

# CMPS 3680 Guided Lab 9

*Spring 2025*

## Part 1 - Install Nodejs

1. Log into your server and run the following two commands to install Nodejs version 20 (LTS):

```
curl -fsSL https://deb.nodesource.com/setup_20.x | sudo -E bash -  
sudo apt-get install -y nodejs
```

2. In your home folder, create a new folder called **hello**, cd to that folder, and initialize a new node project:

```
mkdir hello  
cd hello  
npm init
```

This will create a **package.json** file that will keep track of your packages/dependencies and project info.

3. In your **hello** folder, create a server.js file with the following code:

```
const http = require('http');  
  
const hostname = '127.0.0.1';  
const port = 3000;  
  
const server = http.createServer((req, res) => {  
  console.log("Request Received");  
  res.statusCode = 200;  
  res.setHeader('Content-Type', 'text/plain');  
  res.end("HELLO WORLD\n");  
});  
  
server.listen(port, hostname, () => {  
  console.log(`Server running at http://${hostname}:${port}/`);  
});
```

4. Run your server in the foreground to debug/test:

```
node server.js
```

5. Run your server in the background:

```
node server &
```

6. To test if your server is running locally and taking requests use curl:

```
curl http://127.0.0.1:3000/
```

## Part 2 - Configuring Apache2

1. Run the following command to add proxy support to your apache2 server:

```
sudo a2enmod proxy proxy_http
```

2. To route traffic to your new server running on port 3000, add the following lines to your apache config:

```
ProxyPreserveHost On  
ProxyPass /hello http://127.0.0.1:3000  
ProxyPassReverse /hello http://127.0.0.1:3000
```

3. Reload and restart apache2 server:

```
sudo service apache2 reload  
sudo service apache2 restart
```

4. You should now be able to visit this route in your web browser and hit your server:

```
https://your_subdomain.cs3680.com/hello
```

## Part 3 - PM2

1. To use PM2 to manage your node processes, install it globally using npm:

```
sudo npm install pm2@latest -g
```

2. Then start your node process using pm2:

```
pm2 start server.js
```

**NOTE:** If you already had your nodejs process running in the background from Part 1, make sure you kill that process first, since you can't run the server twice on the same port.

3. To see your running pm2 node processes:

```
pm2 list
```

Notice that each PM2 process is given a unique **ID**

4. Useful pm2 commands:

```
pm2 stop ID
pm2 start ID
pm2 reload ID
pm2 delete ID
pm2 logs
pm2 monit
```

5. To generate a startup script for pm2:

```
pm2 startup
```

6. COPY/PASTE the command generated by Step 5, and run it from the command line
7. Once you have done Step 6, you can save the current pm2 list to your server's startup with this command:

```
pm2 save
```

8. Now, the process should always be running in the background, even after restarting your server.