MSCI 346 – Spring 2019

Lab #1: Database/Web Server

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Objectives

- Give you basic familiarity with phpMyAdmin, a common web application used to administer MySQL databases. Using phpMyAdmin we will:
  - Access the database
  - Change your password
  - View data in sample tables
- Introduce web servers
  - Public_html directory
  - Server connection
  - Linux basic commands
  - File transfer

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1.1 Log in to phpMyAdmin

- Go to https://mansci-db.uwaterloo.ca/phpmyadmin/. Log on to the server using Quest username and password.
- Login phpMyAdmin using your Quest username (your password is Spring@*%2019).

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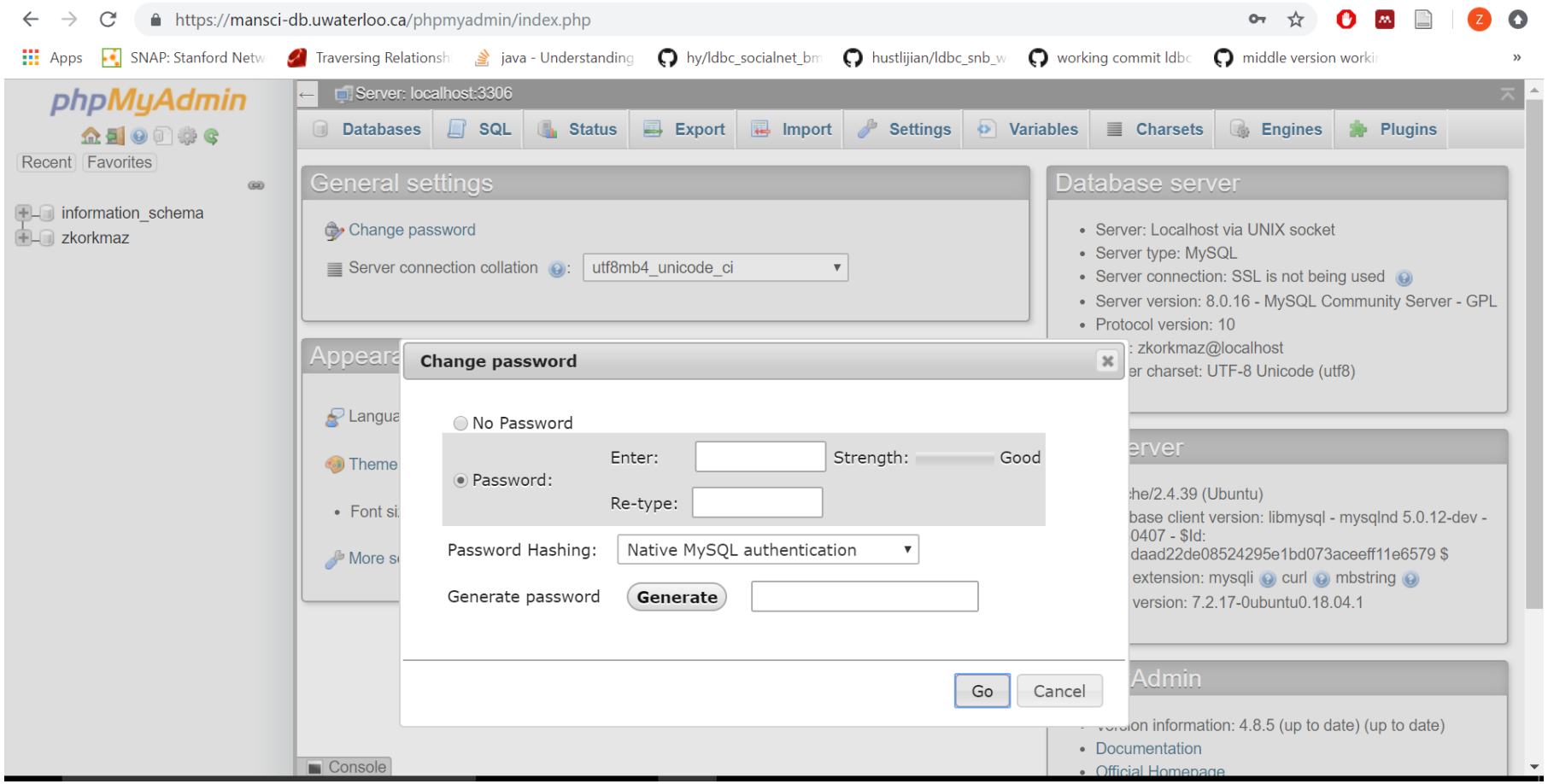
1.2 Change your password

- New password needs to contain an uppercase, lowercase, number and special character.



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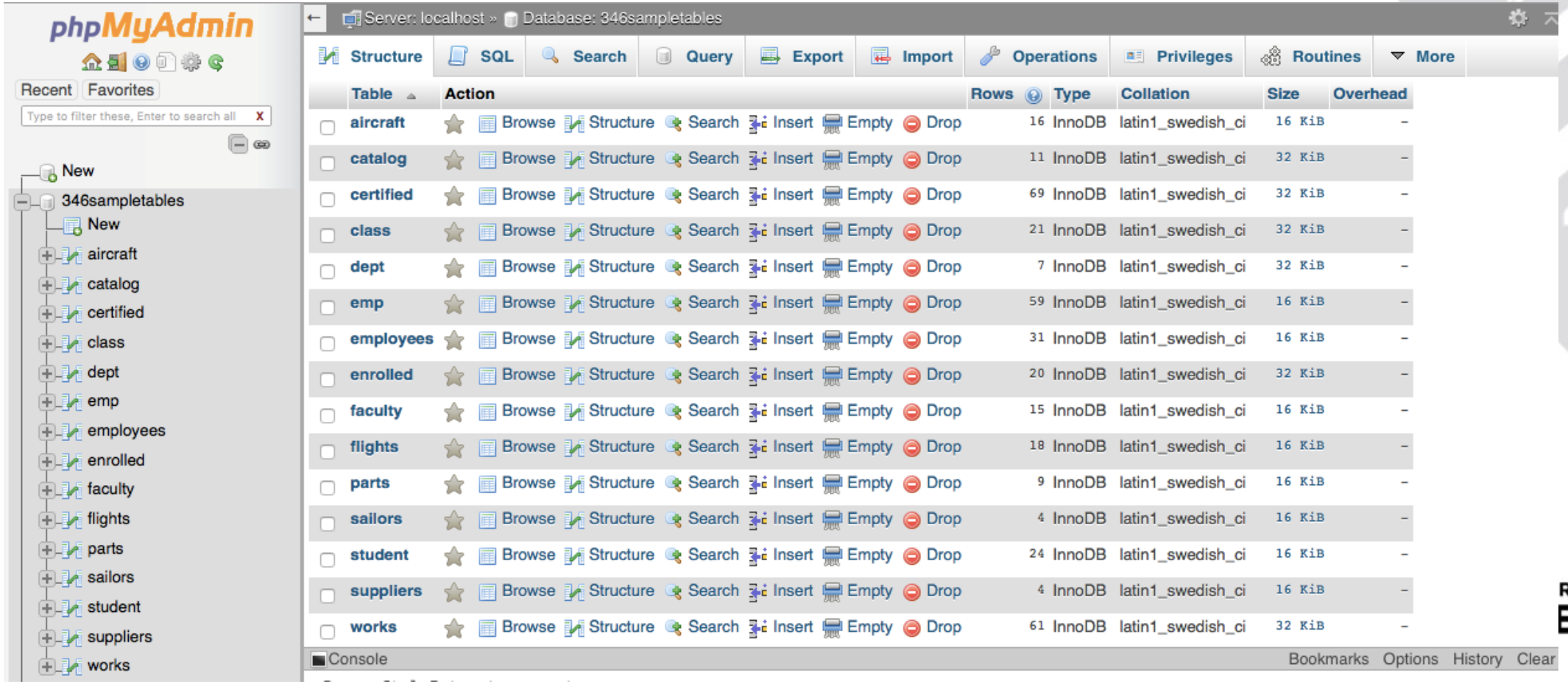
1.3 View data in tables (Next week)

- Click the '**346sampletables**' on the left to view data in this sample database



1.4 PhpMyAdmin Documentation

- We will learn more about phpMyAdmin in future labs (creating tables, inserting data, SQL queries, etc.).
- For more instructions, go to https://www.phpmyadmin.net/docs.

2.1 Web Server

- Web servers are computers that run web sites. The web server delivers web pages to browsers as well as other data files to web-based applications.
- Every web server has an IP address and possibly a domain name.

  For example, if you enter the URL *http://www.webopedia.com/index.html* in your browser, this sends a request to the Web server whose domain name is *webopedia.com*. The server then fetches the page named *index.html* and sends it to your browser.

- In this course, we are using a web server: *mansci-db.uwaterloo.ca*

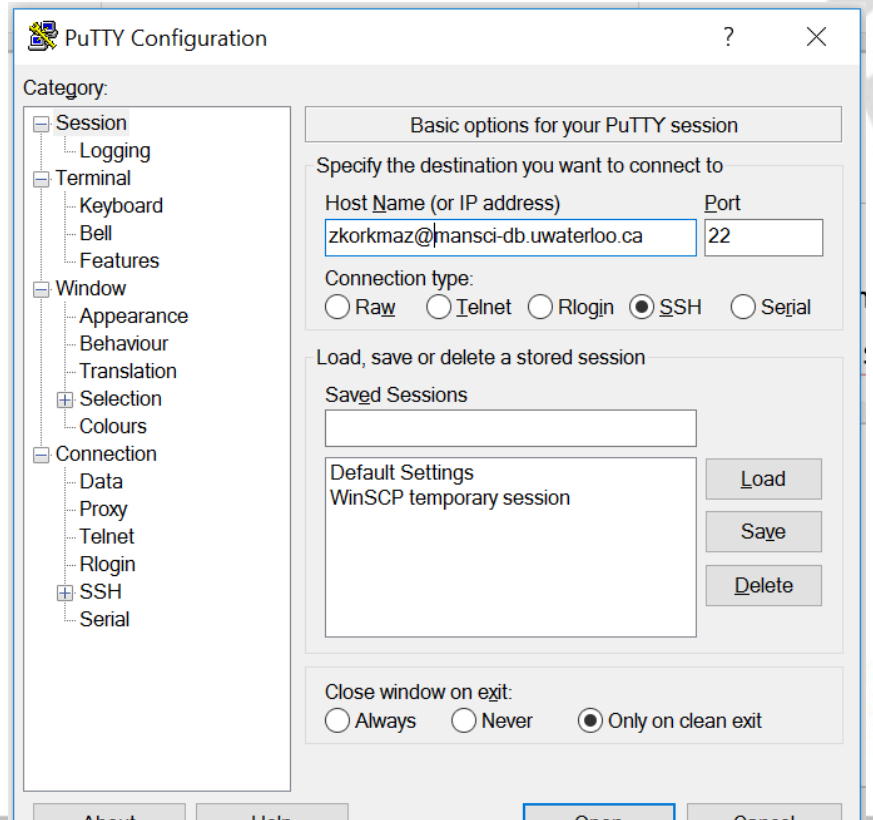
2.2 Public_HTML Directory

- When you log into the web server, you will see a public_html directory nested under your domain name.
- The public_html directory is the web root for your primary domain name.
- This means that public_html is the folder where you put all website files. When someone types your domain name into their browser, whatever is in the public_html folder is what will be shown to them.

- The Home page must be named as index.html or index.php

2.3 PuTTy

- PuTTY is a secure shell (SSH) client.
  - On Mac of Linux use Terminal and the ssh command.
- We will connect to the mansci-db server and access to public_html folder.
  - Download PuTTy and run Putty.exe.
  - In Host Name field, type *userid@mansci-db.uwaterloo.ca*.
  - Choose Default Settings.
  - Click Open.



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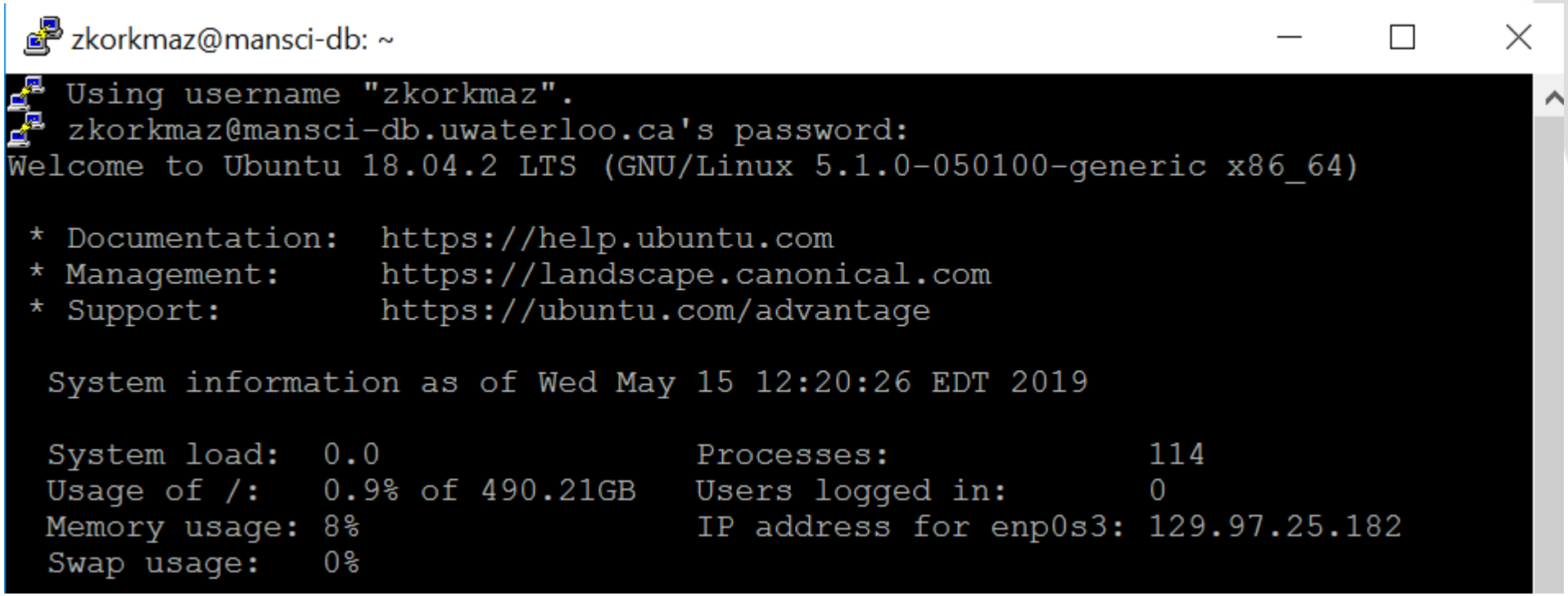
2.3 PuTTy (Cont'd)

- Login using your Quest username and password.



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2.3 PuTTy (Cont'd)

- Change your password
  - Type the command **passwd**
  - Enter your current and then new password

```
zkorkmaz@mansci-db:~$ passwd
Changing password for zkorkmaz.
(current) UNIX password:
passwd: Authentication token manipulation error
passwd: password unchanged
zkorkmaz@mansci-db:~$ passwd
Changing password for zkorkmaz.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
zkorkmaz@mansci-db:~$
```

2.3 Linux – Basic Commands

- Contents of a directory: **ls**
- Type **ls** and hit enter
- Anything without a file extension is a folder, everything else is a file of the type indicated by the file extension

```
zkorkmaz@mansci-db:~$ ls
public_html
```

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2.3 Linux – Basic Commands

- Move to another folder: **cd**
- Type **cd *directory_name*** and hit enter
- Anything without a file extension is a folder, everything else is a file of the type indicated by the file extension

```
zkorkmaz@mansci-db:~$ ls
public_html
zkorkmaz@mansci-db:~$ cd public_html/
zkorkmaz@mansci-db:~/public_html$ ls
cgi-bin  images  includes  index.html
```

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2.3 Linux – Basic Commands

- Move up one directory: **cd ..**
- Type **cd ..** and hit enter
- Will move you up one directory.
  - If you are in ~/public_html/images$, **cd ..** moves you to ~/public_html$

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2.3 Linux – Basic Commands

- Home directory: **~**
- Type **cd ~** and hit enter
- Will put you in your home directory

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2.3 Linux – Basic Commands

- Copy standard input to standard output: **cat**

```
zkorkmaz@mansci-db:~/public_html$ cat index.html
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3
g/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Welcome to Management Science Webspace</title>
<style type="text/css">
<!--
.style1 {font-family: Arial, Helvetica, sans-serif}
.style2 {font-family: Arial, Helvetica, sans-serif; font-weight: bold; }
-->
</style>
</head>

<body>
<center>
<p class="style2">Congratulation, your personal webspace is now completed !!!
>
</center>
<p class="style1">Your webspace has been configured with the following sub-di
tories:</p>
<p class="style1"><strong>images</strong> -&gt; this is a recomended location
r all your images</p>
<p class="style1"><strong>includes</strong> -&gt; this is a recommended locat
 for all your includes etc.  </p>
</body>

</html>
```

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2.3 Linux – Basic Commands

- **head**: Reads the first ten lines of a any given file name

```
zkorkmaz@mansci-db:~/public_html$ head index.html
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.or
g/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Welcome to Management Science Webspace</title>
<style type="text/css">
<!--
.style1 {font-family: Arial, Helvetica, sans-serif}
.style2 {font-family: Arial, Helvetica, sans-serif; font-weight: bold; }
-->
```

- To retrieve more number of lines than the default ten, then ‘-n‘ option is used along with an integer telling the number of lines to be retrieved.
- **tail**: The tail command allows you to display last ten lines of any text file.

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2.3 Linux – Basic Commands

- Search text: **grep**
  - Searches the given file for lines containing a match to the given strings or words

```
grep 'word' filename
```

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2.3 Linux – Basic Commands

- Print history: **history**
  - Print out the bash history of the current user to the screen

```
zkorkmaz@mansci-db:~/public_html$ history
    1  ls
    2  cd public_html/
    3  ls
    4  grep 'html' index.html
    5  cat index.html | grep 'html'
    6  history
```

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2.3 Linux – Basic Commands

- Pipe |: Lets you use two or more commands such that output of one command serves as input to the next.
  - Output of each process directly as input to the next one like a pipeline.

```
zkorkmaz@mansci-db:~/public_html$ history
    1  ls
    2  cd public_html/
    3  ls
    4  grep 'html' index.html
    5  cat index.html | grep 'html'
    6  history
zkorkmaz@mansci-db:~/public_html$ history | grep 'cat'
    5  cat index.html | grep 'html'
    7  history | grep 'cat'
zkorkmaz@mansci-db:~/public_html$
```

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2.4 Transferring Files

- Transfering Files in Unix, Linux or Mac OS terminal

```
scp filename username@hostname:pathname
```

- For example, if you want to transfer the file nice.jpg in the folder **/myfiles_from_local_folder/** on your computer, to the directory (folder) **public_html** on the server, you need to enter the following:

```
$ scp /myfiles_from_local_folder/nice.jpg
userid@manscidb.uwaterloo.ca:/home/your_user_id/publ
ic_html/
```

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2.4 Transferring Files

- Transfering Files using GUI tool
  - Mac OS
    - FUGU -> rsug.itd.umich.edu/software/fugu/
    - Newer Mac OS (Mac OS X 10.7+) Rbrowser -> http://rbrowser.com/
  - Windows
    - WINSCP

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2.4 WINSCP

- A tool for transferring local files to a server.
- **DOWNLOAD WINSCP HERE: https://winscp.net/eng/download.php**
- WinSCP is a GUI that allows you to transfer local files to a server
- Log into WinSCP using the following credentials
  - host: mansci-db.uwaterloo.ca
  - username: your quest username (eg. zkorkmaz)
  - password: the password you just changed in puTTy
  - port: 22

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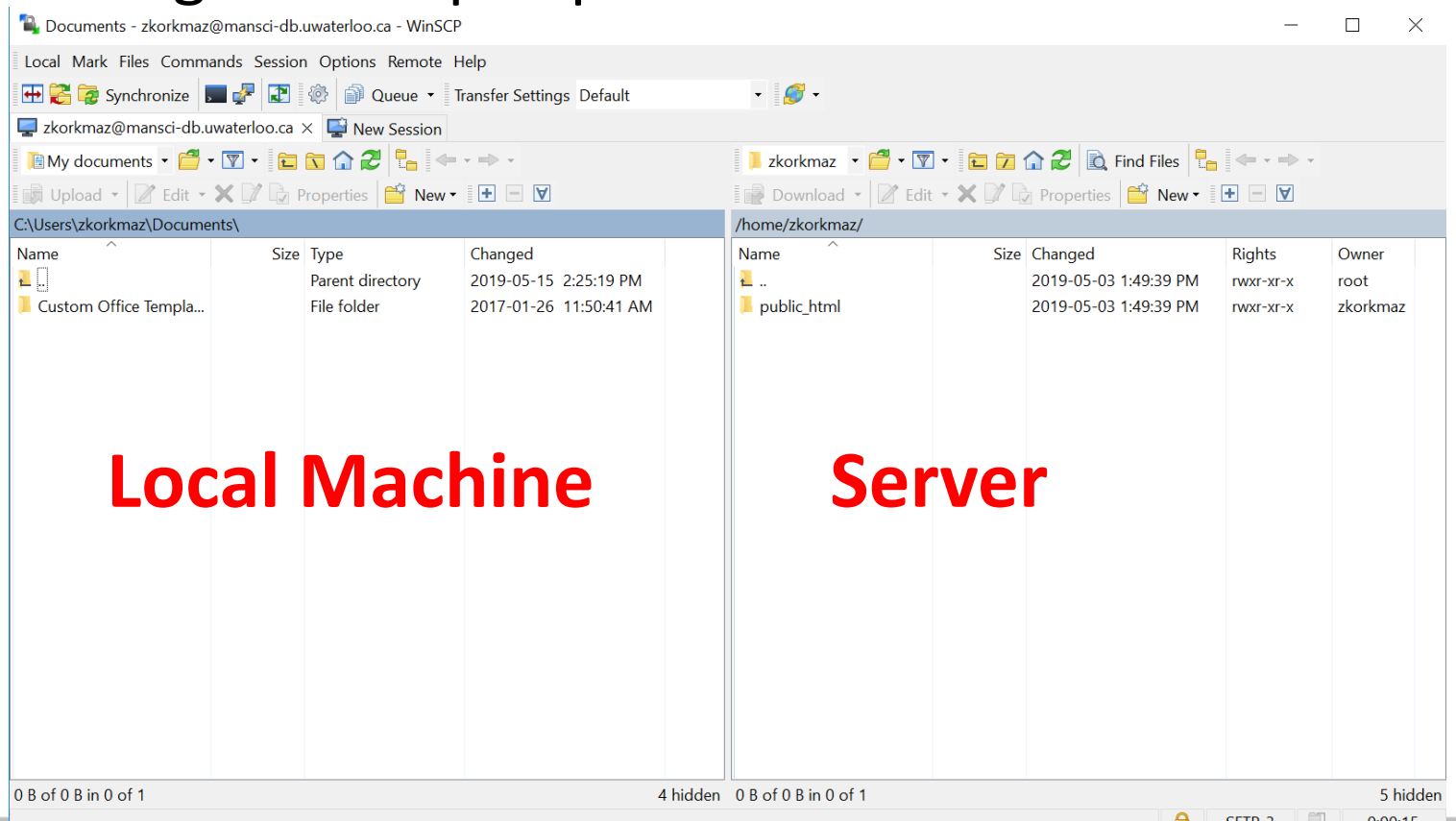
2.4 WINSCP (Cont'd)

- The left side of the window is your local machine, the right side is the mansci-db server
- You can drag and drop copies of local files to the server and vice-versa



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2.5 Login Off-campus

- If logging in outside from campus, you will need VPN (Virtual Private Network).

- Instructions available on https://uwaterloo.ca/information-systems-technology/services/virtual-private-network-vpn/about-virtual-private-network-vpn

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Next Week:

- Complete environmental setup
- Introduce HTML and web programming
- Need help?
  - Weekly office hours:
  - Zeynep Korkmaz -> in CPH 4361 on Fridays at 3:00-4:00pm
    - Email: zkorkmaz@uwaterloo.ca
  - Ishita Goswami -> on Wednesdays at 3:30-4:30pm
    - Email: igoswami@uwaterloo.ca

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