



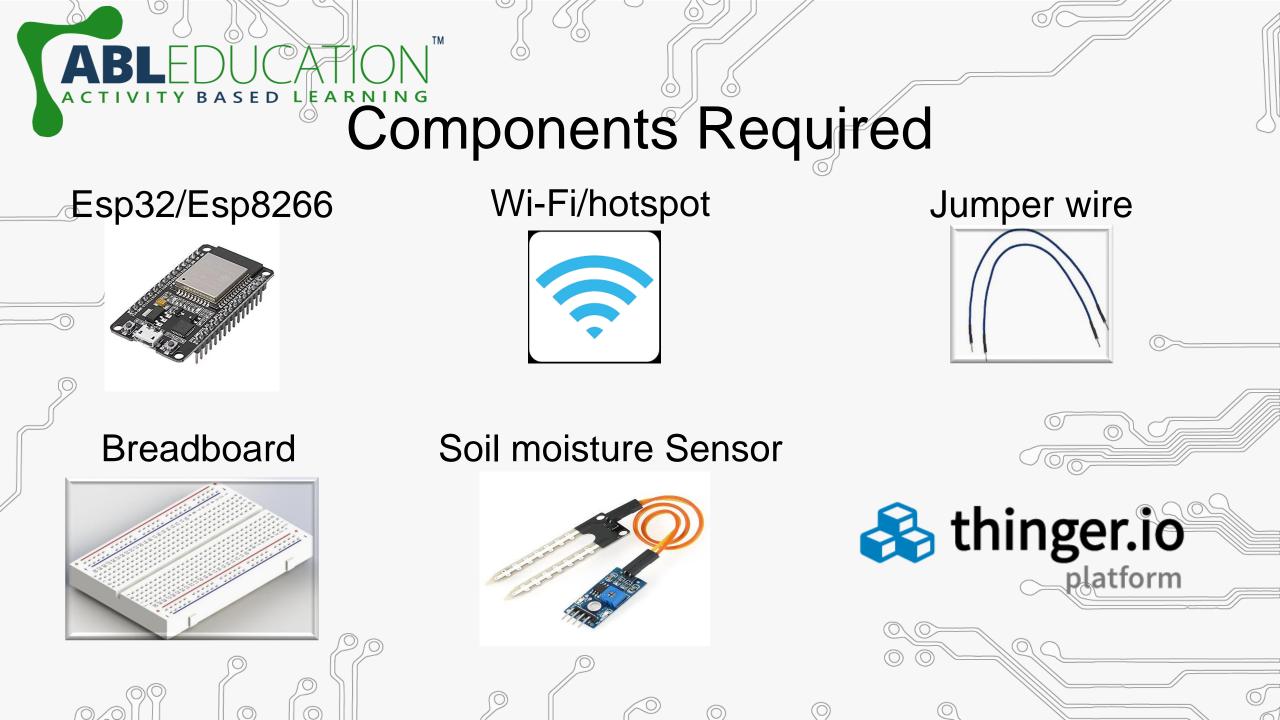
# **Smart Irrigation System**

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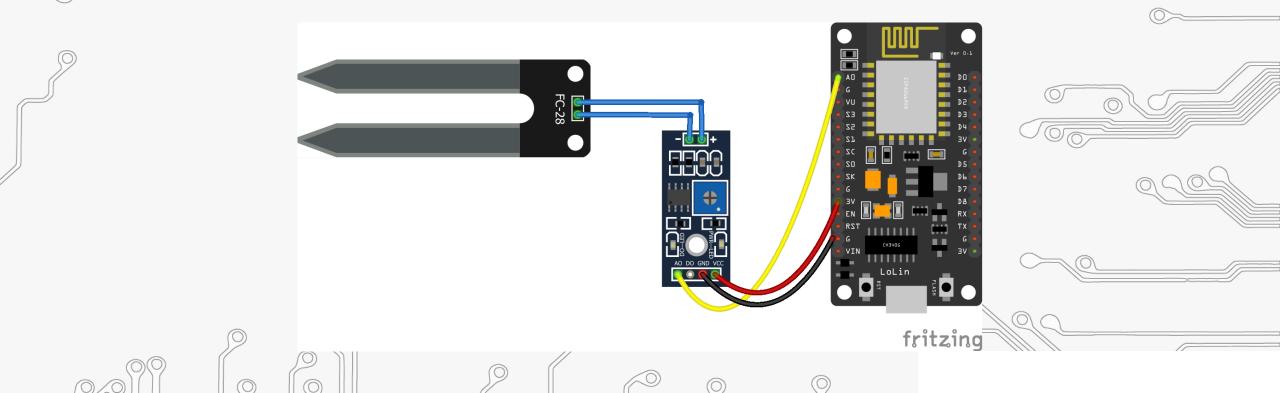






## Steps for Connection

Connect ground and vcc pin of soil moisture sensor to ground and vin/3v3 pin of esp32 respectively. Now connect signal pin(a0) of soil moisture sensor to any Gpio pin of esp32.



# What is thinger.io?

🗞 thinger.io

platform

Thinger.io platform is an Open Source platform for the Internet of Things, it provides a **ready to use** scalable cloud infrastructure for connecting things. Makers and companies can start controlling their devices from the internet in minutes, without worrying about the required cloud infrastructure.

### Steps to setup thinger.lo

- Goto <u>https://thinger.io</u> and create a thinger account by Signing up .
   (Note: Remember the user name)
- Goto: Devices  $\rightarrow$  Add device

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🗞 thinger.io	≅ & □			• 0
네 Statistics	Devices			$\bigcirc$
2 Dashboards				0.9
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### Steps to setup thinger.lo

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Now give Device Id & Device Credentials and Click on Add Device.
 (Note: Remember Device Id and Credentials)

C	Device Details		1/2
		Pevice Configuration	
	Device Type 🚯	Generic Thinger Device (WiFi, Ethernet, GSM)	▼
))	Device Id 🚯	Enter device identifier	209
	Device Credentials 🕄	Enter device credentials Random	
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### Open Arduino IDE and add thinger.io library. Sketch Include

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ACTIVITY BASED LEARNING

Type All	✓ Topic All	~ thin	ger.io
ClimaStick			٠ •
integrates WiFi co	ick v1 & v2 library to onnectivity along wit d projects easily. It i	th a set of powerf	<b>D Internet of Things Platform.</b> ClimaStick is a complete IoT developement kit, that ful sensors to provide environmental and motion sensing. This way, it is possible to create with the Thinger.io cloud infrastructure, and provides easy to use libraries that can be
	ustamante Version		
connecting your th Arduino Wifi, Ardui	things or devices for uino MKR1000, Ardui	remote sensing a no MKR1010, Ardu	<b>Platform.</b> Thinger.io is an open source platform for the Internet of Things. It will allow and actuating. Working with several devices like ESP8266, ESP32, Arduino Ethernet, uino Nano RP2040 Connect, Arduino Nano 33 IOT, Arduino MKRNB1500, Arduino GSM1400, , Texas Instruments CC3200, ENC28J60, LinkIt ONE.
Select version ~	Install		
ThingerCore32 by Alvaro Luis Bu		SP32 based devi	<b>ces</b> Thinger.io is an open source platform for the Internet of Things. It will allow



within double quotation.

```
int sensor = 34;
int val,percentage;
```

/



 Initialization section: Here to send signal from sensor to thinger.io platform ">>" symbol is used. Here, "soilmoisture" is **Resource** name and "moisture" & "moistpercentage" are Value that is going to used in widget thinger.io. section in Resource and Value can be changed according to user.

void setup()

Serial.begin(115200);
pinMode(sensor, INPUT);
WiFi.begin(ssid, password);
thing.add\_wifi(ssid, password);
thing["soil-moisture"] >> [](pson& out)
{

out["moisture"] = val; out["moist-percentage"] = percentage; };



### • Main loop:

```
void loop() {
  thing.handle();
  val = analogRead(sensor);
  percentage = 100 - ((val/1023)*100);
  delay(100);
```

Now setup the dashboard in thinger.io platform. Goto thinger.io account and **Dashboards**  $\rightarrow$  Add dashboard. Now give the Dashboard id, name and description.

Dashboard Details	1/4	2209
Dashboard id 🕄	Enter a dashboard id	
Dashboard name 🕄	Enter dashboard name	
Dashboard description 🕄	Enter dashboard description	
✓ Add Dashboard		

#### • Click on Dashboards and then click on available dashboard id.

ED LEARNING

 Now to add widget turn ON the sliding switch and than click on add widget. Fill the widget settings box to get the desired output.

	Widget Settings			
	Widget			
$\bigcirc$	Title 🚯	Widget Title		
	Subtitle 🚯	Widget Subtitle		
	Link To 🚯	<ul> <li>Select Dashboard</li> </ul>		
	Show Update 🚯			
	Show Fullscreen 🕕			
	Background 🚯			
	Туре 🚯	Select widget type 🗸 🗸		
		Save Cancel		



ASSESSMENT TIME.....

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