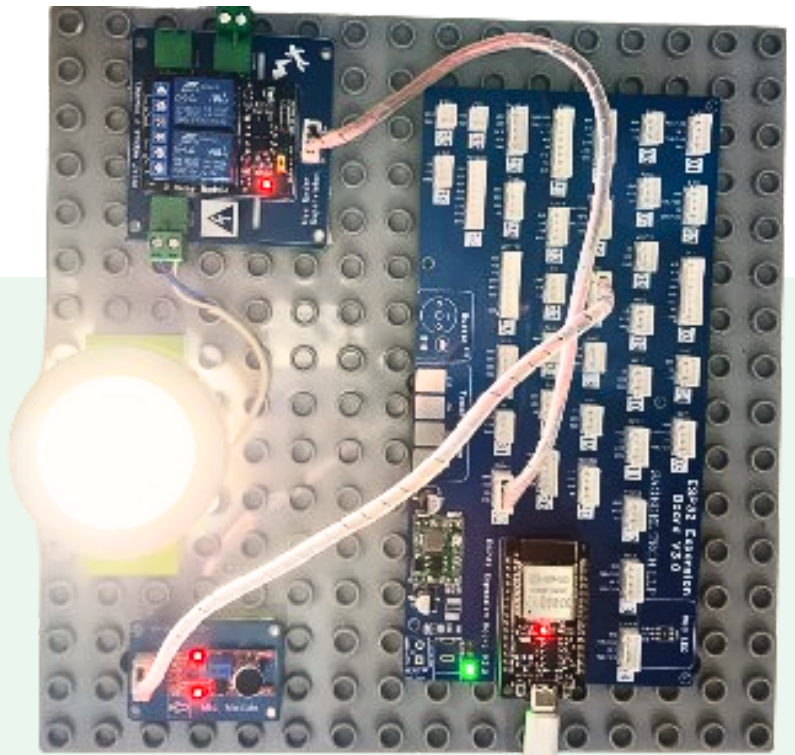


CLAP CONTROLLED SWITCH

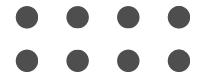
Clap-Controlled Switch — Sound-Activated Appliance Control Module

2026



CLAP CONTROLLED SWITCH

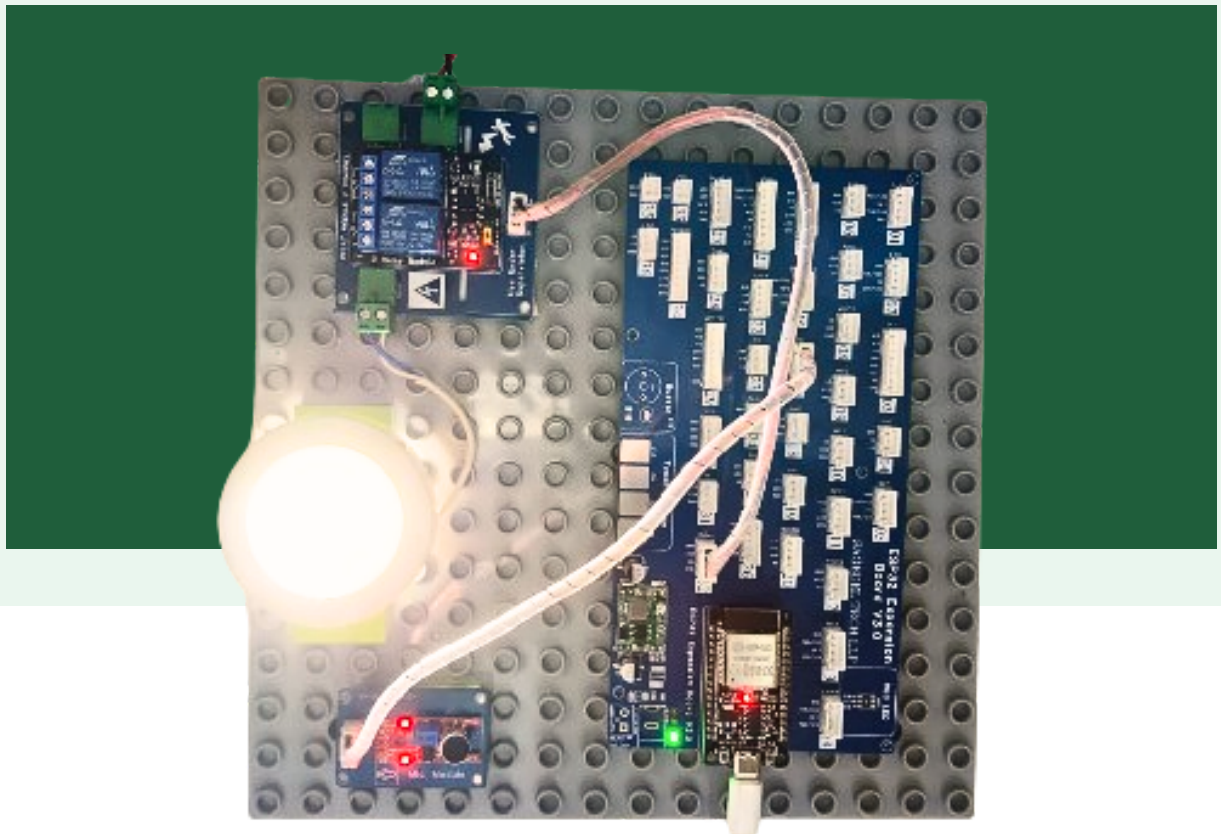
Objective:



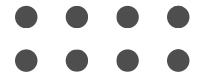
To build a sound-activated switch that turns an appliance ON or OFF using a clap, enabling hands-free control without manual switching.

What it Does:

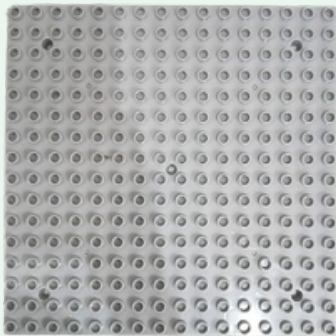
A sound sensor detects a clap and signals the ESP32, which then triggers a relay to switch the connected appliance ON for a few seconds before turning it OFF automatically – demonstrating simple sound-based home automation.



Modules & Components used:



ESP32 Expansion Board



Lego Board



Relay Module



Mic Module



5W AC LED Light



Power Cord



USB Cable



JST Cables

Step-by-Step Assembly & Connections

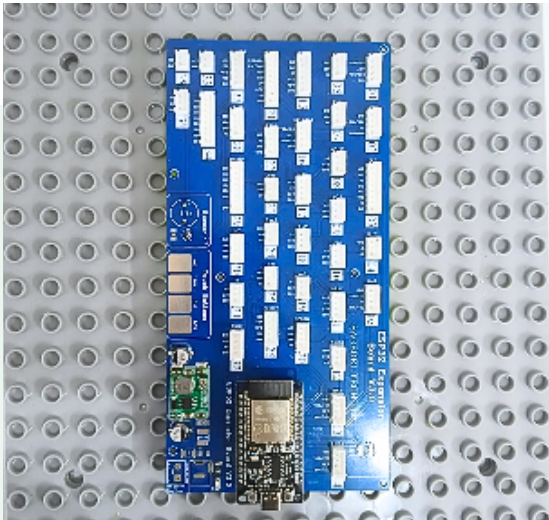


Step 1: Mount the ESP32 Expansion Board onto the Lego baseplate and secure it firmly in position.

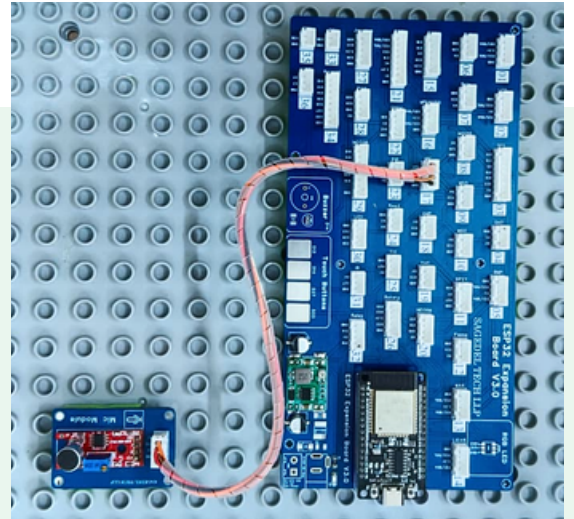
Step 2: Connect the **Mic Module to Port 17** and mount it at the top corner, facing outward.

Step 3: Connect the **2-Channel Relay Module to Port no. 32**, and mount it at the bottom of the baseplate.

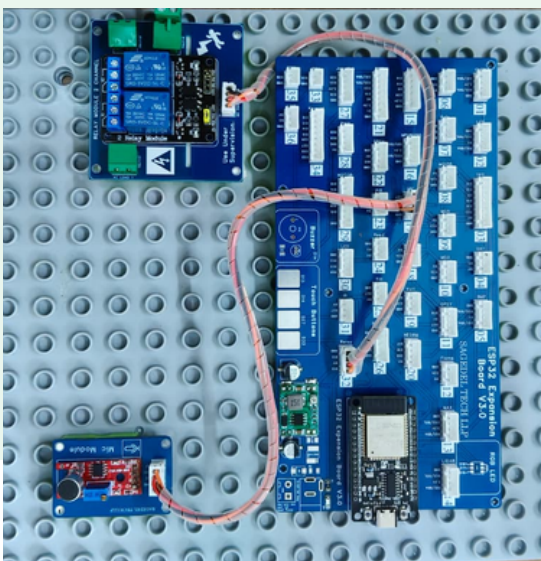
Step 4: Wire the light/appliance to the Relay Module's output terminals and mount it near the relay.



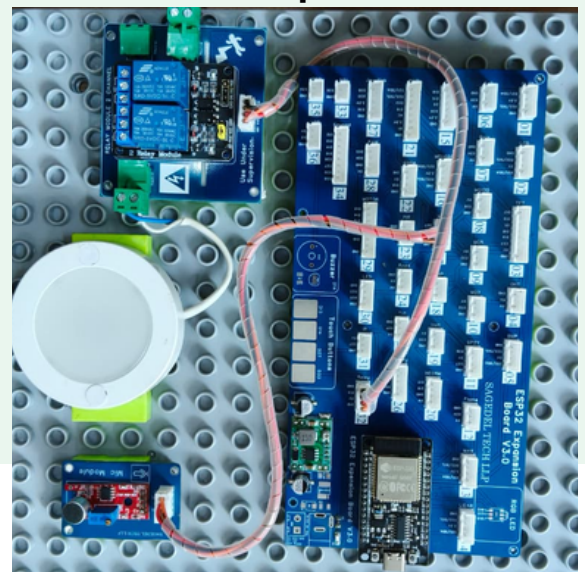
Step 1:



Step 2:

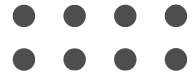


Step 3:

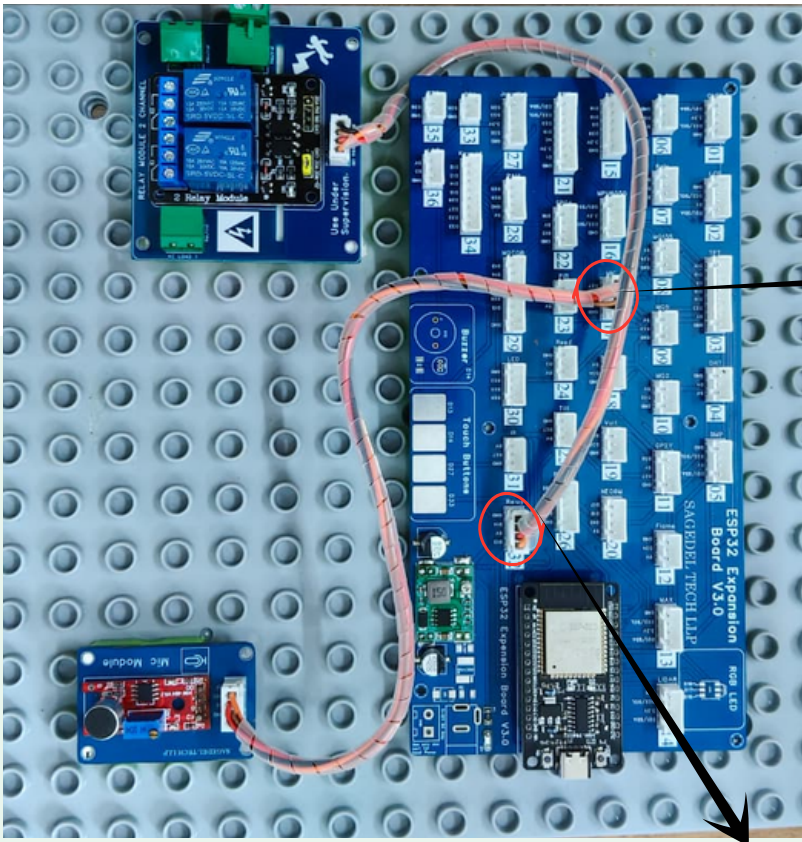


Step 4:

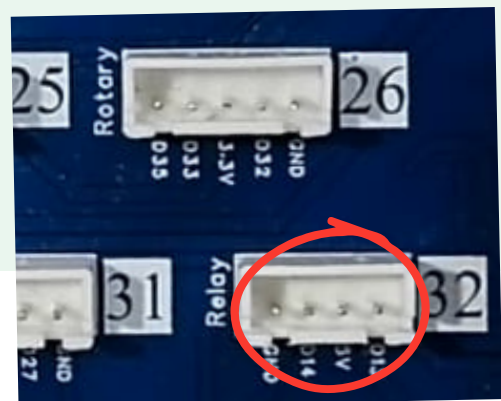
Specific Port Connections



- **MIC Module** → Connect it to **Port No. 17**
- **Relay Module** → Connect it to **Port No. 32**

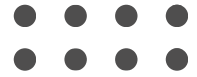


Connect the MIC Module to
Port No. 17

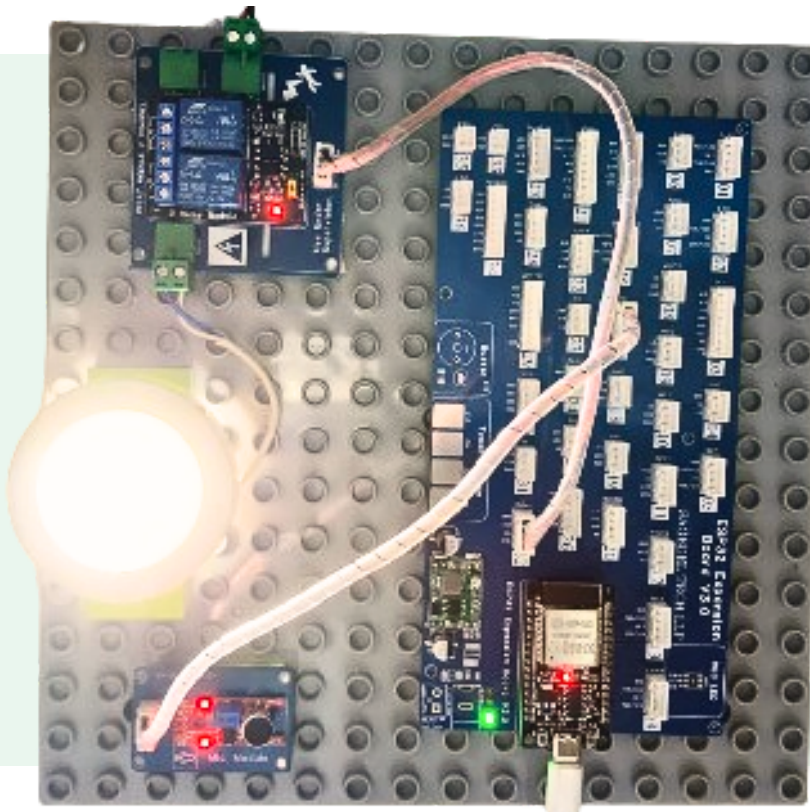


Connect the Relay Module to
Port No. 32

Final Cable Management



- Route and secure the mic module and relay wiring using spiral wraps, keeping them neatly bundled and flat against the baseplate for a clean, safe layout.



Calibration:

Power on the board and let the mic module stabilize, adjusting its position until it reliably detects a clap without false triggers; verify the Serial Monitor shows "Clap/Sound Switch Ready" and "Sound Detected!" only when a clap occurs.