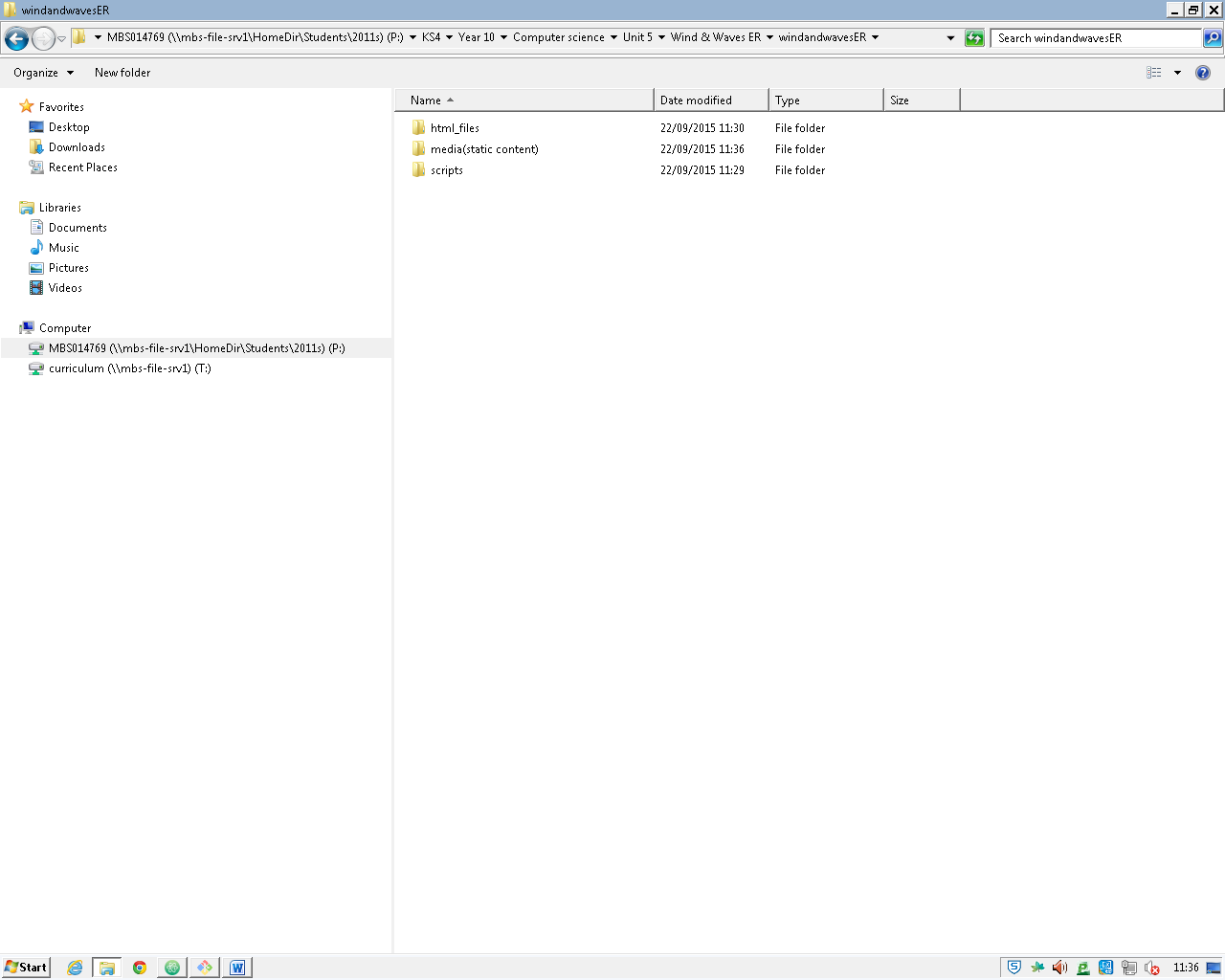
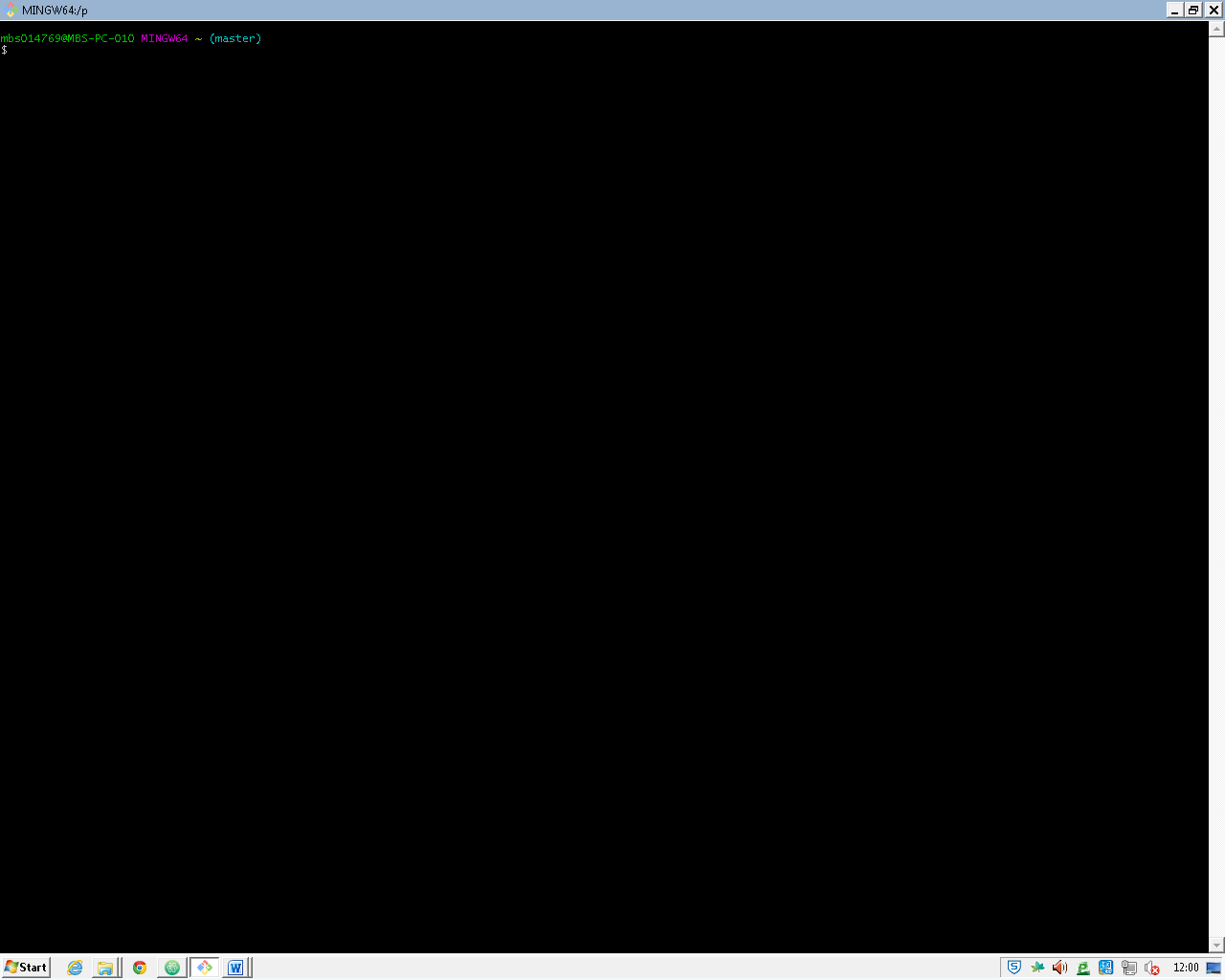
Setting up the wind and wave website



I have created a folder structure so that the websites links do not break when I move the root folder. Moreover I will add this to a git repository – a cloud based source control system this means that if I lose any work at all, or make a change that I did not work I can easily reverse.

I create this repository by firstly by bringing up a terminal program called git bash which will bring up a specialized terminal window for editing git repositories



I now enter in my git credentials(my username & email) via the command

git config --global user.email “[mbs014769@meole.co.uk](mailto:mbs014769@meole.co.uk)”

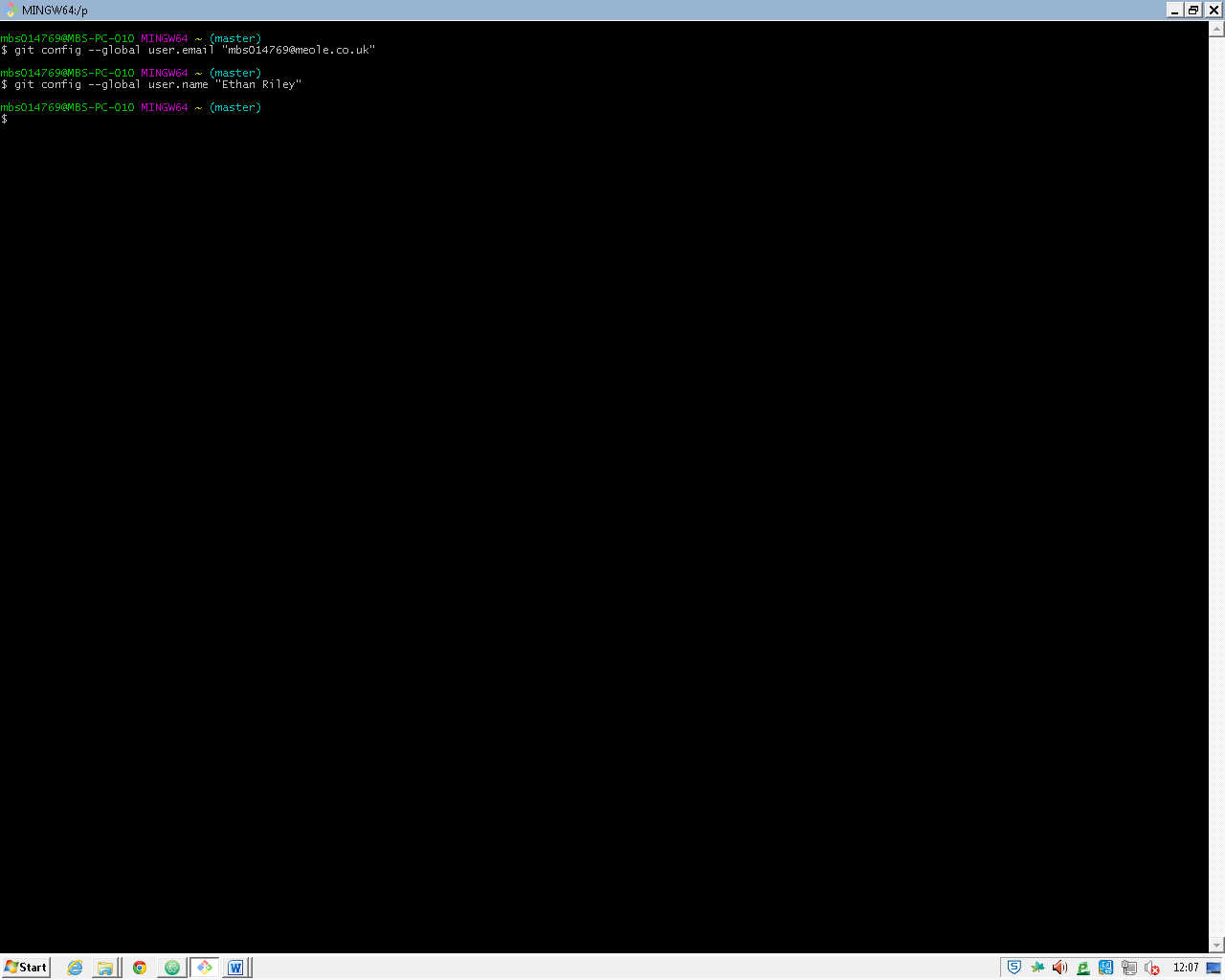
and my user name

git config --global user.name “Ethan Riley”

this command tells git that in all repositories that I create that my username is ‘Ethan Riley’

the config part of theese commands makes

and in the terminal it will look like this :



From Now on red text means that this will be executed in the git bash command window to reduce the amount of interruption in my explanations although I will add a screenshot of these commands at the end of the explanation.

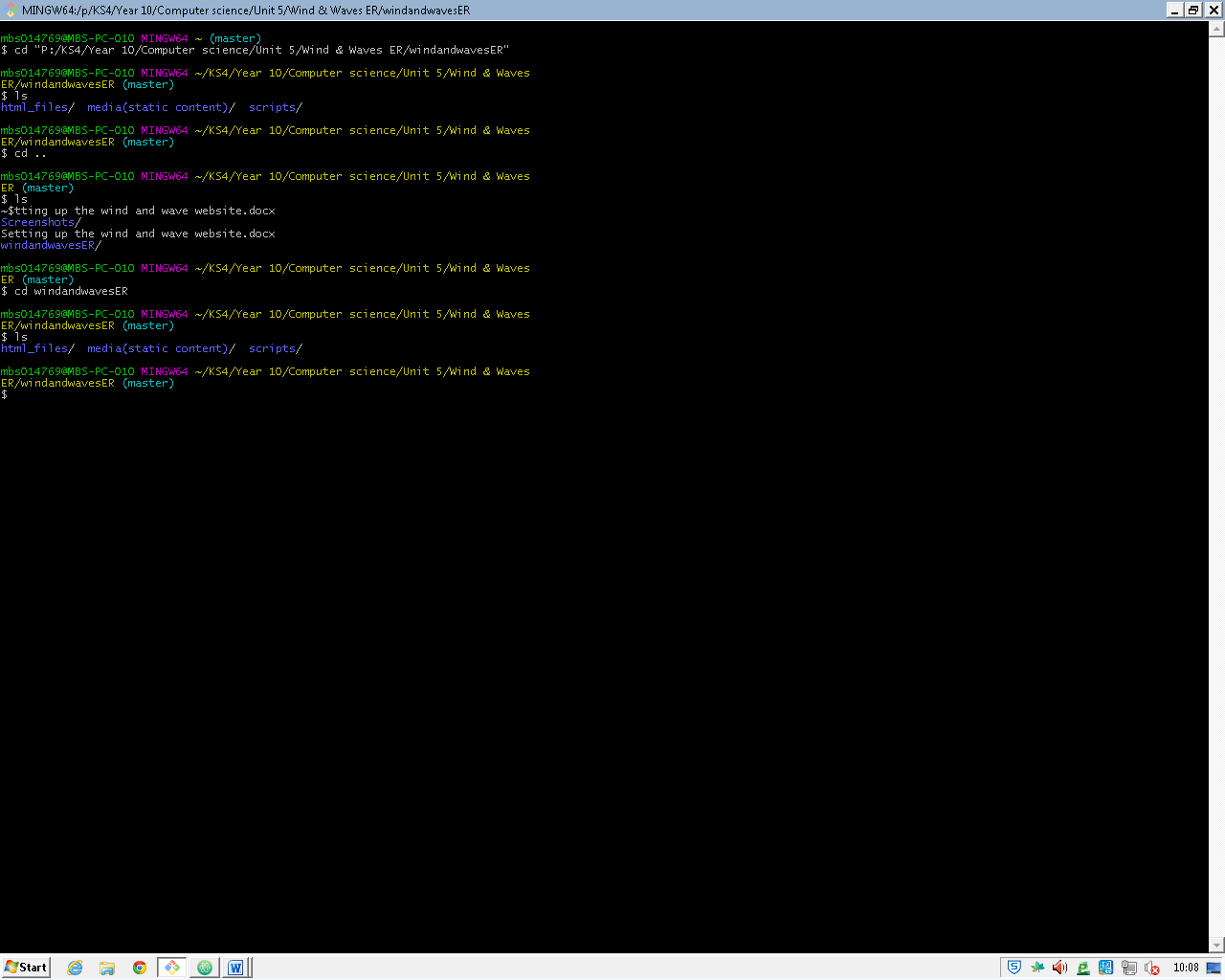
Next I will go to my root folder using the command cd(change directory)

cd “P:/KS4/Year 10/Computer science/Unit 5/Wind & Waves ER/windandwavesER”

note: you have use backslashes unlike in the normal windows terminal as bash is derived from linux terminals which uses the backslash

I then use ls to list my files and folders so I can make sure that this is the right path

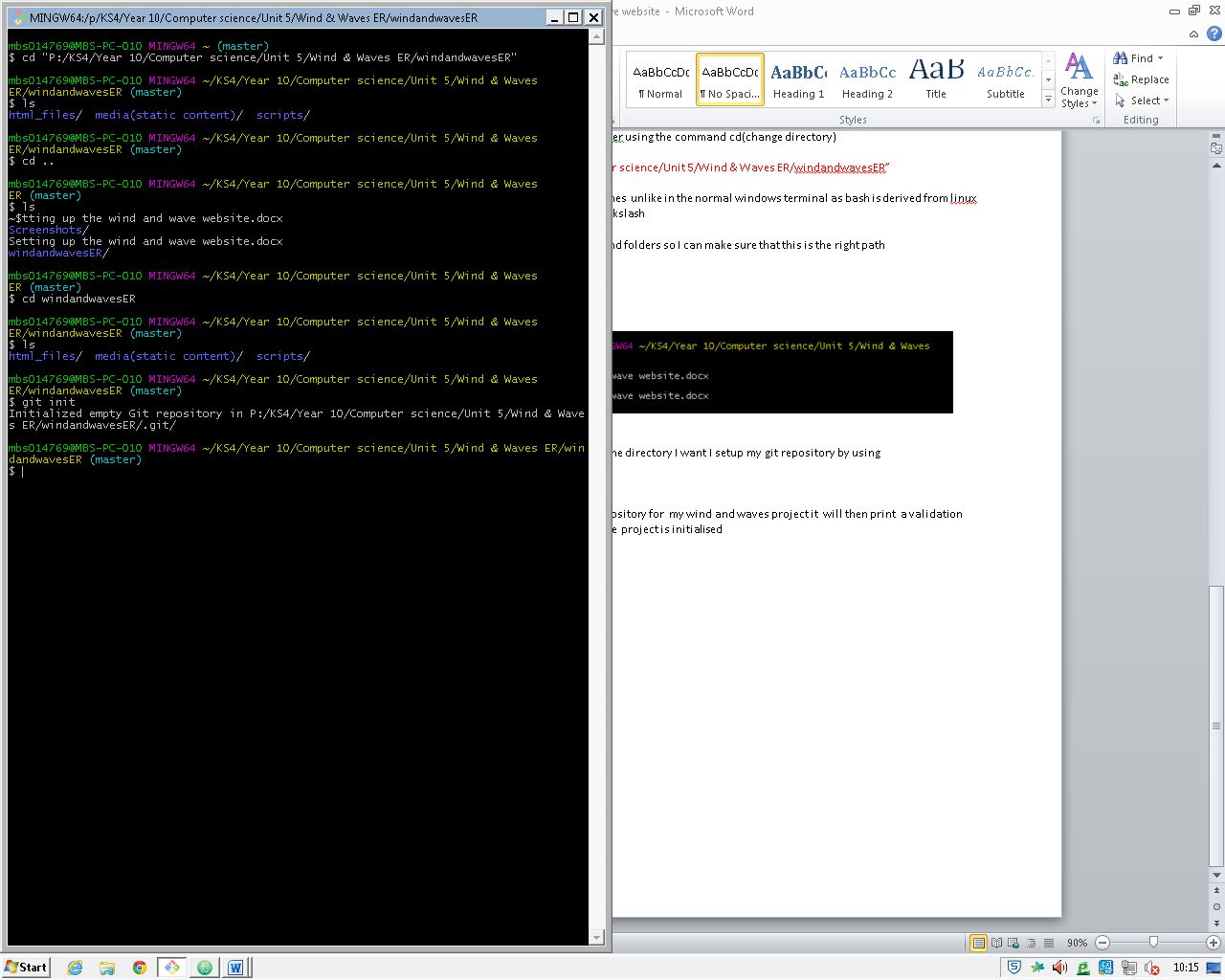
ls

this will output with:

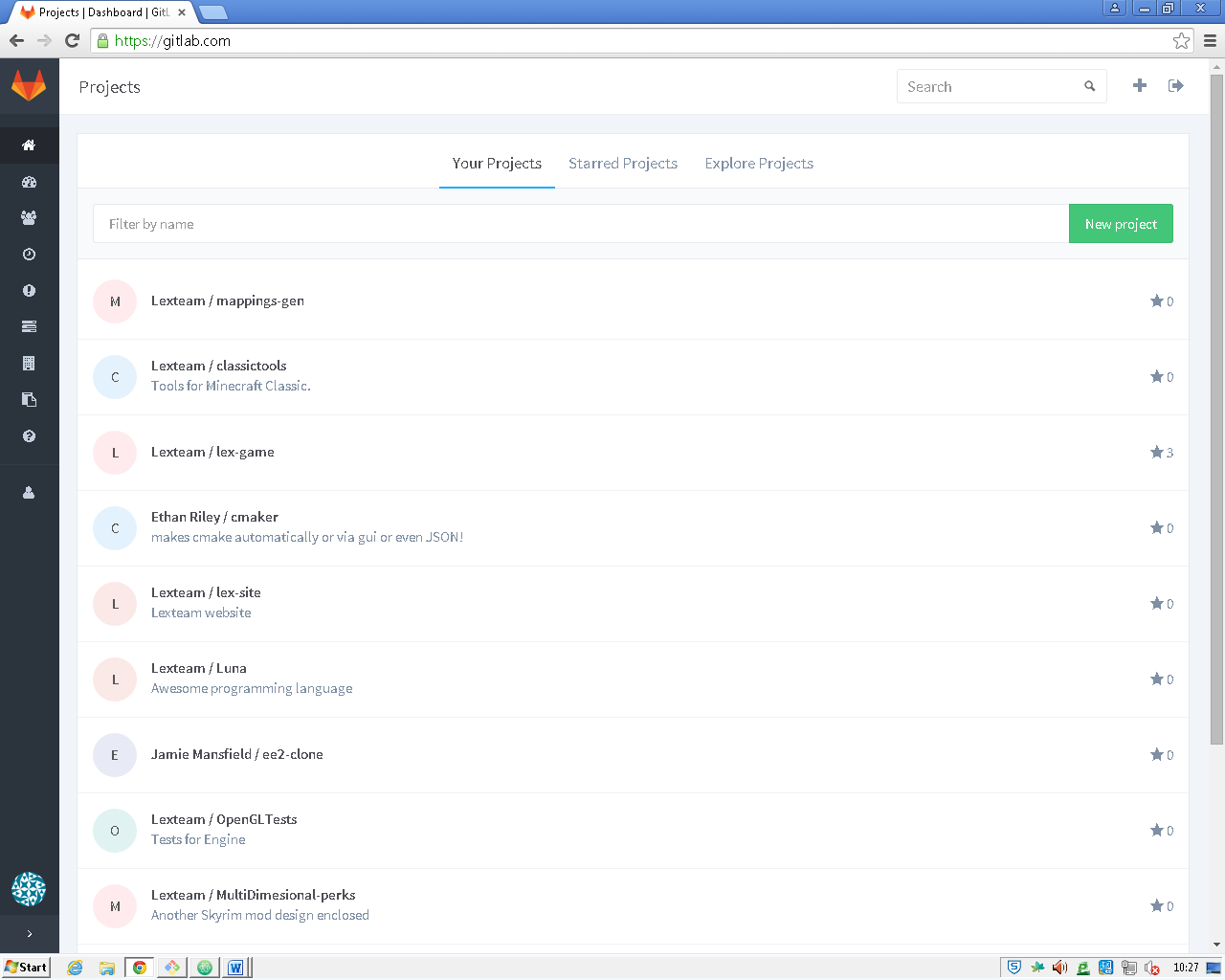
now that I know that this is the directory I want I setup my git repository by using

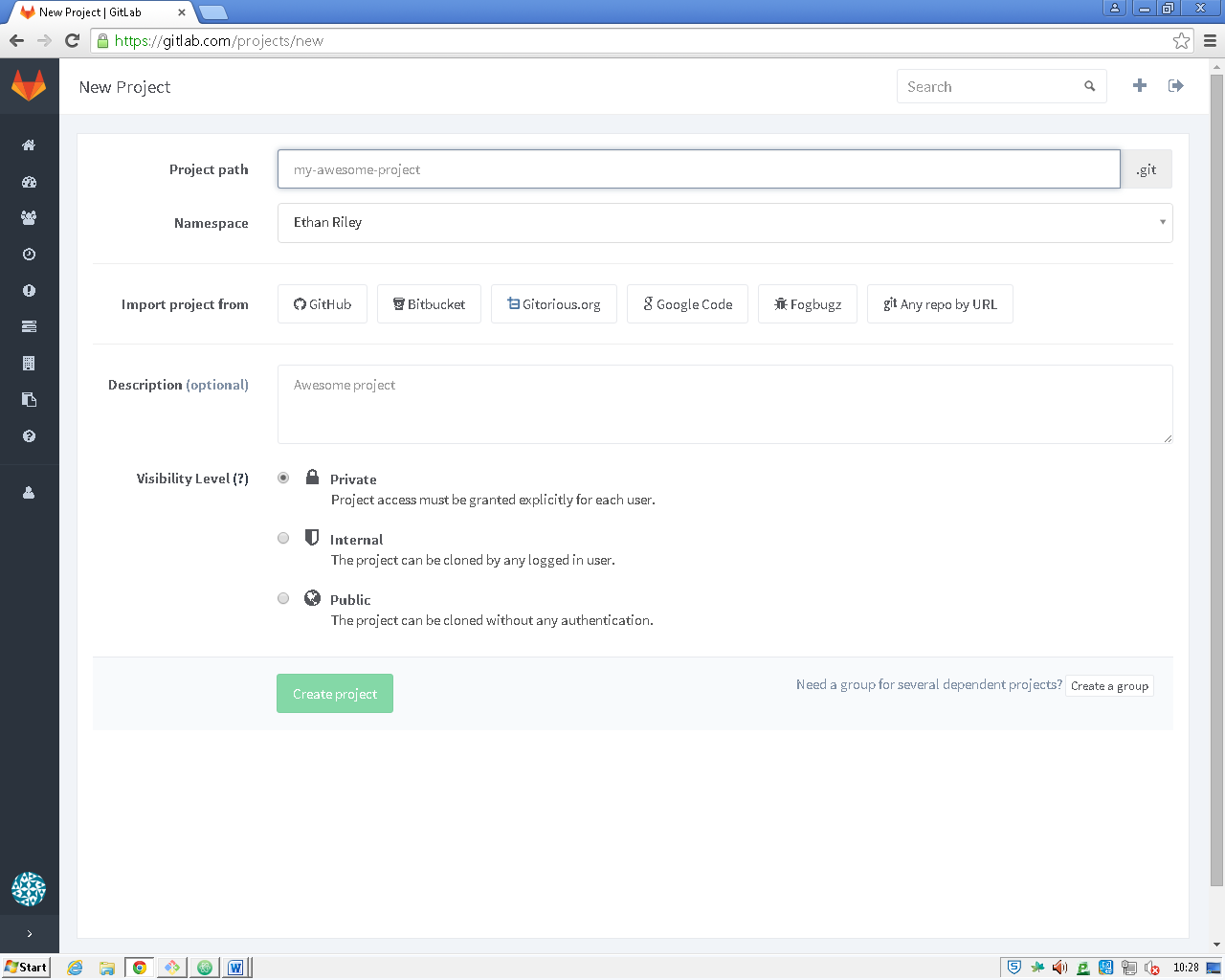
git init

this will create a local git repository for my wind and waves project it will then print a validation message that tells me that the project is initialised

I now add my remote repository which is on the cloud I will use the provider [gitlab](https://about.gitlab.com/).

Firstly I will sign into this provider using my existing account , once signed in I am presented to a window like so:





I click on the ‘new project’ pushbutton and fill in the form below

I keep the project access a private meaning that only I can see the code keeping it safe to other companies’ eyes.

Now the remote repository is ready to use, as the project page is created. I will link it to the local repository by running the command

git remote add master <https://gitlab.com/_UNKNOWN_/windandwavesWebsite.git>

Finally git is setup and I can start my project with safety and comfort of a git repository.

**Setting up the php webserver**

I have decided to use php for handling my dynamic content as which I explained in my portfolio, this as I said needs a server to run, although using a real server is not useful for development stages as uploading and updating the website takes a reasonable amount of time.

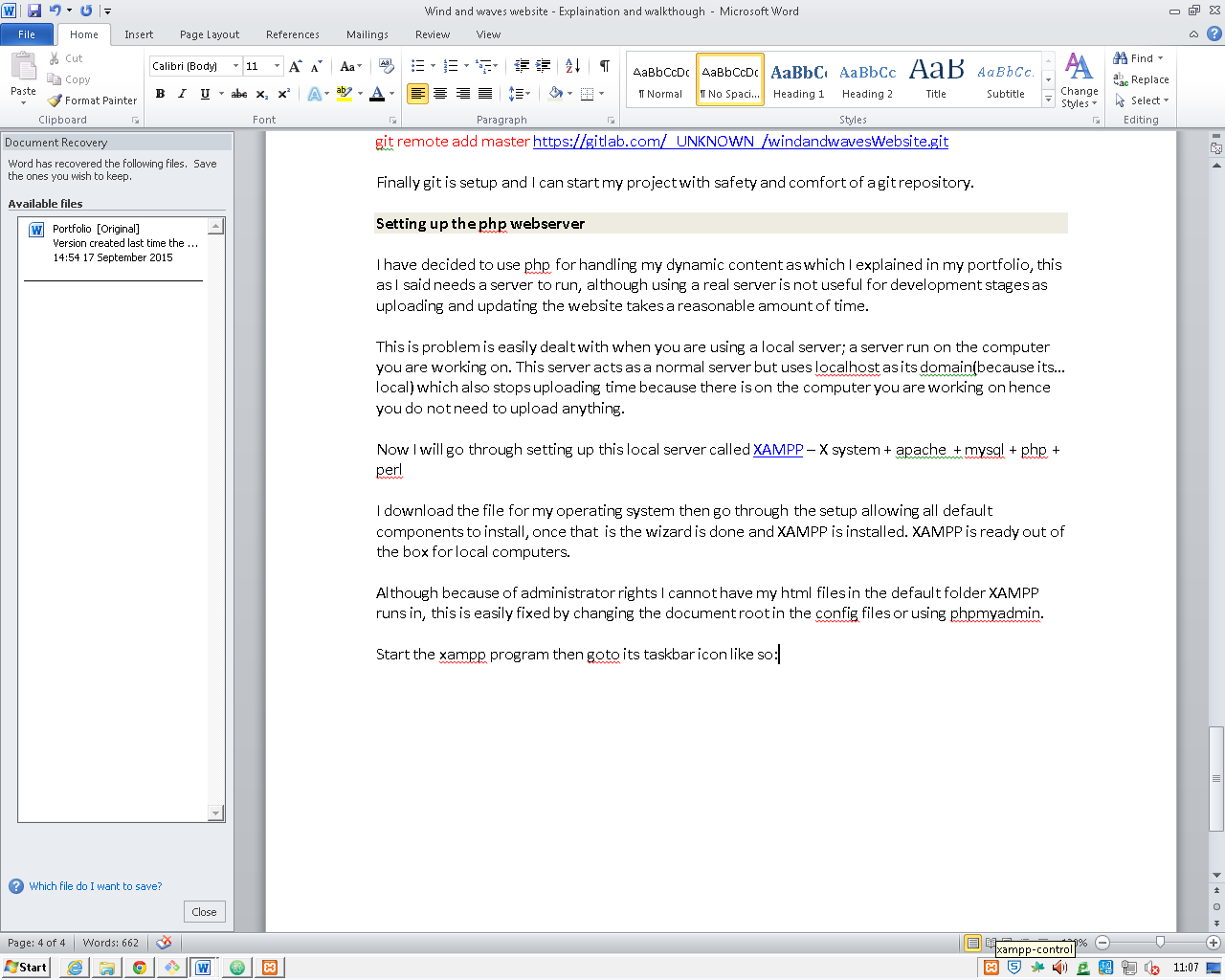
This is problem is easily dealt with when you are using a local server; a server run on the computer you are working on. This server acts as a normal server but uses localhost as its domain(because its… local) which also stops uploading time because there is on the computer you are working on hence you do not need to upload anything.

Now I will go through setting up this local server called [XAMPP](https://www.apachefriends.org/index.html) – X system + apache + mysql + php + perl

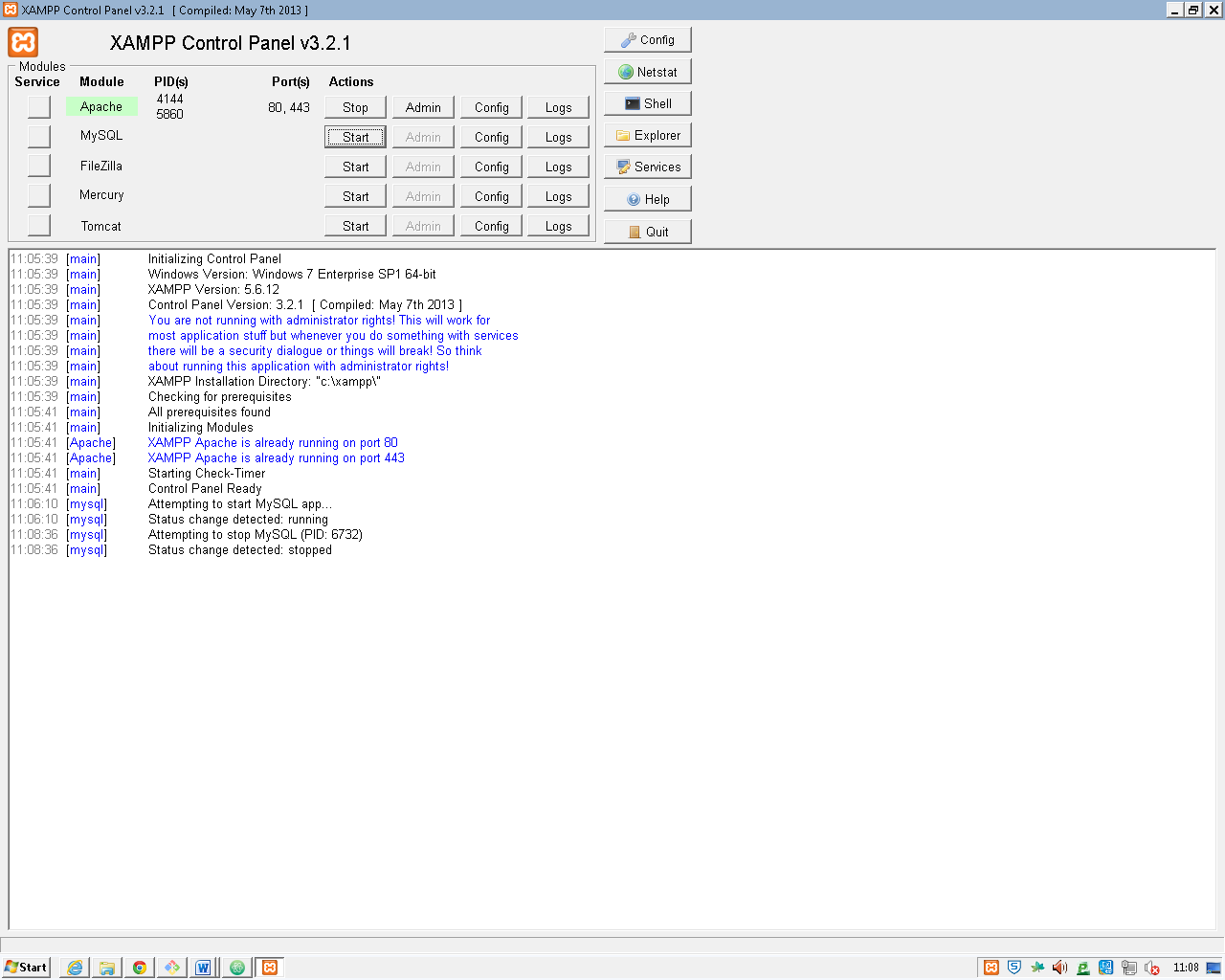
I download the file for my operating system then go through the setup allowing all default components to install, once that is the wizard is done and XAMPP is installed. XAMPP is ready out of the box for local computers.

Although because of administrator rights I cannot have my html files in the default folder XAMPP runs in, this is easily fixed by changing the document root in the config files or using phpmyadmin.

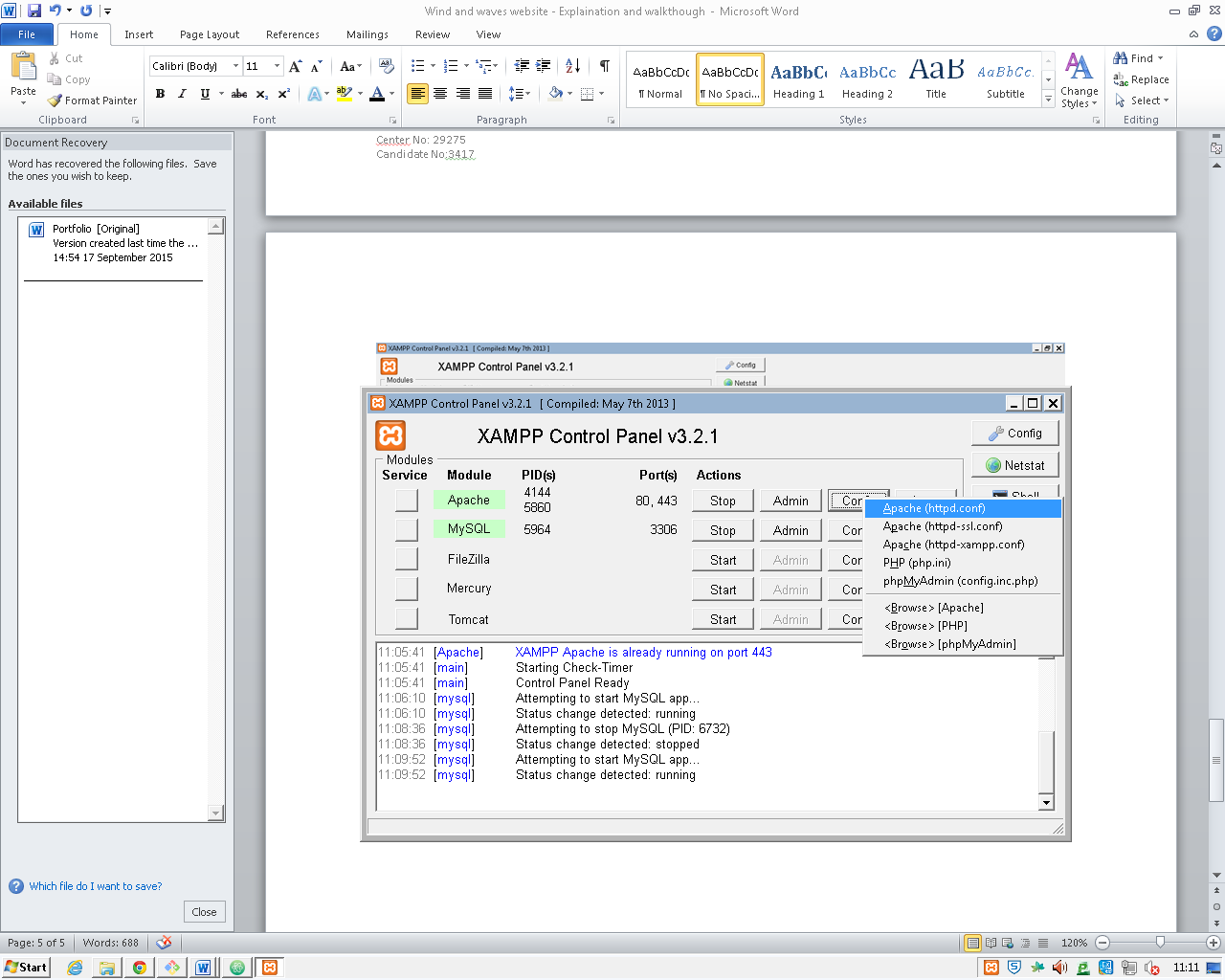
Start the xampp program then goto its taskbar icon like so:



And will be brought up with a window like this:



Click the start button inline with MySQL then click the button config on apache and click the first one down like so:



This will bring up with notepad with the config press Ctrl-F on you keyboard to bring up the find window and type in “DocumentRoot” (remove speech marks)

Then change these two lines to the full path of where I have split my websites code into parts

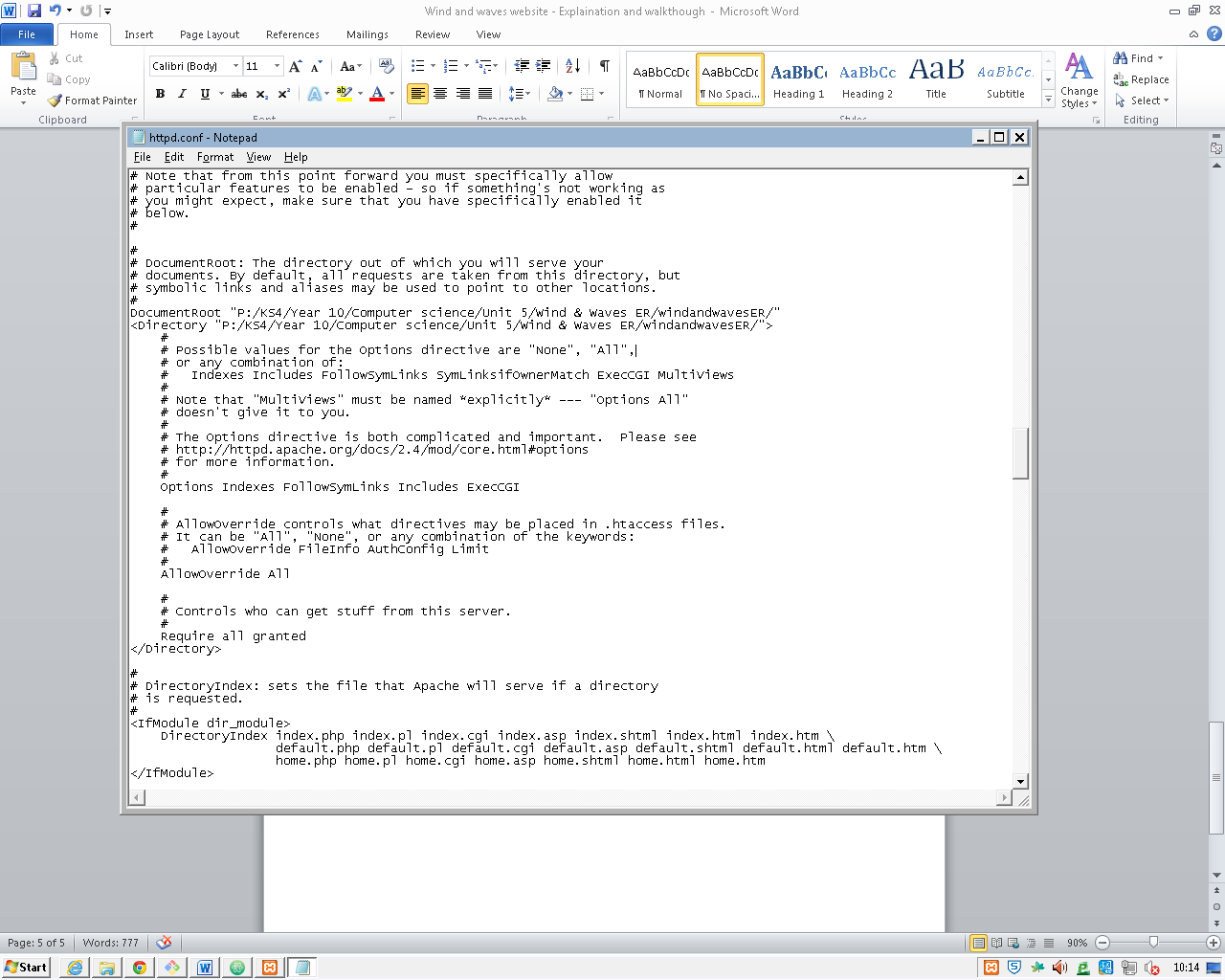
For example:

P:\KS4\Year 10\Computer science\Unit 5\Wind & Waves ER\windandwavesER\

Is the path I would use for Document root

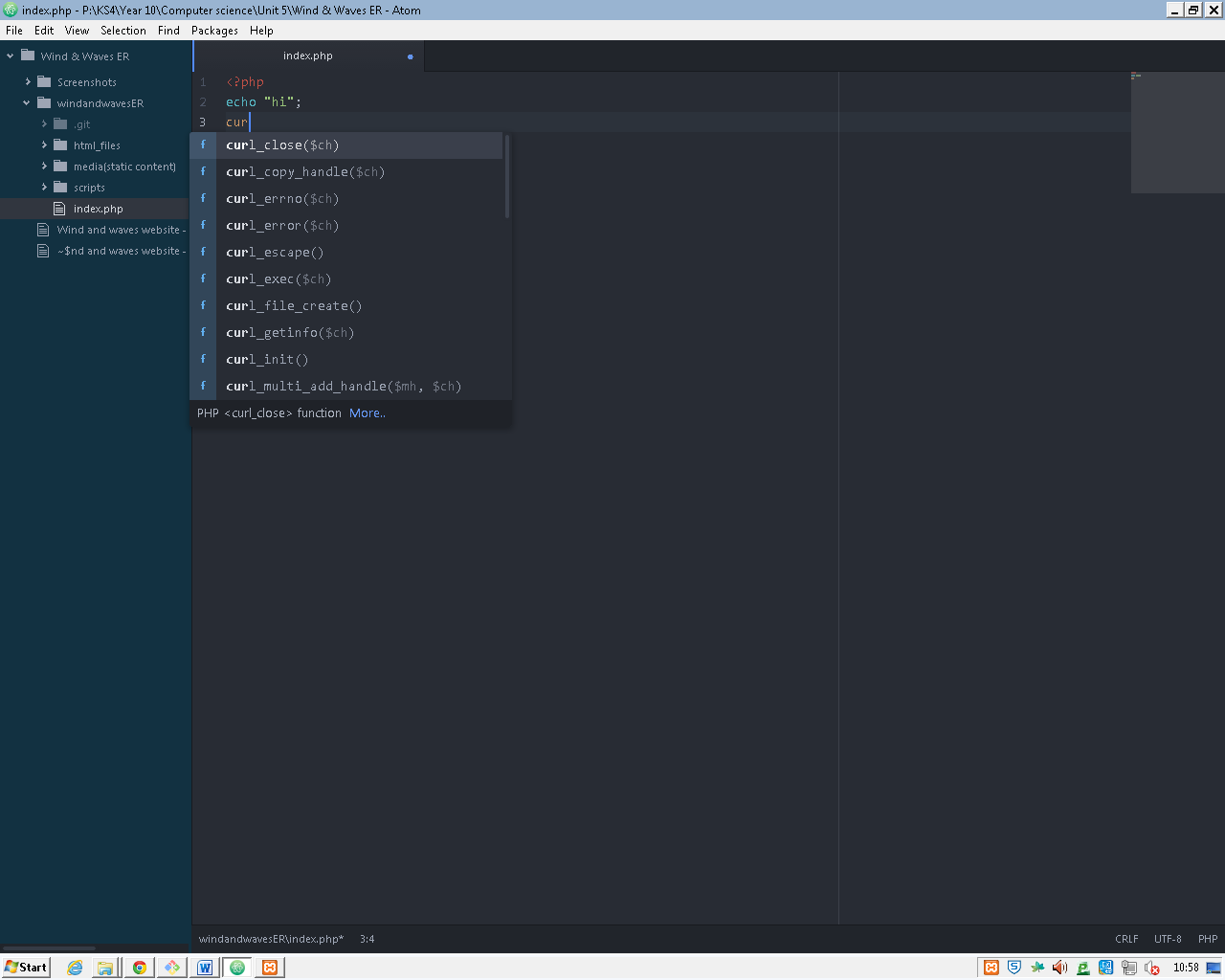
Recognize that it must in my root code directory(windandwavesER) otherwise the website will not run correctly or at all.

Completed it should look a bit like this:



Development Enviroments

In this website I will [atom](https://atom.io/) to edit code as it higlights the synatx of my code and gives autocompletion features which will stop me needing the documentation for the code that I am using combined with this and the bonus of Having a wide range of support for langauges it is the ideal working satation.



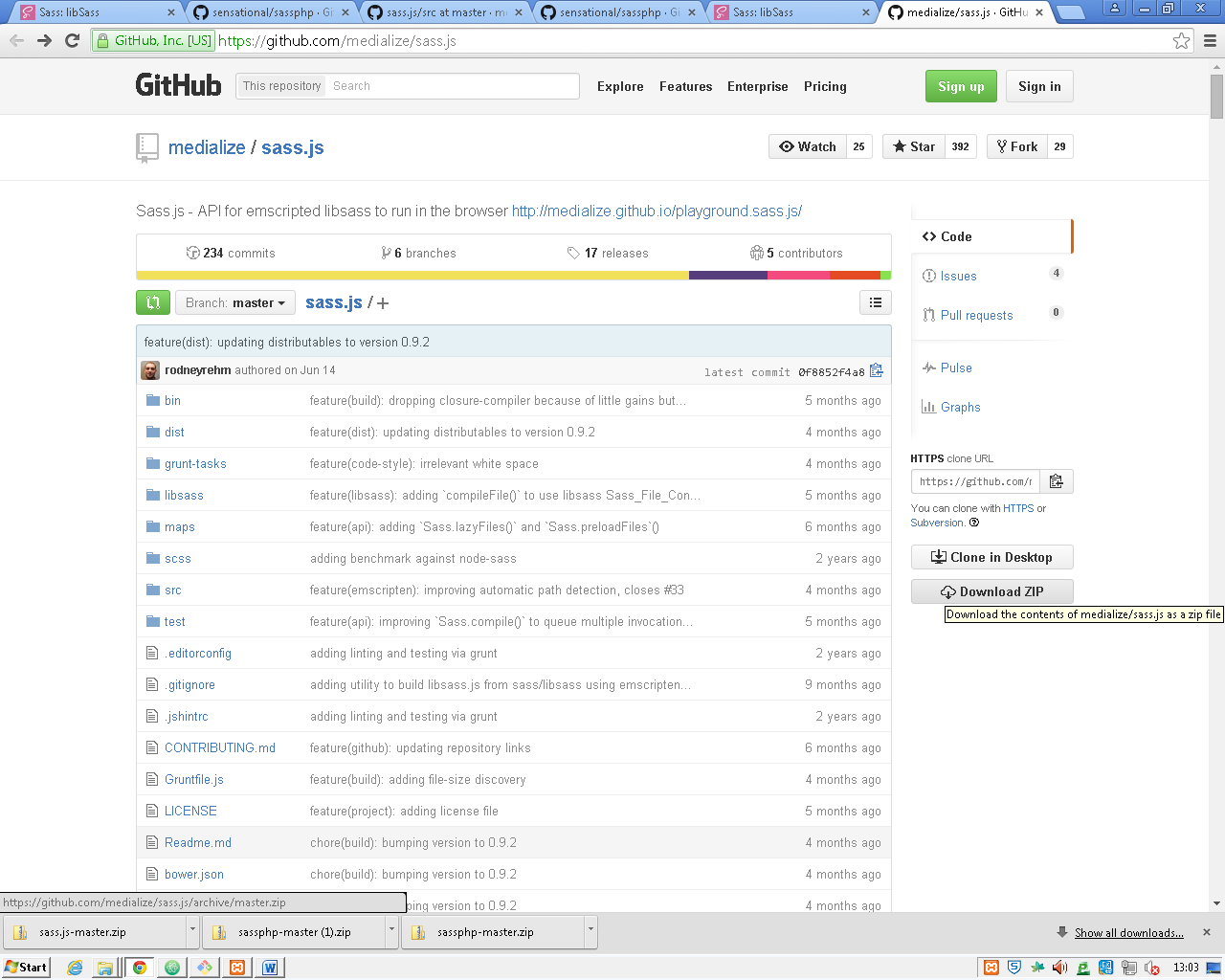
*Above:the atom text editor*

**CSS**

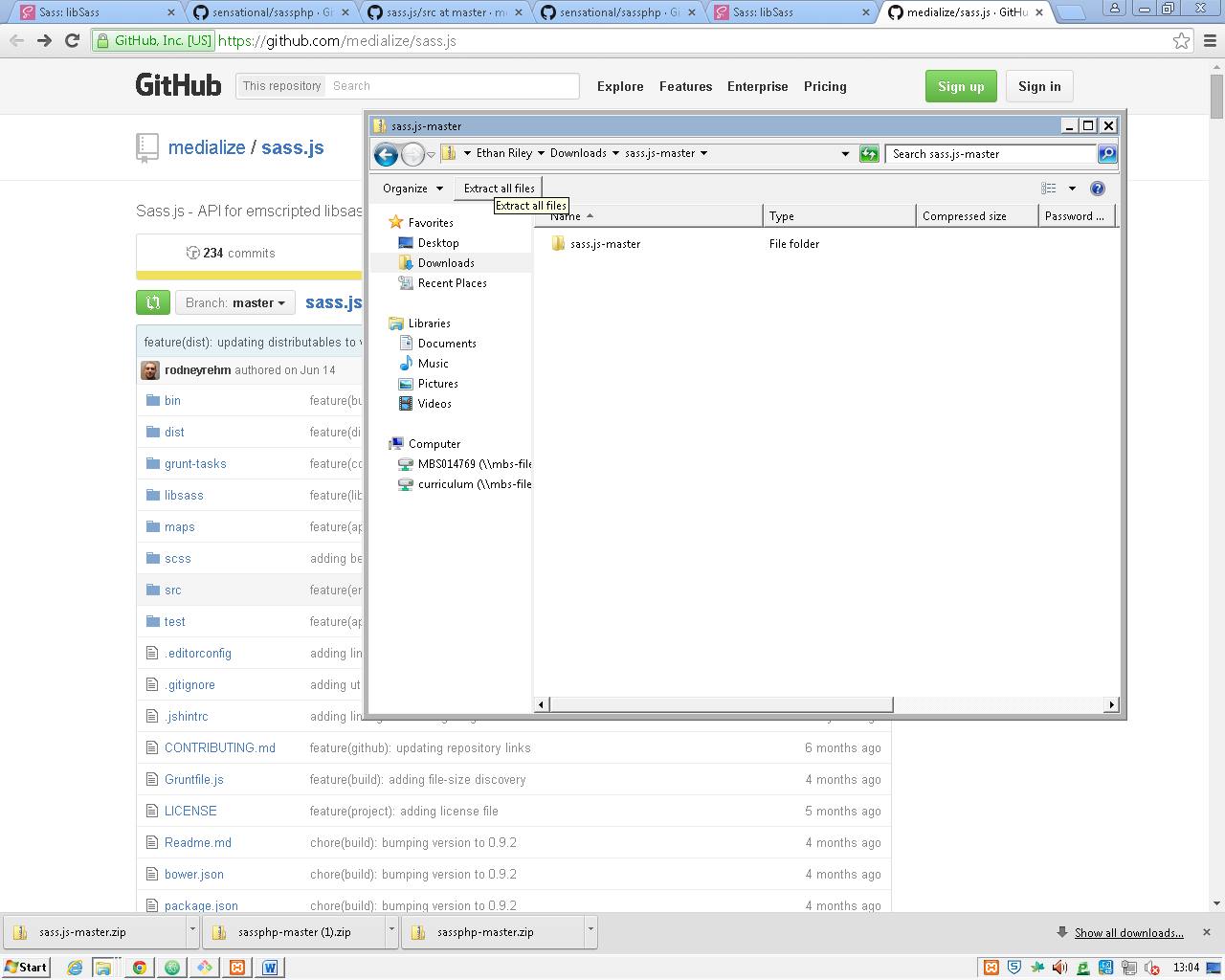
I will be using a preprocessor for css called sass which I will compile in javascript. This preprocessor will allow me to create advanced stylesheets which can have class inheritance, mixins, more complex media tags, nesting to improve code readability. There are more benefits shown found on its [website](http://sass-lang.com/guide) too.

Now I will go through setting css preprocessor up:

1. Get javascript wrapper of libsass(the sass compliler) [here](https://github.com/medialize/sass.js)(found in the sass website)
2. Download repo via download zip button



1. Extract the downloaded zip file



1. Add to(newly made) third\_party/javascript/ from website directory
2. The library now can be used.

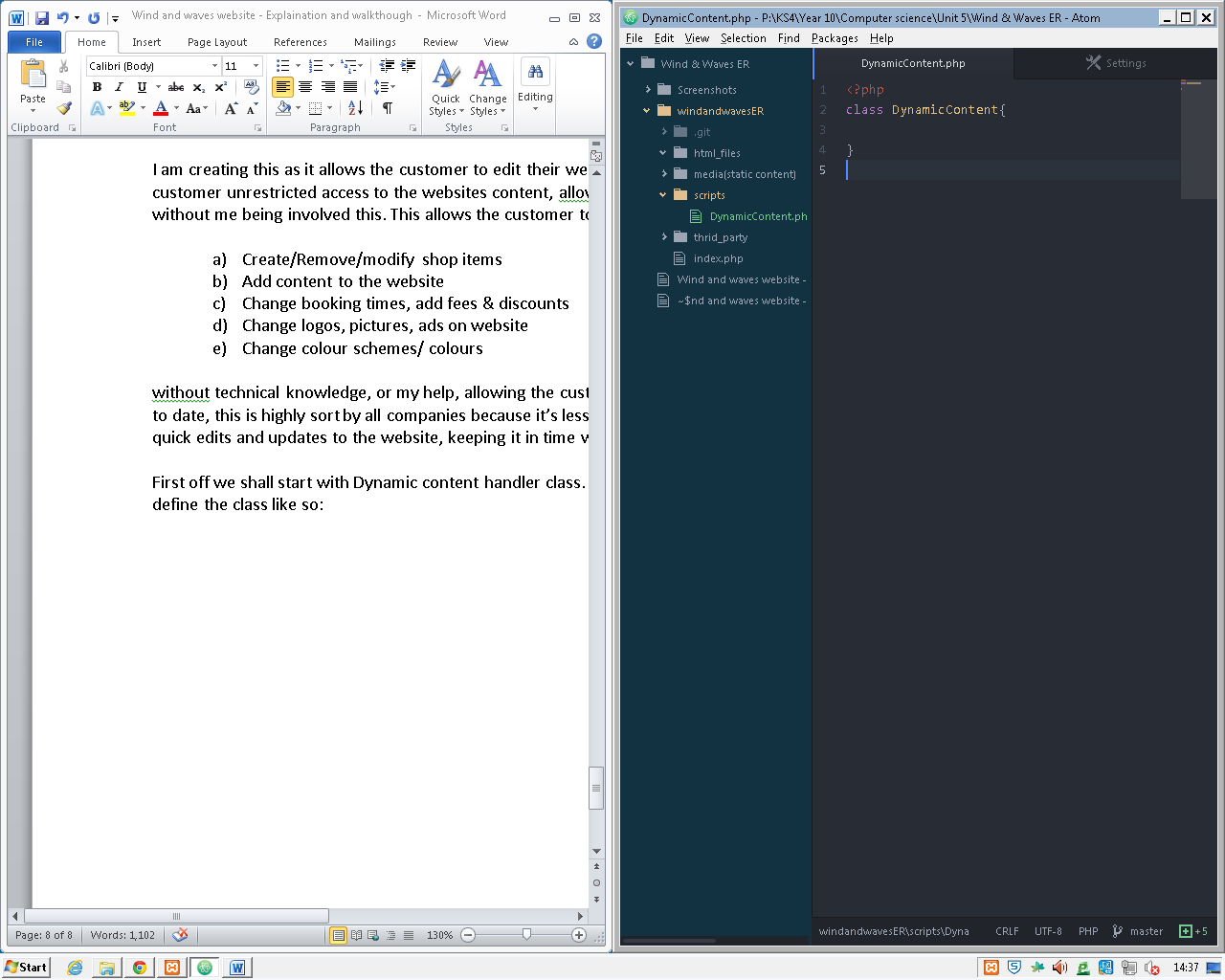
**Creating our loader for dynamic content**

I am creating this as it allows the customer to edit their websites on the fly, this will allow the customer unrestricted access to the websites content, allowing them to change their website without me being involved this. This allows the customer to:

1. Create/Remove/modify shop items
2. Add content to the website
3. Change booking times, add fees & discounts
4. Change logos, pictures, ads on website
5. Change colour schemes/ colours

without technical knowledge, or my help, allowing the customer to edit their website and keep it up to date, this is highly sort by all companies because it’s less need of technical knowledge allowing quick edits and updates to the website, keeping it in time with the customers wants, fads and needs.

First off we shall start with Dynamic content handler class. We start with the opening php tag and define the class like so:



Then we add a constructor to the class interlizing the database that we are going to use this means that we must parse in the databases name and socket to for the database class to construct.

The Database class needs the host, database name, user, password and optionally the socket. This optional socket needs to optional in the constructor, and we will have to check whether the socket variable is defined or not. So in pesudocode(in green)

Create class DynamicContent

Add variable database.

Construct DynamicContent

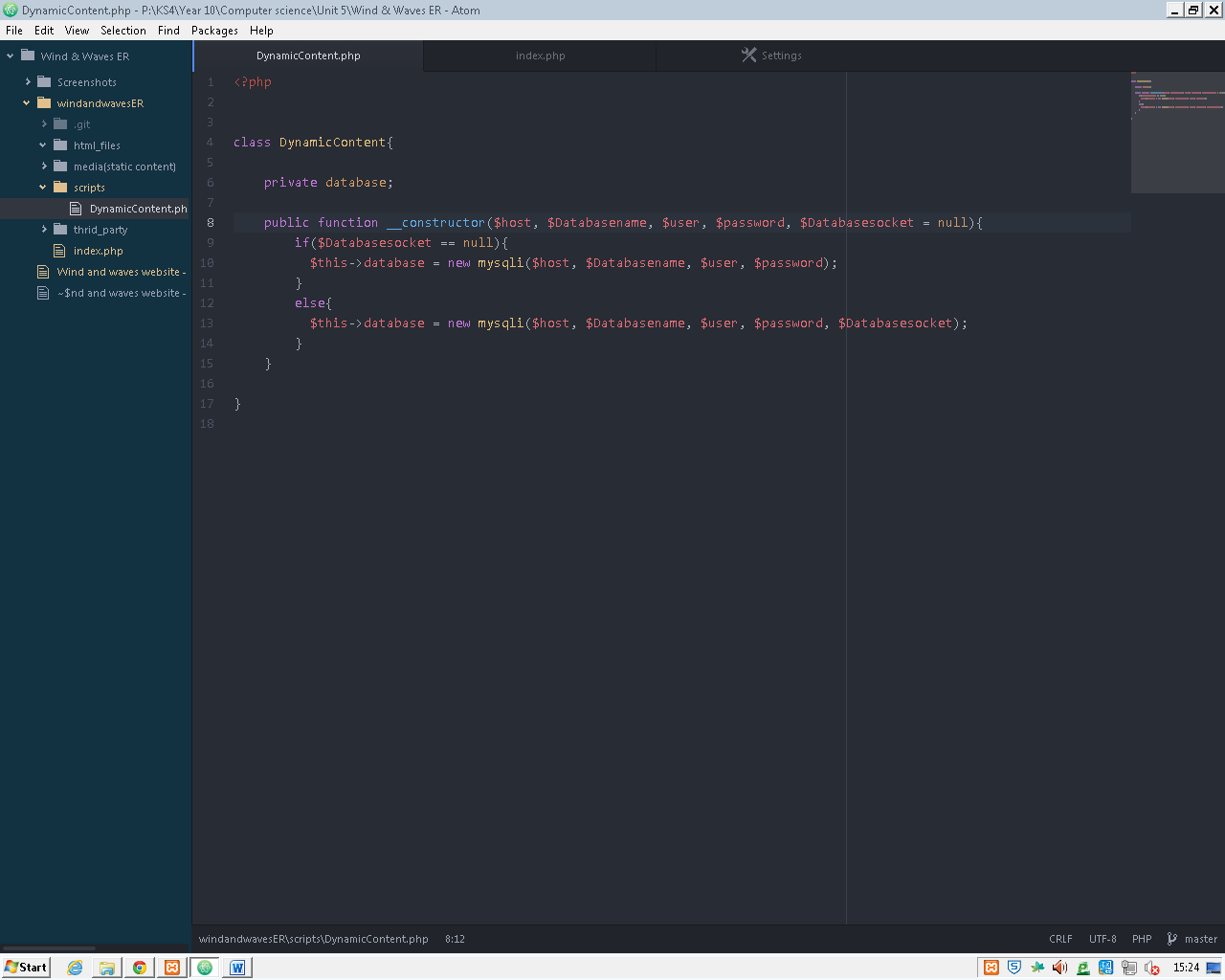
Check socket argument not null

set variable database as newly constructed database with socket variable

else

set variable database as newly constructed database without socket variable

which translates as this in PHP:



next we create the format on how the database refers to the placement of the html content

this we can do this with a type of DOM(document object management) for example(blue for formatting):

%pagename%.%body\_element%.%container\_element(%id%).%…%.%element(%%content%%)%

An example for using this format:

Shop.body.div(main).div(products).p(%discription%)

As you can see you substitute the content with percentages with real data referring to the webpages content. If the tag is media then the content will be the path to that media, the ‘pagename’ tag can be set in the php functions but is as default the html filename.

Attributes will also be held by the database and will be called like so:

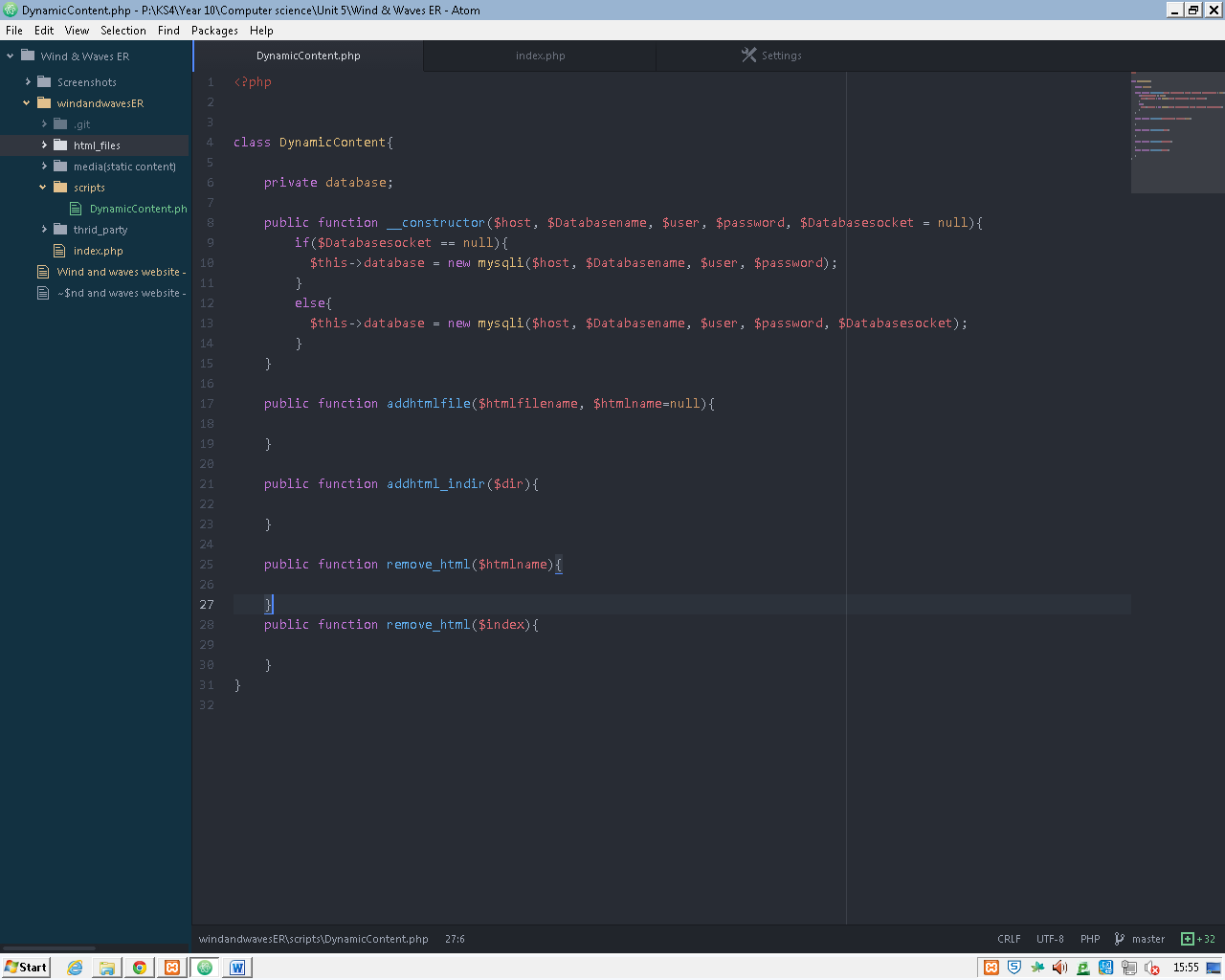
%pagename%.%body\_element%.%container\_element.%id%.%…%.%element.%%content%%%.%attribute%

Shop.body.div.main.div.products.a.%Buylink%.href

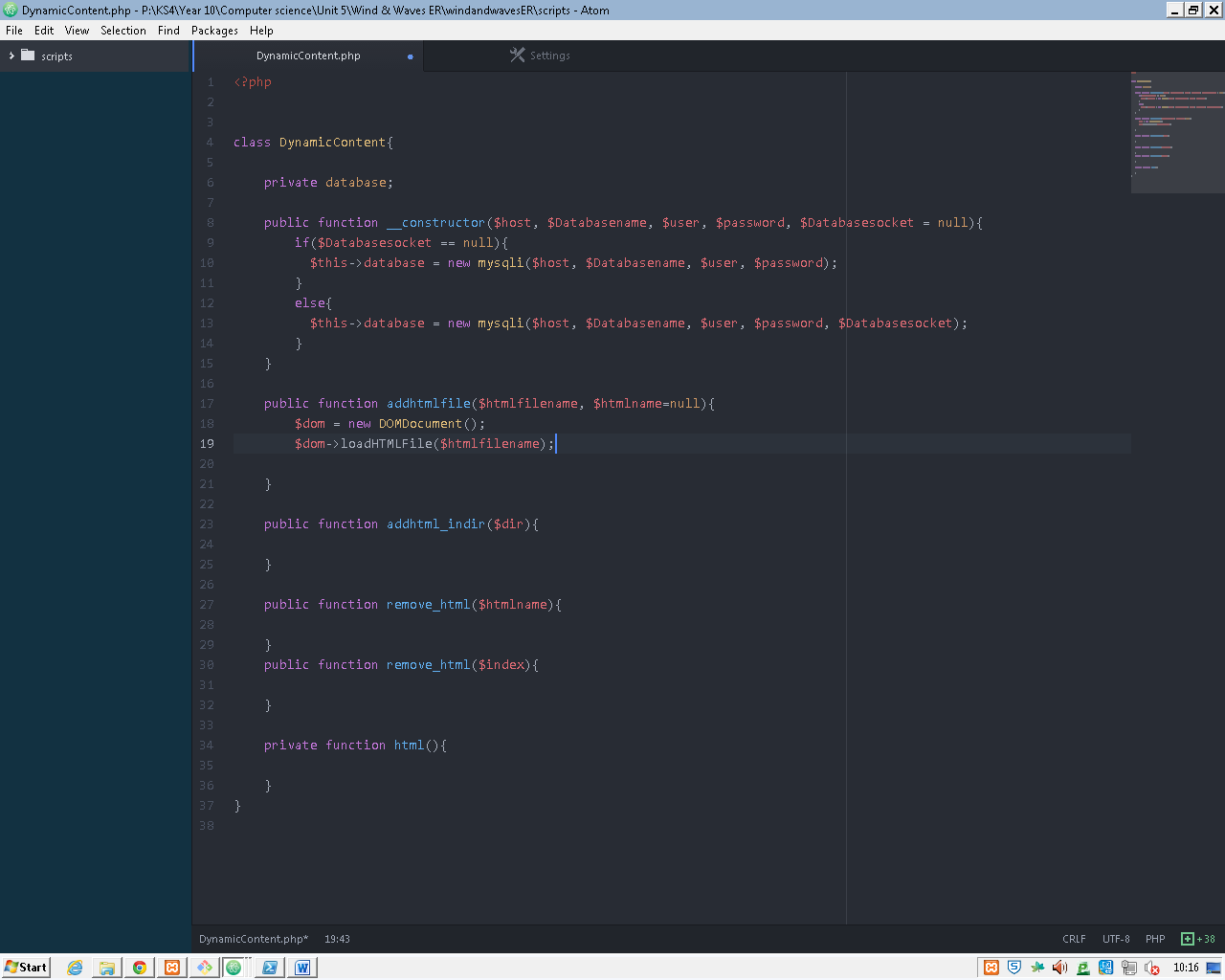
This will be the secondary row ids in the MySQL database then there will be the content row.

I will now create the functions to add and remove html pages. I have also added utility function to add all html files in a directory allowing me to quickly add files(example on next page below).

Parsing for the database



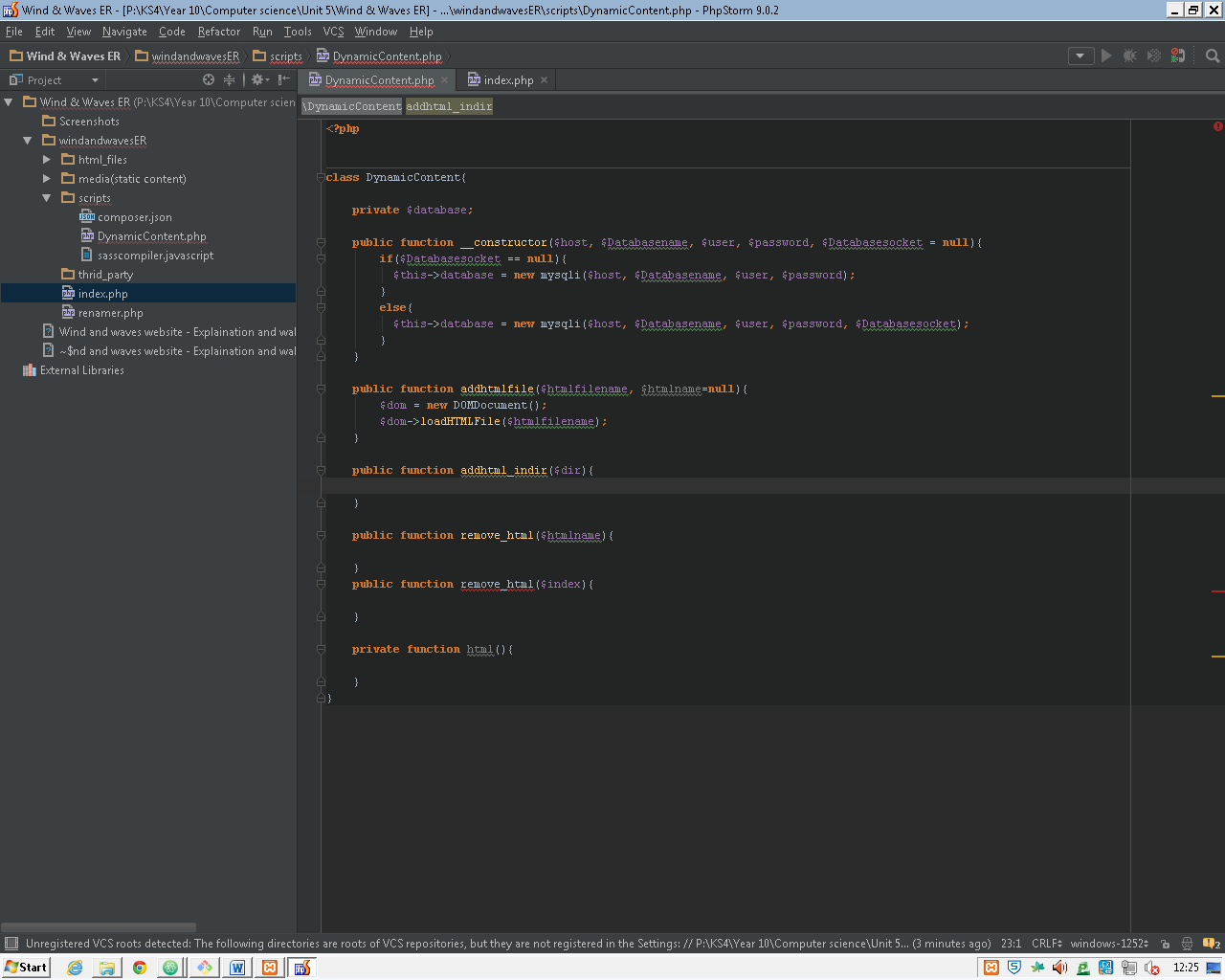
First lets interlize the DOM(document object management) object



This is done by using the keyword ‘new’ which creates a DOMDocument object with no arguments.

Then in the next function we load the html file to the DOMDocument which in turn will parse it as an object that we can easily refer to.

Sadly atoms autocomplete has reached its end of usability as I am startng with more advanced functions, I will now use a program called phpStorm to write php files as it will give me a more advanced auto complete.

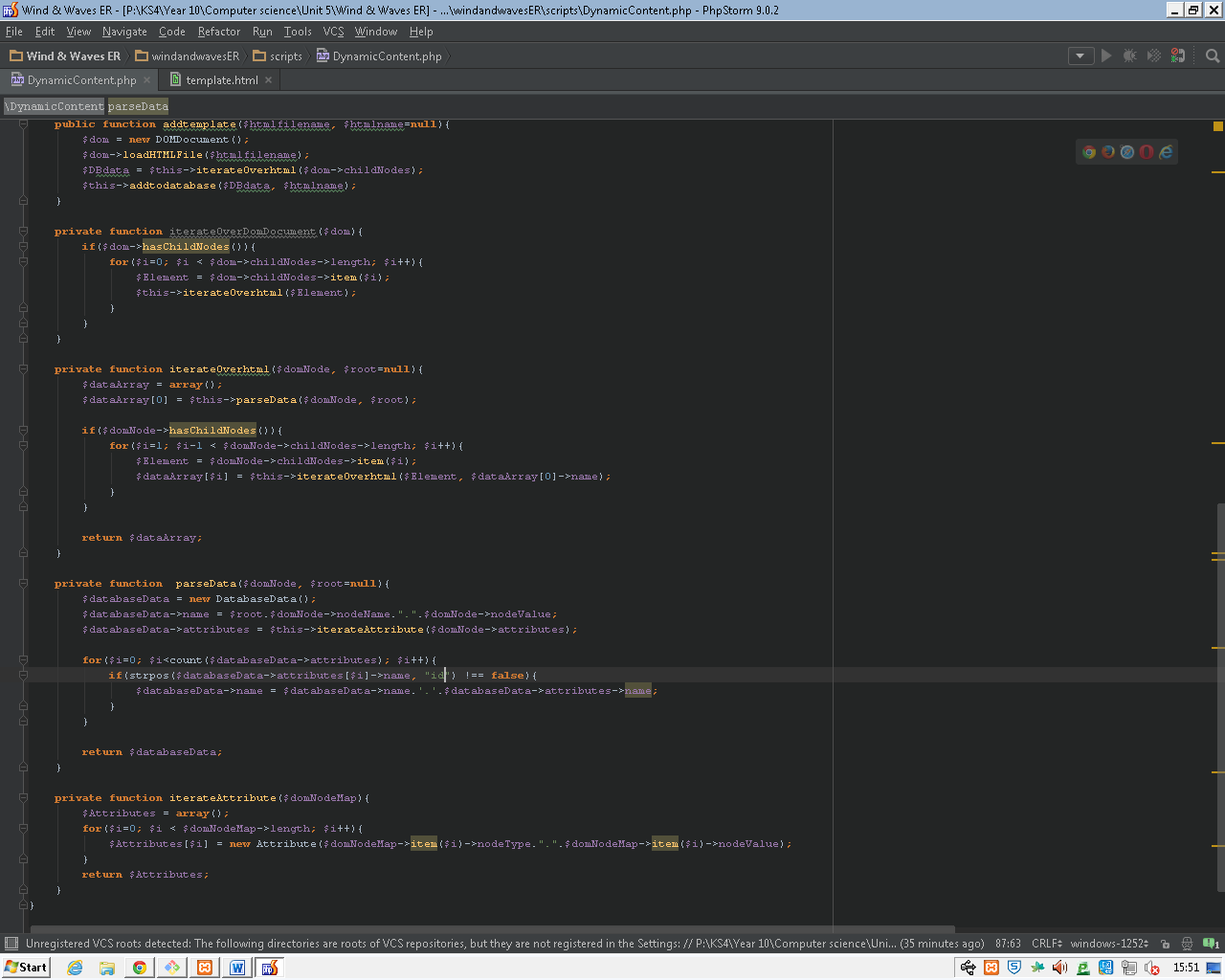


Left:php storm

Let us carry on in add html function,

We now need to add the doms elements data to the database.

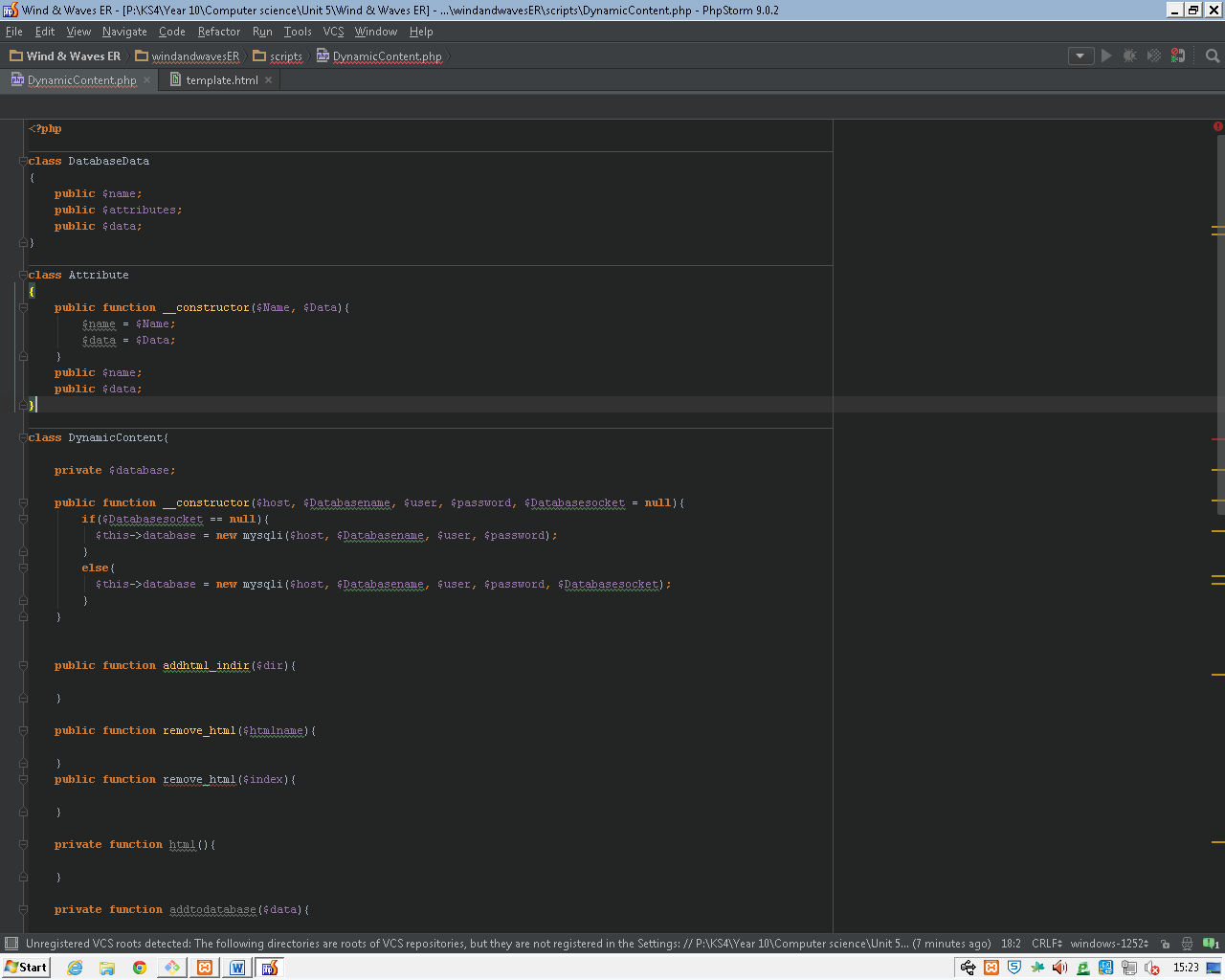
We will do this by iterating over the dom documents children nodes recursively and then return it as interpretable data for the database.



As you can see the addhtml has been renamed to addtemplate to make more sense in what this function does, in this function we create a DOMDocument from a html file we then call the iterateOverhtml function this iterates over the domNode and its children calling the parseData function to get the data from the nodes which it then returns as an array of databaseData classes.

It also in the parseData checks for id attributes and adds them to the name as the format depicts.

In parse data we also look though the nodes attributes by doing a similar operation with iterateAtrribute which returns an array of attribute classes(screen shot of defnintions below):



Theese two convenice classes hold data in groups that are convenient for the database to parse this will help keep the database functions clear and seprate the DOM object management from the database.

We then start the adddatabase function

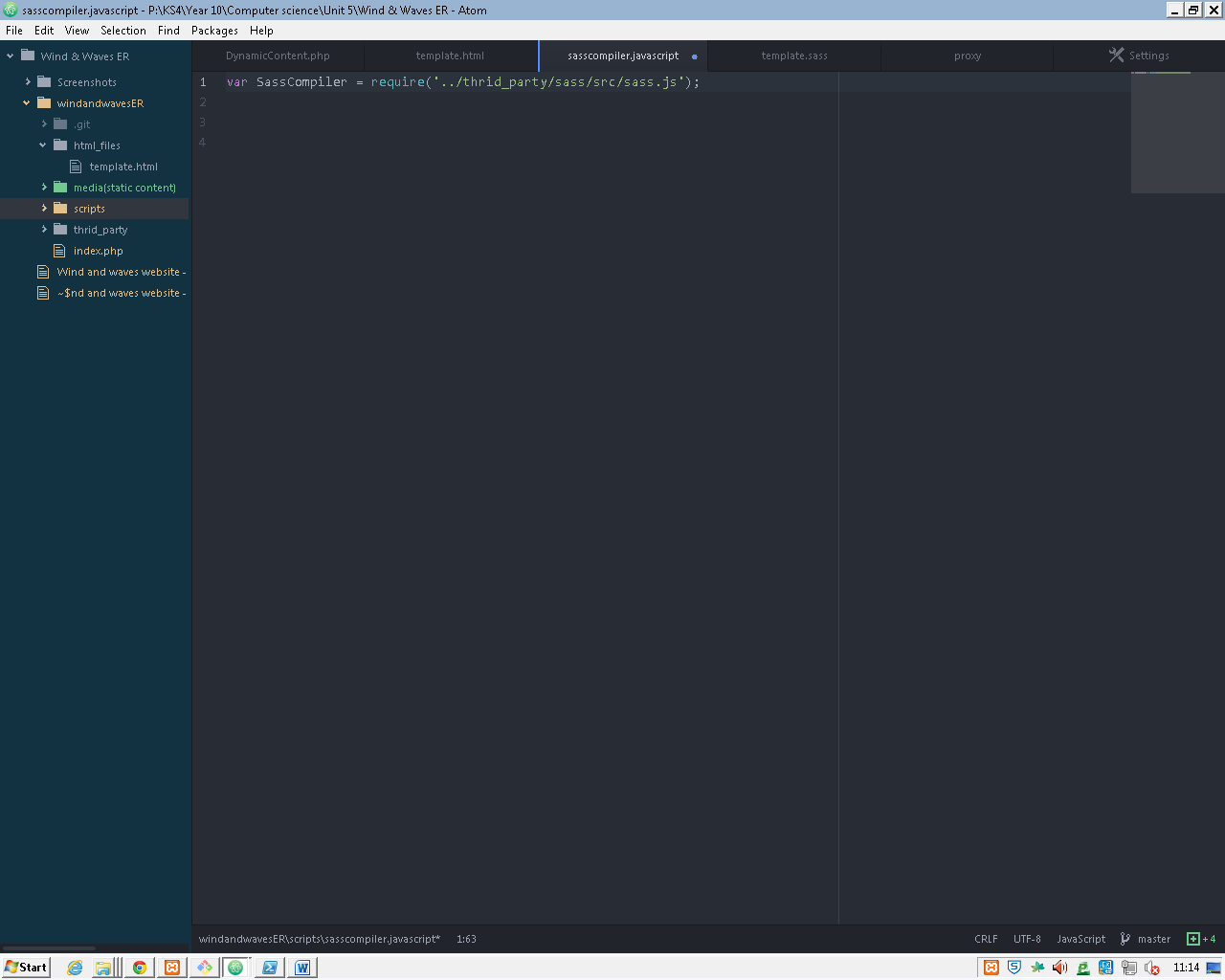
**Php Database handling**

Firstly lets add the adddatabase function this function is will be called in the addtemplate function and will handle the formatting and creation of the database entries this function will need the data from iterateOverhtml function and the htmlname(or htmlfilename if that is not defined).

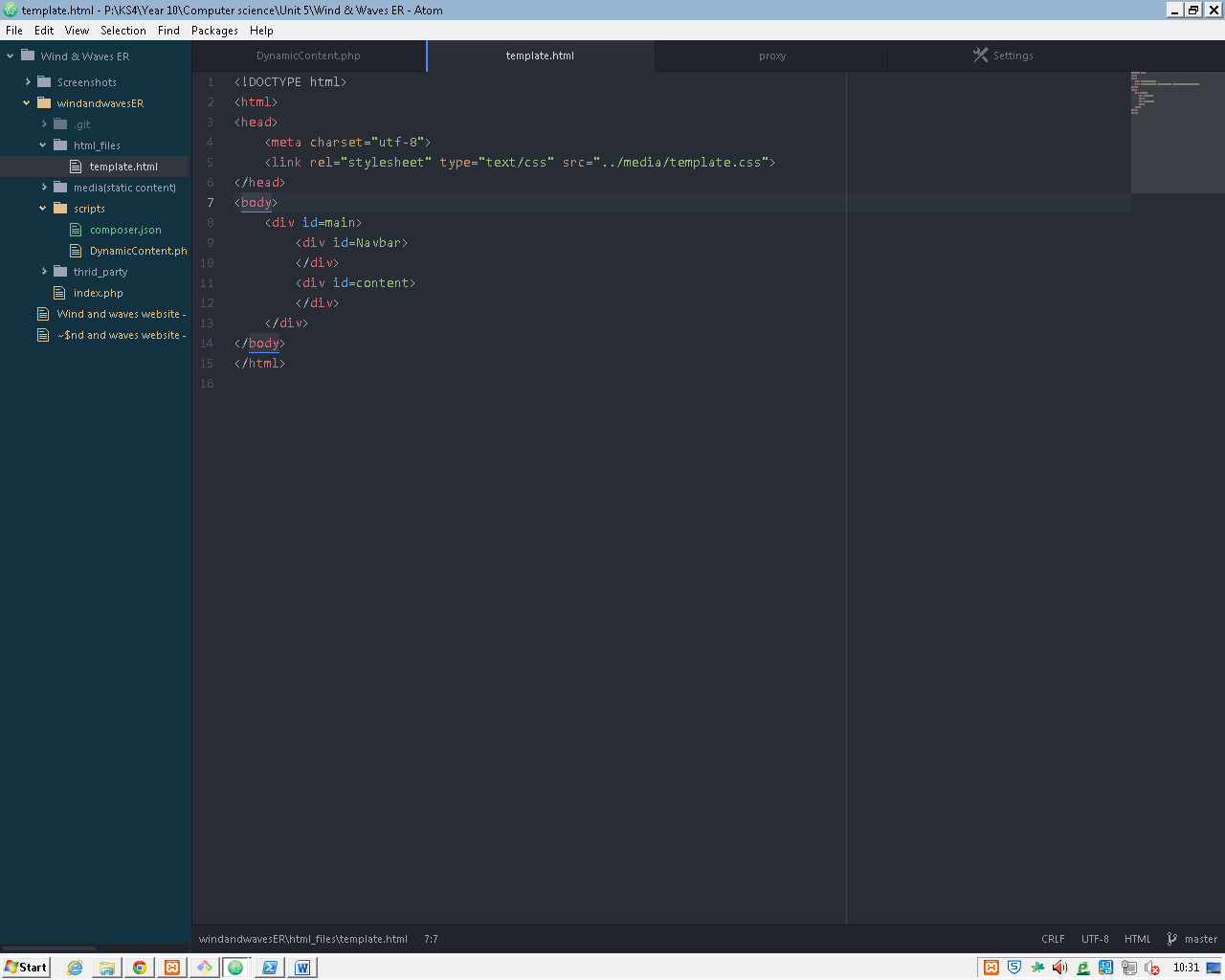
Sass Compilation

Firstly I will need a script to compile my sass as the library is only a set of functions to compile the sass files, this will be done by compiling in advance so there are no overheads when the website loads, these functions will be called when the server is started up and also when it has been changed in the admin.

To start the script we will need the sass api, so let’s go ahead and require it into our script



Template prototype



Firstly we start off with a bare bones html template containing the a link css template, and having a main div in which there is the navbar and content

we will now add in template variables for the database to inject later this will include a main image and link for the navbar to give a physical respentation of the jquery widgets which I will use later.