# Project Design Phase-I
# Solution Architecture

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| Date | 04 September 2022 |
| Team ID | PNT2022TMID30731 |
| Project Name | IoT Based Smart Crop Protection System For Agriculture |
| Maximum Marks | 4 Marks |

**Solution Architecture:**

The PIR sensor, web camera, ultrasonic sensor, LDR sensor, temperature sensor, humidity sensor, moisture sensor, buzzer, and monitor are all utilised in the system. Using various sensors, the various soil parameters (temperature, humidity, light intensity, pH level) are measured, and the results are saved in the IBM cloud.
If there was a change in the evaluation threshold, the sensors would send an alert to the farmer's mobile device or web page. This would ensure that the plants were completely protected from both animals and environmental conditions, preventing the farmer from suffering loss.To process weather data from a weather API as well as data from sensors, an Arduino Uno is used as a processing unit. To connect the hardware, software, and APIs, Node Red is utilised as a programming tool. It uses the MQTT protocol for communication. System that is built for monitoring the crop field with the help of sensor.The IOT device is used to indicate The farmer by a message while someone enter into the Farm and we are used SD card module that helps to Store a specified sound to fear the animals.The announcement of the threshold rate will be sent to the cell number or to the website. The result will be generated on a catalog if the mobile of the person to take the necessary action.

**Example - Solution Architecture Diagram:**