

# Web-Based-Tug-Boat-Scheduling-System

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## Introduction

This is a demo of tugboat scheduling system. It is a web-based automatical scheduling system.

## Requirement

This sytem is based on python enviornment.

The environments and dependencies' version of demo overview:

```
OS: Windows
Python == 3.12.2
Django == 5.0.2
pandas == 2.2.1
Requests == 2.31.0
node.js == 20.11.1
npm == 10.2.4
pytz == 2024.1
Vue == 3.4.21
```

## System Environment

```
Windows
```

## Python Environment

```
Python version >=3.10
```

If have ever installed Python, use the command following in command prompt to check the version.

```
>python

Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.1934 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

If have not ever installed Python, please go to [Python official website](#) to download and install.

## Back-End: Django

Make sure the Python has been installed successfully before install the back-end.

- Install the **Django**:

Run the command in command prompt:

```
python -m pip install Django
```

The last version of Django is **v5.0.2**.

- Install **pandas**:

Run the command in command prompt:

```
pip install pandas
```

Pandas is an open-source, BSD licensed library that provides high-performance, easy-to-use data structures and analysis tools

- Install **requests**:

Run the command in command prompt:

```
pip install requests
```

Requests is a commonly used HTTP request library that facilitates sending HTTP requests to websites and obtaining response results.

- Install **pytz**:

Run the command in command prompt:

```
pip install pytz
```

Pytz is a library for time and date.

## Front-End: Vue.js and Node.js

- Install node.js

The vue is depending on node.js. If have ever installed **node.js** and **npm**, please check the version:

Run the command in command prompt:

```
node -v  
npm -v
```

If have not ever installed, please go to [node.js official website](#) to download and install.

- Install Vue.js

Run the command in command prompt:

```
npm install vue -g
```

Check the version of **vue.js**:

Run the command in command prompt:

```
npm list vue
```

- Install **vue-cli** Open the folder **website\NingboHarbour** and run command in command prompt:

```
npm install
```

## Start Server

### At Back-End

- Run server

Open folder **web\WBTBSystem** and run command in command prompt:

```
python manage.py runserver
```

Default run at <http://127.0.0.1:8000/>.

Successful running example:

```
System check identified no issues (0 silenced).  
March 26, 2024 - 22:54:55  
Django version 4.2.7, using settings 'WBTBSystem.settings'  
Starting development server at http://127.0.0.1:8000/  
Quit the server with CTRL-BREAK.
```

- Access Database through super-user

Admin Super-user:

```
Username: ADMIN001
Password: 12345678

Username: Team202310
Password: Team202310
```

Access database through <http://127.0.0.1:8000/admin>

**NO # BETWEEN 8000 and ADMIN** Otherwise, **CAN NOT** go into back-end admin page.

### At Front-End (Optional)

- Run server

Open folder `website\NingboHarbour` and run command in command prompt:

```
npm run serve
```

Successful running example:

```
DONE  Compiled successfully in 175ms
23:00:55

App running at:
- Local:   http://localhost:8080/
- Network: http://172.19.39.208:8080/
```

Default run at <http://127.0.0.1:8080/> and network url is based on device's IPv4.

### Default Accounts

Access serve as **ADMIN**:

```
Username: ADMIN001
Password: 12345678
```

Access serve as **SCHEDULER**:

```
Username: SC0001
Password: 12345678
```

```
Username: SC0002
Password: 12345678
```

Access serve as **CAPTAIN** (CP0001-CP0040):

```
Username: CP0001
Password: 12345678
```

```
Username: CP0002
Password: 12345678
```

...

```
Username: CP0040
Password: 12345678
```

## Test using the preset dataset

If want to test the system using the preset dataset `test_container.xlsx` in `web\WBTBSystem`, the dates in data set need to be changed.

For example, if want to test on 4/10/2024:

```
CN0001  1,516  China  4/3/2024  9:00  INBOUND  1
```

Should be changed to

```
CN0001  1,516  China  4/10/2024  9:00  INBOUND  1
```

## Q & A

- **vue-cli-service is not a command**

If there is error when run `npm run serve`:

'vue-cli-service' 不是内部或外部命令，也不是可运行的程序  
或批处理文件。

please open folder `website\NingboHarbour` in command prompt and run command:

```
npm install
```

- **Proxy error**

If there is error when access the server from front-end and prompt show that:

```
Proxy error: Could not proxy request /api/login/ from localhost:8080 to
http://127.0.0.1:8000.
See https://nodejs.org/api/errors.html#errors_common_system_errors for more
information (ECONNREFUSED).
```

Please make sure that **back-end has been started**.

Open folder `web\WBTBSystem` in command prompt and run command:

```
python manage.py runserver
```

- **Web page is blank page**

If open the server and the web page is blank page, please first close the back end and open folder `web\WBTBSystem` in command prompt and run command:

```
python manage.py collectstatic
```

then restart back-end.