

# Smart Plant Monitoring System with NodeMCU8266 using IOT

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**Abstract:** *Plants play a vital role in maintaining the ecological cycle, and thus, to maintain the plant's proper growth and health, adequate monitoring is required. Hence, the aim of the chapter is to create a smart plant monitoring system using automation and internet of things (IOT) technology. This topic highlights various features such as smart decision making based on soil moisture real-time data. For this purpose, sensors like soil moisture sensor, DHT11 sensor, level sensor, etc. are used. The soil moisture sensor measures the level of moisture (i.e., water content of different plants). The signal will be sent to Arduino board when the moisture level drops below the marginal value, which triggers the pumping of water into the plant by the pump. When the moisture level reaches absolute value, the pump is halted. The other condition for this process is level sensor. Level sensor senses the water level in the tank and sends the information of water level value to Arduino board and Arduino board to cloud. The whole data about the plant monitoring will be sent to the cloud server.*

**Keywords:** Internet of Things, Arduino, soil sensor, DHT11 sensor, cloud.

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