**PROJ: Smart Plant Watering**

**Components-Under Checking**

| **Component** | **Quantity** |
| --- | --- |
| Nodemcu ESP8266 | 1 |
| Jumper wires | - |
| Breadboard | 1 |
| Soil moisture sensor 3.3V-5V Soil | 1 |
| Relay module | 1 |
| Mini water pump DC 3-5V | 1 |
| Mini water pipe | 1 |
| 9V battery clip | 1 |
| 9V Battery | 1 |

* **In the video he uses led to display the sensor reading we don't need that we will use display on GUI only.**
* **So I deleted the LED and 12c module to save money.**
* **In the video he uses a 9v battery for the pump and the pump is 5v !**

**Workflow**

1. **Soil** → A moisture sensor detects the water level.
2. **Sensor** → Sends data to the microcontroller (Arduino/Raspberry Pi).
3. **Microcontroller** → Analyzes the data:
   * If the soil is dry, it sends a signal to the relay module to turn on the pump.
   * If the soil is wet, the pump remains off.
4. **Relay module** → Controls the water pump.
5. **Pump** → Pulls water from the tank through pipes to the soil.