

Faculty of Computer Science, Dalhousie University
DGIN 5201 — Digital Transformation

05-Feb-2026

Lecture 8: Client-Server Model

Location: McCain 2170 Instructor: Vlado Keselj
 Time: 10:05–11:25

Previous Lecture

- New unit: Rapid Prototyping
- Development model
 - Waterfall model vs. Rapid Prototyping model
- Basic Three-Tier Architecture
- Environment background: CSID, timberlea, etc.
- Hands-on: ssh connection
- Concepts review
 - Shell, OS, TCP/IP, SSH, pots, DNS, public-key cryptography

Example 1 (e1): Creating a Simple Web Page

- Try command: `pwd`
- Enter directory: `public.html`
- Create directories: `dgin5201/e1`
- Set permissions for this directory to be all-accessible: `chmod` command
- Go to directory `dgin5201/e1` and create file `index.html` with the following content:


```
<html><body>
This is a very small HTML file.
</body></html>
```
- Make `index.html` all-readable and access it over Web

Opening Web Page in a Browser. Now, we can try to open our web page by entering the following URL in a web browser:

`http://web.cs.dal.ca/~userid/dgin5201/e1`

As usual, the `userid` should be replaced with your CS userid. The browser should show our very simple web page.

Concepts Review: Example 1

- ssh access, PuTTY, bash shell
- bash commands: `pwd`, `ls`, `cd`, `mkdir`, `chmod`, `rmdir`
- File permissions
- Text editors: `emacs`, `vi`, `pico`, `nano`, or use remote editing: FileZilla, vscode
- Emacs editor:
 - `emacs index.html` or `emacs -nw index.html`
 - `C-x C-s` to save, `C-x C-c` to exit, `C-h t` to go through simple tutorial (`C-` means Ctrl and other key)
- HTML: simple tags, `html`, `body`
- Web and HTTP access

Requirements of e1

- At the end of Example 1 (e1), there should be the following directories (folders), files and their permissions:

```
~/public_html/dgin5201          rwx--x--x
~/public_html/dgin5201/e1      rwx--x--x
~/public_html/dgin5201/e1/index.html rwxr--r--
```

- Content of `index.html` was given previously

File Permissions Review

- Each file or directory has user owner and group owner (group of users)
- Permissions defined for: user, group, other
- Each of these have three permissions: `rwx` — read, write, execute
- For directories ‘execute’ means actually access
- Examples of using `chmod`:
`chmod 664 file.txt`
`chmod og-r file.txt`
`chmod u+x,og+r file.txt`
`chmod u=rw,og= file.txt`
`chmod a+r file.txt; chmod -R u+r+w+X dir1`

Hands-on e2: Printable Form Page**Example e2: User Registration, Printable Form Page**

- Consider a Conference Management System
- Let us build a conference registration form
- We also want to provide them with some material
- First iteration: Create a printable form
- Create directory `public_html/dgin5201/e2`
- Go to that directory
- Add file `index.html` (content to be given)
- Make sure that the permissions of `e2` are `rwx--x--x`, and of `index.html` are `rwxr--r--`

Example e2: public_html/dgin5201/e2/index.html

```
<html><head><title>Conference Registration</title></head>
<body>
<h1>Conference Registration</h1>

<p>This is a registration page for CoMS.<br/>
For additional documents, please check <a
href="material">here</a>.<br/>
Please enter your information below to register:

<table>
<tr><th align=right>First and last name:</th>
<td>_____</td></tr>
<tr><th align=right>Email:</th>
<td>_____</td></tr>
<tr><th>Area of Interest (DB, HI, DS):</th>
<td>_____</td></tr>
</table>
```