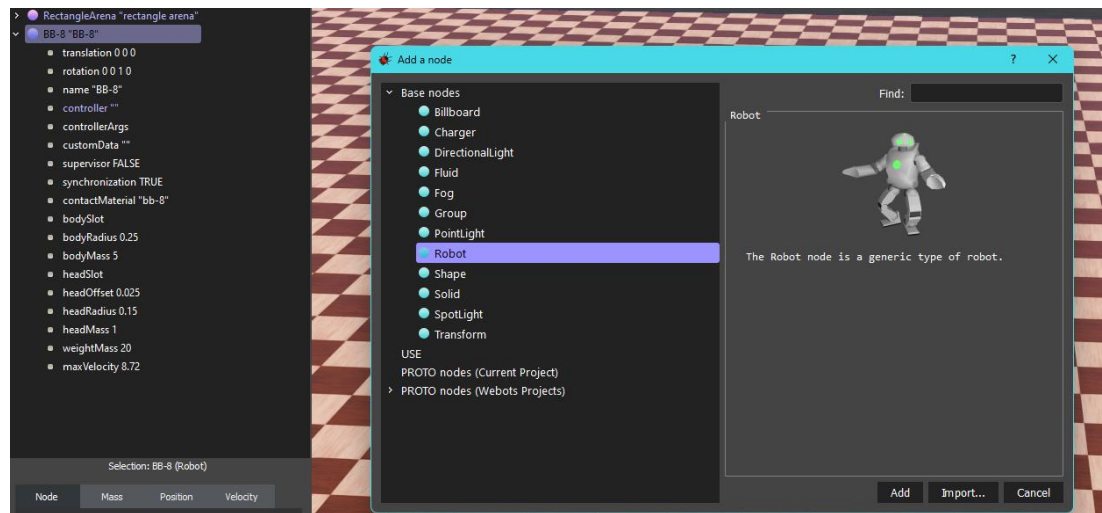2. Set size area menjadi 10 x 10

3. Tambahkan robot BB-8 dari add -> PROTO nodes (Webots Project) -> Robots -> sphero -> BB8
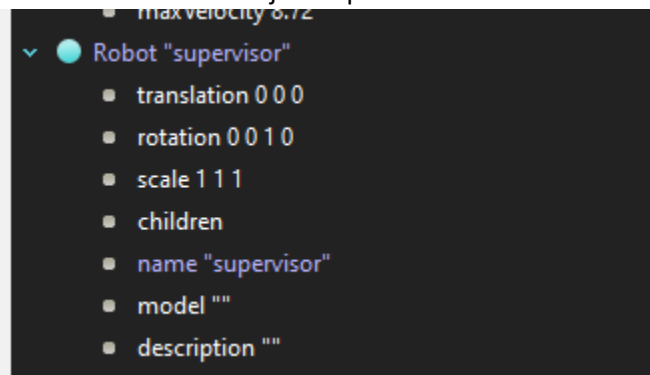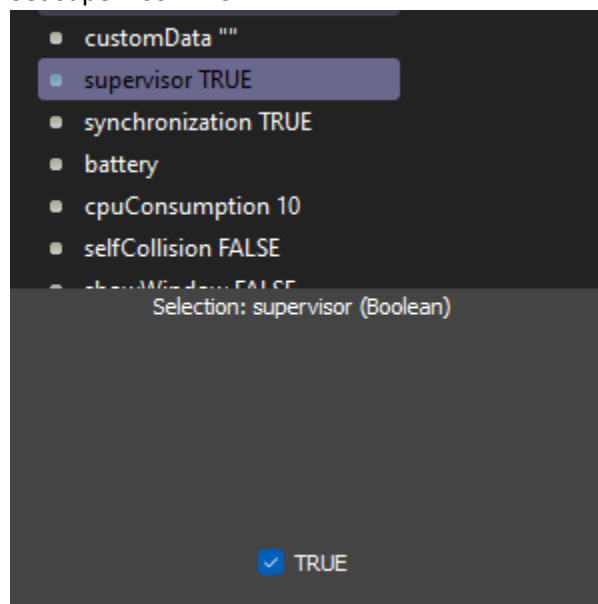
4. Set none pada controller robot

5. Add Robot

6. Ubah nama robot menjadi supervisor

```
  max velocity 8.72
✓ ● Robot "supervisor"
      ▪ translation 0 0 0
      ▪ rotation 0 0 1 0
      ▪ scale 1 1 1
      ▪ children
      ▪ name "supervisor"
      ▪ model ""
      ▪ description ""
```

7. Set supervisor TRUE

```
      ▪ customData ""
      ▪ supervisor TRUE
      ▪ synchronization TRUE
      ▪ battery
      ▪ cpuConsumption 10
      ▪ selfCollision FALSE
      ▪ showWindow FALSE

          Selection: supervisor (Boolean)




                  ☑ TRUE
```

8. Tambah controller, beri nama supervisor_controller dan masukan ke robot supervisor
   from controller import Supervisor

```
TIME_STEP = 32

robot = Supervisor()  # create Supervisor instance

# [CODE PLACEHOLDER 1]
bb8_node = robot.getFromDef('BB-8')
translation_field = bb8_node.getField('translation')

root_node = robot.getRoot()
children_field = root_node.getField('children')

children_field.importMFNodeFromString(-1, 'DEF BALL Ball { translation 0 1 1 }')
```

```
ball_node = robot.getFromDef('BALL')
color_field = ball_node.getField('color')

i = 0
while robot.step(TIME_STEP) != -1:
 # [CODE PLACEHOLDER 2]
 if (i == 0):
   new_value = [2.5, 0, 0]
   translation_field.setSFVec3f(new_value)

 if i == 10:
    bb8_node.remove()

 if i == 20:
   children_field.importMFNodeFromString(-1, 'Nao { }')

 position = ball_node.getPosition()
 print('Ball position: %f %f %f\n' %(position[0], position[1], position[2]))

 if position[2] < 0.2:
   red_color = [1, 0, 0]
   color_field.setSFColor(red_color)

 i += 1
```

9. Save project dan jalankan. Robot akan berubah menjadi robot Nao