# Web Services Lab

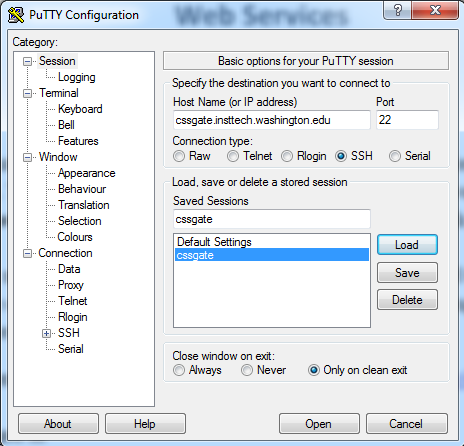
Complete the following with your pair (or alone) and show your work before leaving the classroom. I will come around and help where necessary. We will also stop after each step and go over the questions. You may also help others if you finish your work early.

**How to use the server to create a web service**

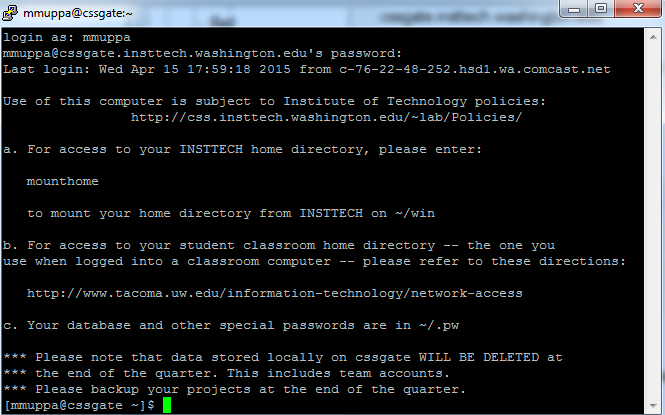
Our institute has a Linux server that you may remember using from TCSS305 to store your java code. This server also runs a web server and a database server. Its host name is **cssgate.insttech.washington.edu** and it can be accessed through putty (SSH) and ftp.

How to SSH   
If you are not on Lab computers, you will need to install an SSH Client for this. Putty is one of the options for Windows based computers.   
  
*If you are using a Mac, Terminal can be used for this. It can be found under Utilities. Launch Terminal (available under Utilities) and at the prompt, type ssh<space>*[*youruwnetid@cssgate.insttech.washington.edu*](mailto:youruwnetid@cssgate.insttech.washington.edu) *or Shell 🡪 New Remote Connection. Here you have an option to ssh or sftp.*

1. Install from <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>



1. Once logged in with your userid and password (INSTTECH password – If you don’t know what this is, come talk to me), you will see a prompt.



1. You can check for your passwords for mysql by typing in   
   $cat ~/.pw  
     
   [mmuppa@cssgate ~]$ cat ~/.pw

20100505 10:50:05 mysql user 'cfb3' password

20100505 10:50:06 firebird user 'cfb3' password

20100505 10:50:10 tomcat user 'cfb3' password

1. The web server looks for files in the directory public\_html in this root folder. If you don’t have a public\_html root directory, create a directory with the name, public\_html at the $ prompt.  
     
   [mmuppa@cssgate ~]$ mkdir public\_html
2. This is where you will place all your php files that need to be used by your app.
3. You may have to set permissions to make this folder world readable. <http://linuxsurvival.com/linux-change-file-permissions-command-part-1/>

$chmod 755 public\_html

1. Create a php test page locally on your computer using a Text Editor like Textpad or NotePad++ or Sublime or TextWrangler (Don’t use TextEdit on Mac). Save it as hello.php. *If you copy and paste my code, make sure to change the quotations marks from word version to programming version*.   
     
   <?php

#I am printing my name

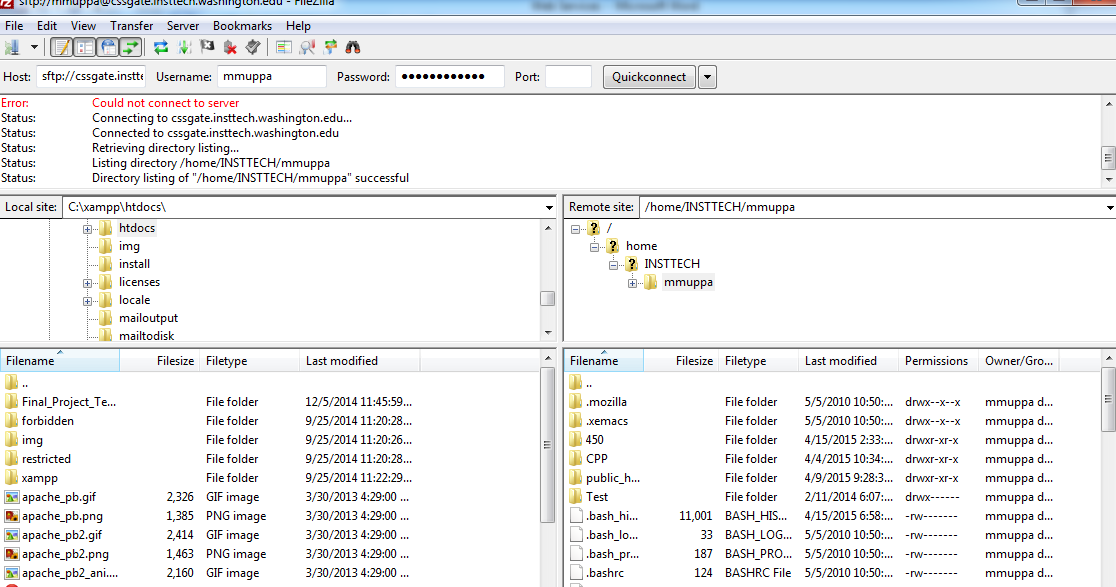
$name = "Charles";

print "Hello, " . $name;

?>

## FTP files to the server

(Windows and Mac)

1. There are many choices for ftp clients. FileZilla <https://filezilla-project.org/download.php?type=client> is one option that works on both Mac and Windows. They are visual. Connect using the same credentials as with Putty. **cssgate.insttech.washington.edu** and use Port 22
2. 
3. Browse to your local directory on the left hand side and transfer files into your public\_html directory. In this case, your hello.php
4. Open a browser and navigate to (change userid to your uwnetid in the url).

http://cssgate.insttech.washington.edu/~userid/hello.php

## Create table in MySQL database

1. If you never took any database classes, you may want to find a quick tutorial on understanding relational databases first. Syntax to login to the mysql server is

mysql -u<userid> -p<mysqlpassword>

where –u is the switch to specify userid and –p for mysqlpassword. Use the mysql password that you retrieved in Step 3 on Page 3 of this document.

If you don’t want to use the command line interface, you can install MySQLWorkbench client and use the graphical user interface. It’s available at <https://dev.mysql.com/downloads/workbench/>

I will post instructions for setup on Canvas.

[userid@cssgate ~]$ mysql -uuserid –pmysqlpassword

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 127

Server version: 5.1.39-community MySQL Community Server (GPL)

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;

+--------------------+

| Database |

+--------------------+

| information\_schema |

| userid |

+--------------------+

2 rows in set (6.17 sec)

1. You cannot create additional databases. You have a default schema, which is your userid. Mine is cfb3.

mysql> use userid;

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

mysql> show tables;

+------------------+

| Tables\_in\_userid |

+------------------+

+------------------+

mysql> create table User(email VARCHAR(25) PRIMARY KEY, pwd VARCHAR(25));

Query OK, 0 rows affected (0.01 sec)

mysql> desc User;

+-------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------+-------------+------+-----+---------+-------+

| email | varchar(25) | NO | PRI | NULL | |

| pwd | varchar(25) | YES | | NULL | |

+-------+-------------+------+-----+---------+-------+

2 rows in set (0.00 sec)

mysql> insert into User values ('cfb3','testing');

Query OK, 1 row affected (0.00 sec)

mysql> insert into User values ('Charles','testing');

Query OK, 1 row affected (0.00 sec)

mysql> select \* from User;

mysql> exit

## Accessing MySQL table through PHP

1. Create a new PHP page with the following code and upload to your public\_html folder.

<?php

ini\_set('display\_errors', '1');

error\_reporting(E\_ALL);

// Connect to the Database

$dsn = 'mysql:host=cssgate.insttech.washington.edu;dbname=myuwnetid';

$username = 'myuwnetid';

$password = 'mysqlpassword';

try {

$db = new PDO($dsn, $username, $password);

$select\_sql = 'SELECT email, pwd FROM User';

$user\_query = $db->query($select\_sql);

$users = $user\_query->fetchAll(PDO::FETCH\_ASSOC);

if ($users) {

echo json\_encode($users);

}

$db = null;

} catch (PDOException $e) {

$error\_message = $e->getMessage();

echo 'There was an error connecting to the database.';

echo $error\_message;

exit();

}

?>

1. Transfer the php file using ftp into public\_html folder.
2. Access this web page through the web browser. I created a sub folder under public\_html with the name Android. Mine is at  
   <http://cssgate.insttech.washington.edu/~cfb3/Android/users.php>

## Using a Web Service from Android (To be continued)