



BBM 434 – Embedded Systems Lab

Lab 8 Instructions

- Esp8266 Wi-Fi Module -

Preparation

For this lab you will need your Launchpad, an esp8266 WiFi module, and other necessary equipment based on what project you choose to implement.

Purpose

The purpose of this lab is to learn how to use esp8266 Wi-Fi module to connect your embedded projects to the Internet.

System requirements

This lab experiment is left to your imagination. You can implement any project you like, but **there is a minimum requirement that needs to be satisfied to get the full grade**. At the very minimum, you have to:

- **either fetch some data from the Internet and use it in a meaningful way** (e.g. display the current temperature in your hometown or a website's page hits on your Nokia LCD, or light LEDs or sound an alarm based on the fetched data, etc.),
- **or post some data you collected to a website** using HTTP POST request (e.g. post a reading from a sensor to an IoT platform such as ThingSpeak).

Note the 'either...or' construct; **you don't have to do both**. If you have already obtained some extra sensors for your final projects, you can use them in this experiment as well.



Based on the level of complexity and awesomeness of your project, you may earn extra credit or bonus awards.

Implementation

For this final lab, you are expected to do your own research about esp8266 Wi-Fi module and acquaint yourselves with its operation. At first, it may seem to you that it is very difficult to work with esp8266 Wi-Fi module, but it is actually quite easy once you understand what you need to do. There are lots of resources about this module on the Internet. Before you look at the existing projects and instructions on the Internet, maybe you can start with the [ESPRESSIF's website](#) where you can find the datasheet and other relevant information about this module.

How to Submit a Written Report

The deadline for the submission is **Friday 10 May 2019 until 13:45** (no further extensions will be allowed!). Submit your work through <http://submit.cs.hacettepe.edu.tr/> (submission via e-mail will not be accepted!) in the following format (**one submission per group**):

- **b<studentID>.zip**
 - **report.pdf**
 - **projectcodes.zip**