

## Tutorial 5: NodeJS (1)

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### Objectives

- Continue practicing to communicate between classes in JavaScript using **callback functions**
- Practice basic NodeJS & Express
  - Creating end-points
  - Passing GET parameters

### Tutorial Exercises

In this tutorial, you will work in pairs to solve these exercises.

#### Exercise 1: Flash cards (15 mins)

Download the solution from the previous tutorial `tut04/flash-cards-oop/`, and have a look. Recall that in this exercise, the classes (`App` & `StatusBar`) communicate with each other using **custom events**.

Duplicate this folder & named it under `tut05/flash-cards-oop/`, and refactor code so that, the two classes (`App` & `StatusBar`) communicate with each other using **callbacks functions**.

- Class `App`: passes into the `StatusBar` the callback functions,
- Class `StatusBar`: invokes the appropriate callback function in each suitable case.

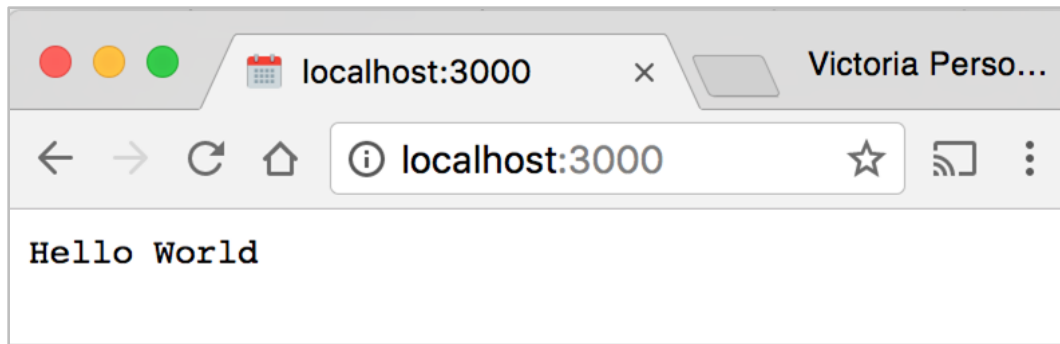
#### Exercise 2: Basic NodeJS (30 mins)

Create folder `tut05/node-server/`, and complete the tasks below.

##### Task 1: Hello NodeJS

Create NodeJS server & re-run the Hello World program yourself.

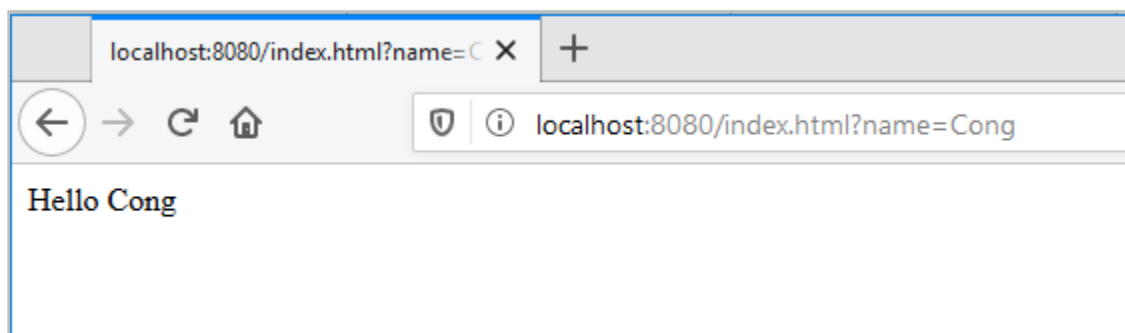
For example: <http://localhost:3000>



### Task 2: Hello “X”

Now, duplicate & modify output from *Task 1*, instead of just print out ‘Hello World’ (**fixed**), let’s handle the query params to print out a message: ‘Hello [Name]’ (**dynamically**).

For example, <http://localhost:3000/index.html?name=Cong>



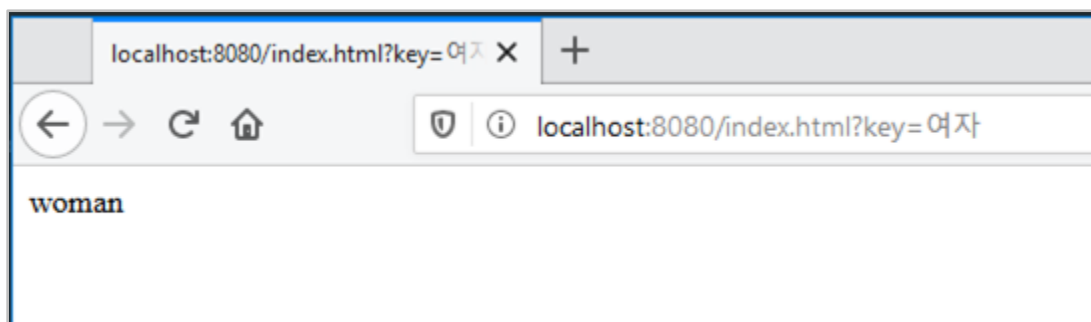
Note: index.html is a dummy-text to have a valid url for query params.

**Hint:** See URL module [https://www.w3schools.com/nodejs/nodejs\\_url.asp](https://www.w3schools.com/nodejs/nodejs_url.asp)

### Task 3: Korean dictionary

Duplicate & modify output from *Task 2*, in the flash-cards application, we have a data.js file to contain an object (dictionary) of some Korean words. With the query param is the word, you are required to print out the meaning of the word (just like to look up a dictionary)

For example, <http://localhost:3000/index.html?key=여자>



### Exercise 3: Basic ExpressJS (30 mins)

#### Discussion 1: NodeJS routes problem

How to serve 3 paths with 'Hello World', 'Hello [Name]' and Korean dictionary in NodeJS?

**Hint:** See URL module again [https://www.w3schools.com/nodejs/nodejs\\_url.asp](https://www.w3schools.com/nodejs/nodejs_url.asp)

#### Discussion 2: NodeJS serve static files problem

How about serving **static files** (HTML, CSS, IMAGES, etc) in NodeJS?

**Hint:** Section *Node.js File server* in [https://www.w3schools.com/nodejs/nodejs\\_url.asp](https://www.w3schools.com/nodejs/nodejs_url.asp)

#### Task 1: Express routes

Use **express** to create 3 routes that solve the problem from *Discussion 1*.

In this task, express need to work with query params.

**Hint:** In express, query parameters are saved in **req.query**.

#### Task 2: Express serve static files

Use **express** to create 3 routes that solve the problem from *Discussion 2*.