

# Network Operations Center (NOC) Technical

## I. Program Requisites

The required items for the program to run is...

- Node.js
- Node Package Manager (npm) – should be automatically installed with node.js
- MySQL Server (Community Edition would suffice. Be sure to take note of the user/password used for the root account/other account to be used)

## II. Developing

### HTML

There is only one HTML page used, and this index.html in the root directory. Raw HTML is not used, and is instead generated with JavaScript via the JavaScript library React. See the JavaScript section below.

### Javascript

The JavaScript files for developing is in /public/js/dev. The files location before the dev folder is *not* for development – they are the files used by the webserver that is compiled by the webpack module.

To compile the files with webpack, use the terminal command “npm run test”. This will compile the existing files, and watch for further changes. Note that it will compile it in production mode, while compressing the contents with the module UglifyJSPlugin. To disable this and have faster compile times, comment out the plugins key.

### CSS

The CSS files for developing is in /public/css/dev. The files location before the dev folder is *not* for development – they are SASS (Syntactically Awesome Style Sheets) files. SASS provides multiple options on ways to compile the .scss files location in the dev folder – note that the output files must be in /public/css.

## III. Migrating

Non-VPS (Not Recommended)

This assumes that the program will be running on a computer that's on 24/7.

1. *Only copy the following folders and files in the root directory over to the new system:*
  - a. /public
  - b. /util
  - c. config.json
  - d. package.json
  - e. server.js
  - f. webpack.config.js
2. Install the program requisites defined in the first section.
3. Set up MySQL credentials in config.json under "sqlCreds" if changed
4. Run terminal command "npm install" in the root directory. This installs the dependencies in the *current directory*. If moving to another directory on the same system, this command must run again.
5. Start the program by running terminal command "npm run startserver", or click start.bat.

## VPS (Recommended)

The steps are exactly the same as the Non-VPS migration steps, except step 5. To migrate to a VPS, SSH access is needed. Doing step 5 on a VPS will be useless once the SSH session has ended, closing the programs running on that instance. A process manager must be used instead to keep the process alive once the SSH session has ended. I suggest using PM2 (<https://www.npmjs.com/package/pm2>). The following steps pertain to using PM2:

1. Run terminal command "npm install pm2 -g".
2. Run "pm2 start server.js" in the root directory.

On some systems, PM2 may not work. In that case, *forever* might be the better choice. Follow the two steps above, but instead replace "PM2" with "forever".

## IV. Configuration

Configurations can be manually set in config.json. The data types for each configuration *must* be followed, otherwise the program might get funky:

- allowedIPs – Array[String]
- emailCreds.enabled - Boolean
- emailFailsafe.intervalSeconds – Number
- emailFailsafe.maxEmails – Number
- pingCount – Number
- pingDelayMin – Number

- pingConfirms – Number
- activityLogLength – Number
- Everything else – String

### **password**

If no password is defined, no password will be required to access the interface. If a password *is* defined, email configuration via the interface will be disabled and no changes will be accepted by the server for security purposes. Having a password assumes that the site is no longer being hosted on a local network.

### **allowedIPs**

IPs must be in string format, contained in an array. Only the IPs specified here are whitelisted. A range can be specified by having an array, with the first index being the start IP and the second being the end IP. For example, [“192.168.1.100”, “192.168.1.200”]]. More information on formatting can be found at <https://www.npmjs.com/package/express-ipfilter>.

If no IPs are defined, all IPs are whitelisted.

### **emailFailsafe**

.maxEmails - The maximum number of emails allowed in an interval before disabling emails.

.intervalSeconds - The interval in seconds during which the number of emails must be sent to trigger the failsafe.

### **pingCount**

The number of pings sent to each client to determine its status.

### **pingDelayMin**

The delay between every round of pings in minutes.

### **pingConfirms**

Ping Confirmations is a feature where it is possible to not immediately trigger notifications upon seeing that a client is offline. When the program sees a client as offline from online, it will not immediately change status and instead mark it as “potentially offline”. Once it sees it as “potentially offline” for a set number of times specified by the number of confirmations, only then will its status be changed.

## **V. Database Operations / Wiping Clients**

The database handling is in the file `./util/databaseOps.js`. On server startup, all clients are read from the table name defined in `config.json`. You may remove all the clients by simply dropping the table with the query `"USE config.database.name; DROP TABLE config.database.tableName;"` replacing the database name and `tableName` with its respective information.

## VI. Troubleshooting

If the webserver is unresponsive, then the Node program running the webserver is most likely dead. Check the terminal running the program for logs, and restart.

If the program fails to start (AKA it closes only after a few seconds with no warning, and no feedback), it may be that all its dependencies were not installed. Ensure that all the steps for migration were followed, and that the file *package.json* is there – the file that lists all the dependencies that needs to be installed by Node Package Manager (npm). If using the bat file, you may not see the full, verbose logs of why it failed. To see the full logs, run the server without the bat file as specified in Section III – the command prompt will not automatically close, allowing you to see the full log.