README: Solar Panel Charging Battery in Cisco Packet Tracer

Aim

To design and set up a simple battery system in Cisco Packet Tracer that charges a battery using energy from a solar panel, and verify its operation through the Power Meter and Battery monitoring tools.

Explanation / Procedure

1. Open Cisco Packet Tracer and place the following devices from End Devices → Power Grid:
   - Solar Panel
   - Power Meter
   - Battery

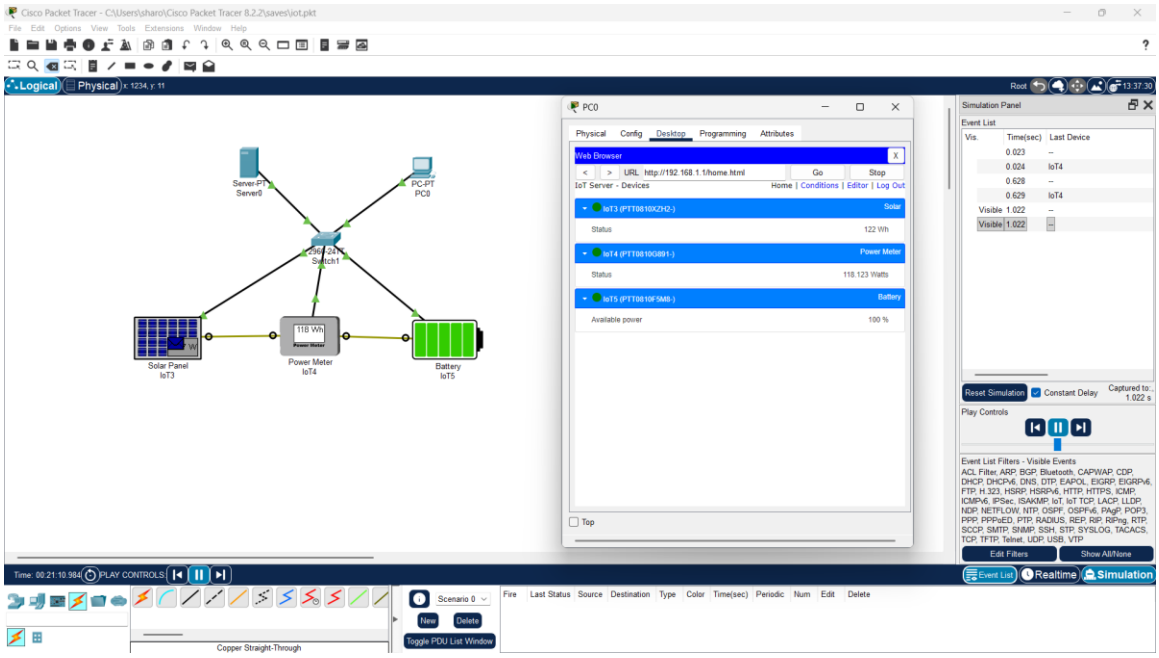
2. Use the IoT Custom Cable to make the following connections:
   - Solar Panel D0 → Power Meter D0
   - Battery D0 → Power Meter D1

3. Switch from Logical view to Physical view. Select the environment (Home/City) and increase the Sunlight value under the Environment tab.

4. Switch back to Logical view. Open the Power Meter GUI to observe the power flow from the solar panel. Open the Battery GUI to check the state of charge.

Results

When the sunlight level is increased above zero in the Environment settings, the Solar Panel begins to generate power. The Power Meter displays the watts produced by the panel, and the Battery GUI shows the charging percentage increasing. This demonstrates that the battery system successfully charges using solar energy.



Conclusion

A simple solar power system was implemented in Cisco Packet Tracer. The simulation shows that sunlight drives energy generation in the solar panel, which is measured by the power meter and stored in the battery. Thus, the objective of designing a battery system that charges using solar energy was achieved.