

CHAPTER 1

INTRODUCTION

1.1 Background

According to (Rose, Eldridge, Chapin, 2015) “the term Internet of Things (IoT) generally refers to scenarios where network connectivity and computing capability extends to objects, sensors and everyday items not normally considered computers, allowing these devices to generate, exchange and consume data with minimal human intervention”.

The Internet of Things (IoT) requires a platform to be accessed globally or privately. For example the platform of Internet of Things (IoT) globally is Thingspeak (www.thingspeak.com), AWS IoT (aws.amazon.com), Arduino Cloud (cloud.arduino.cc), Ubidots (www.ubidots.com). The Internet of Things (IoT) platform is using a MQTT (Messaging Queuing Telemetry Transport) protocol. According to (Vanani, Patoliya, Patel, 2016) “the MQTT protocol is lightweight in the sense that clients are small, and it uses network bandwidth efficiently”.

Because the protocols used on the Internet of Things (IoT) platform have many features and not all are used, in this project the Internet of Things (IoT) server be created using only the frequently used features. This Internet of Things (IoT) server is built by my own protocols . This project is built based on java socket programming.

1.2 Scope

This project is made using Java Programming Language. Scope in this project are :

1. In this project do not use library from MQTT. The protocol used on the Internet of Things (IoT) server is MQTT.
2. This project in its endurance test will be tried on multiple clients.
3. The final result of this project is to build an Internet of Things (IoT) platform with data that the user receives is a web based graph.
4. Security is not a top priority.

1.3 Objective

This project is created to build an Internet of Things (IoT) server based on Java Socket Programming. The purpose of this project :

1. Implementation of Java Socket Programming to build an Internet of Things (IoT) server privately.
2. Build an own protocols better than MQTT protocol in data transmission from sensors to server.
3. Build an Internet of Things (IoT) Platform.