

*Berdo'alah sebelum mengerjakan. Dilarang berbuat curang.*  
*Tugas ini untuk mengukur kemampuan anda, jadi kerjakan dengan sepenuh hati.*  
*Selamat belajar, semoga sukses !*

<b>Nama Mahasiswa:</b> Javiar Fasyah	<b>NIM:</b> 1301164477	<b>Nilai:</b> .....
<b>Nama Mahasiswa:</b> Fahrur Rozi Syarbini	<b>NIM:</b> 1301164213	<b>Nilai:</b> .....
<b>Nama Mahasiswa:</b> Hilmi Triandi N	<b>NIM:</b> 1301164286	<b>Nilai:</b> .....

**Siapkan tools berikut sebelum mengerjakan:**

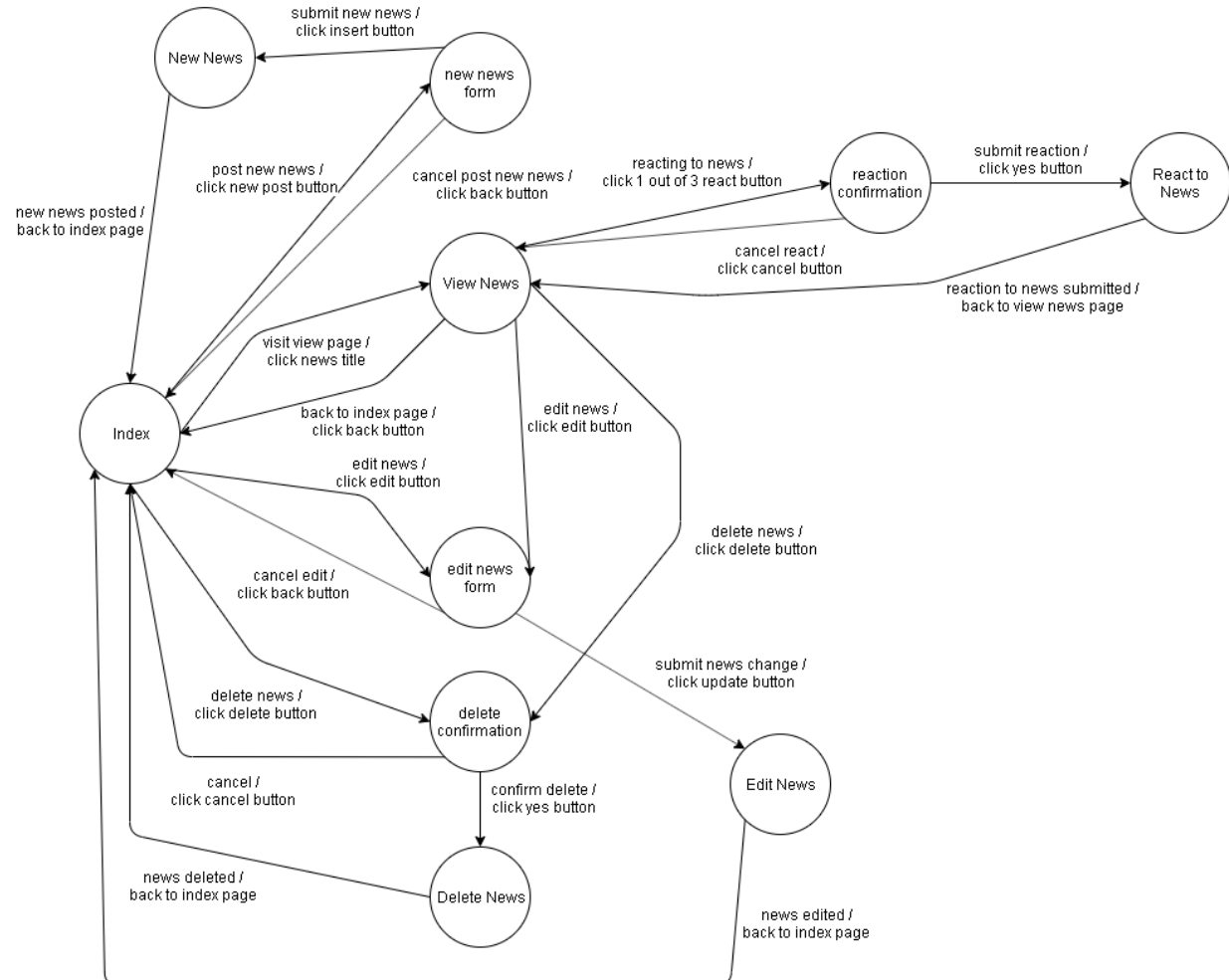
1. Go Programming Language (<https://golang.org/dl/>).
2. Visual Studio Code (<https://code.visualstudio.com/>) atau LiteIDE (<https://github.com/visualfc/liteide>).
3. Harus menggunakan linux dengan distro fedora (<https://getfedora.org/id/workstation/>).
4. Gunakan openssl (<https://www.openssl.org/>) untuk mengerjakan salah satu tugas pada modul ini.
5. Buatlah git repository pada <https://github.com/> kemudian push semua kode dan hasil laporan anda ke dalam repository github yang sudah anda buat.
6. Kumpulkan link repository github tersebut sebagai tanda bahwa anda mengerjakan tugas modul ini.
7. Link repository harus berbeda untuk setiap tugasnya. Buatlah markdown yang rapi disetiap repository tugas yang anda kumpulkan.
8. Printscreen program harus dari desktop kelompok anda sendiri, dan harus dari linux yang sudah diinstall. Jika tidak, maka harus mengulang pengerjaan tugasnya.
9. Jangan lupa untuk menuliskan NAMA dan NIM pada laporan.
10. Laporan berbentuk PDF dan dikumpulkan pada link repository github beserta kodenya.
11. Walaupun tugas berkelompok tapi pengumpulan link github harus individu, jika tidak mengumpulkan maka dianggap tidak mengerjakan.

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### Soal No 1 (Secure Web Server Design)

Buatlah perancangan aplikasi Web Server yang dapat melakukan serve koneksi HTTPS menggunakan diagram FSM serta jelaskan cara kerjanya!

Jawaban:



Server membaca config dari file config.yaml untuk menentukan nama db, tabel, port db, dan port https untuk akses aplikasi. Setelah config dibaca, server mengecek koneksi dengan db yg digunakan apakah dapat dihubungi atau tidak, jika iya maka server akan membuka rute-rute yg dapat diakses pengguna dalam menggunakan aplikasi. Karena server melisten request https, maka dibutuhkan key dan certificate dengan menggunakan openssl, key dan certificate lalu dimasukan di dalam folder server. Server perlu dibuild dan dijalankan dalam mode sudo untuk bisa berjalan. Server pun siap listening dan aplikasi dapat diakses oleh pengguna.

Pada aplikasi ini, pengguna dapat melakukan operasi CRUD seperti membuat post berita baru, melihat post berita, mengedit post berita, dan menghapus post berita. Diluar operasi CRUD, pengguna bisa memberi reaksi terhadap sebuah post berita dalam halaman melihat post berita. Operasi CRUD memanfaatkan rute-rute yg sudah dibuat server sebelumnya. Saat pengguna akan membuat post berita baru rutanya adalah `"/new"` lalu `"/insert"`, melihat post berita rutanya adalah `"/view/{id berita}"`, mengedit post berita rutanya adalah `"/edit/{id berita}"` lalu `"/update"`, dan

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menghapus berita adalah `"/del/{id berita}"`. Diluar rute-rute itu, pengguna akan diperingatkan bahwa halaman tersebut tidak ada.

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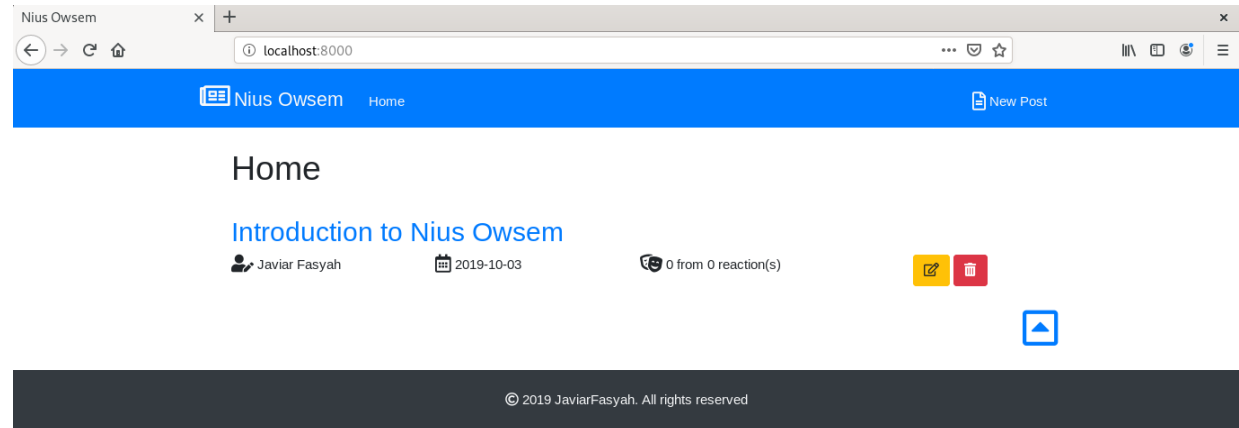
### Soal No 2 ( Secure Web Server Implementation)

Implementasikan aplikasi secure web server dari design yang sudah anda buat, aplikasi harus mempunyai config file untuk melakukan konfigurasi aplikasi!

Anda bisa mengembangkan dari code berikut <https://github.com/aulwardana/simpe-web-server>

Jawaban:

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New

Nius Owsem

Home

New Post

Back

New Post

\* required

Title\*

Title here...

Author\*

Author here...

Body\*

Newline

Subsection here...

H

Italic text here...

I

Link url here... (e.g., http://url.com)

Link text here...

Image url here... (e.g., http://url.com/img.jpg)

Image description here...

Body of the post here...

Insert

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## View

Nius Owsem

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# Introduction to Nius Owsem

Javiar Fasyah

2019-10-03

0 from 0 reaction(s)

Edit

Delete

## About Nius Owsem


Nius Owsem developed for the assignment of our (\*soviet anthem intensifies) team (consisting of me, fahrul, & hilmil) on Network Programming class. As you can see, it ain't much but an honest work, not the most sophisticated website you've known definitely. Okay so what can this website do? Well it's a CRUD website with the theme of a news website inspired mostly by "Tirto.ID." As a CRUD, it can insert a new content, view content(s), edit a content, and delete a content. The front-end uses HTML, Bootstrap, some CSS (adjustment), Font Awesome for the icons, and jQuery. The back-end uses Go, and some third party packages of Go (viper, gorilla/mux, and MongoDB Driver). Wait MongoDB? Yes, Nius Owsem uses MongoDB as the database (quiet unusual to use unlike some database you might have tried).

## Some Feature of Nius Owsem

Nius Owsem had a reaction-meter that shows you how positive/neutral/or negative a news is, shown in number from negative to positive near the mask-thingy icon. You can of course react to the news when you reach the view page of it by clicking one of the three emoticon on the bottom of the news.

To your bottom right side you might notice a blue icon with a triangle inside a square, that the auto up button so you can go the uppermost of the page instantly without scrolling up.

The website's form also had an experimental text editor that uses HTML tag like the `<br>` for newline, `<h4>` for the subsection, `<i>` for the italic text, `<a>` for link, and `<img>` for image. The text/link wrapped in tag will be appended on the end of the body's form, be sure to correct it yourself if you need 'em somewhere else. You've seen the newline, subsection, and link example this news uses right now, so yeah it actually a text/link wrapped in HTML tag, you'll see it yourself if you post a new news or edit a news. Now i'm going to show you the other example. Let start with *italic*, *mama mia it's in italic now*, okay onto the image example now:



Smudge cat meme

The image tag can only use url (complete with the `http://` or `https://`, same with the link) to show the image (again, it ain't much but an honest work), so be sure to upload your image in a drive or others, or you just StEaL MeMe like i did (Mwahahaha). You can optionally give the image a description like the example above.

## To Sum It Up...


Feel free to use this website's code (with adjustments here and there) or browse on this website (for killing time i suppose) to developed your own website, well of course for the assignment first then your very own website for serious project. Have a gud day, comrade...

your reaction to this post:

Positive

Neutral

Negative



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Edit

Nius Owsem

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## Edit Post

\* required

Title\*

Introduction to Nius Owsem

Author\*

Javiar Fasyah

Body\*

Newline

Subsection here...

H

Italic text here...

I

Link url here... (e.g., http://url.com)

Link text here...

Image url here... (e.g., http://url.com/img.jpg)

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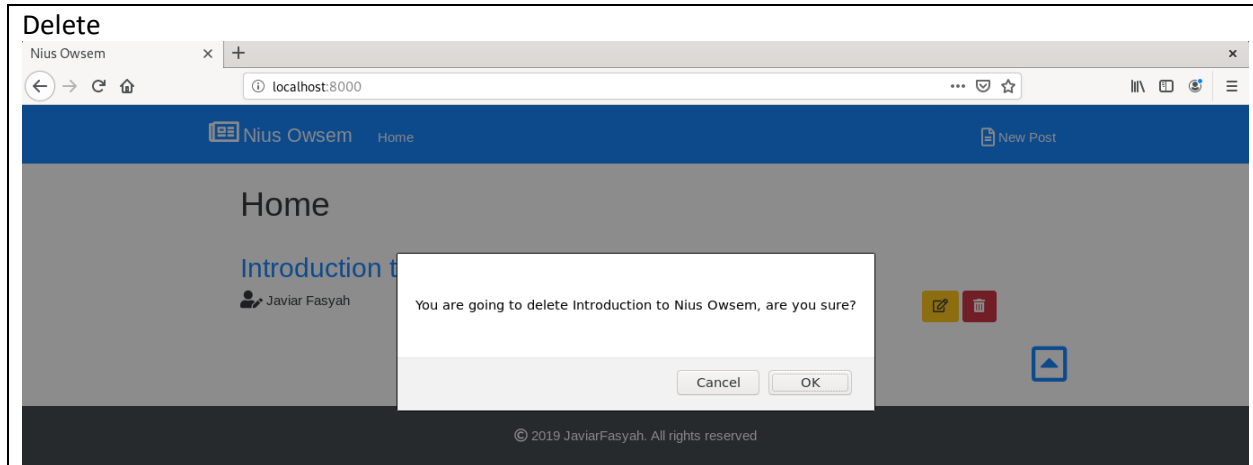
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Update

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\*dalam tugas 7, server berjalan pada port 443 (tidak ditampilkan di browser) dan sertifikasinya sempat diragukan oleh browser (karena self-signed), bisa tetap lanjutkan ke dalam aplikasi web