Setting up a Web Site within the Department

These actions must be done on the student Linux Farm systems. From within a Linux session create the web page folder and set its permissions so that the Web server can read the files.

```
mkdir public_html
chmod a+rx public_html
```

Create web pages within the public_html folder then set their permissions so that the Web server can read them.

```
cd public_html
chmod a+r <filename>
```

where `<filename>` is the name of the web page file.

By default the web server will open “index.html”, “index.htm”, or “index.php”, so usually best if you name your main page “index.html”

The Web site can be accessed by using the URL

https://student.csc.liverpool.ac.uk/~<username>/<filename>

or (if you want to open index.html)

https://student.csc.liverpool.ac.uk/~username/

where `<username>` is your Computer Science computer username. E.g. if the username is sgabcde, use

https://student.csc.liverpool.ac.uk/~sgabcde/

Dynamic Content

If you want to create CGI web content then you will need to create a CGI-BIN folder and set the permissions so that the Web server can read them.

```
mkdir public_html/cgi-bin
chmod a+rx public_html/cgi-bin
```

Create the pages to be served within this folder and set the permissions.

```
chmod a+rx public_html/cgi-bin/<filename>
```

Permissions

- Linux permissions (as used by the Web server) have three components: Owner, Group, World.
- Each of these can have three levels of access: Write, Read, Execute
- The permissions are represented as a 9 character string and stored as a 9 digit binary number with each digit representing a component permission as follows:

<table>
<thead>
<tr>
<th>Owner (u)</th>
<th>Group (g)</th>
<th>World (o)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read (r)</td>
<td>Write (w)</td>
<td>Execute (x)</td>
</tr>
<tr>
<td>Read (r)</td>
<td>Write (w)</td>
<td>Execute (x)</td>
</tr>
<tr>
<td>Read (r)</td>
<td>Write (w)</td>
<td>Execute (x)</td>
</tr>
</tbody>
</table>

So if the owner has full permissions, but no-one else has access this would be represented as:

```
rwx------
```

or 111000000

If the owner has full permissions and the owner’s security group has Read:

```
rwxr----
```

or 111100000

If owner has Read & Write and everyone has Read:

```
wr--r--r--
```

or 110100100

The components are usually represented by a three part decimal equivalent of the component binary numbers, e.g. `rwxr----` would be 744 (111100100 in binary notation)

- To assign permissions use ‘chmod’.
- With chmod you can use “u”, “g”, “o” to specify the component, or “a” to specify ALL.
- You can add permission using “+”, e.g. chmod a+r <filename>
- You can remove permissions using “-”, e.g. chmod a-x <filename>
- You can set permissions absolutely, e.g. for rwxr-xr-x use;
  
  chmod 755 <filename>

- **The Web server will access the Web folder as a World user.**
- All web site folders should have World Execute permissions, e.g. `rwx------`
- **The Web server will access the Web page file as the Owner.**
- All Static files should have World Read, e.g. `rwx--r--` (111000100)
- All application (dynamic) files should have World Read and Execute, e.g. `rwx----r-x`

Note:

It is a very bad idea to set Write access for anybody other than the owner.