# CS/CSA 499 Database Server Connection

This document is to help you connect to the database server. First, see the section about installing the tools required. Once the tools are installed, then use the connection steps section to connect.

# Install Needed Tools

## VPN

This site has the UAB instructions and software to install the VPN client.

<https://www.uab.edu/vpn/>

When you connect, the server address to connect with is vpn.uab.edu

## WINDOWS:

### SSH Client

Now you need an SSH client. Use Putty, cmder, or the Windows 10 client.

Putty – <https://the.earth.li/~sgtatham/putty/latest/x86/putty.exe> (download and run the exe, no install)

Cmder – <https://github.com/cmderdev/cmder/releases/download/v1.3.5/cmder.zip> (Extract the zip file to a directory, in that directory run Cmder.exe, no install)

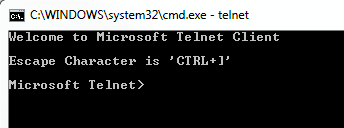
Windows 10 has an SSH client, but you need to enable it. See this document if you want to do that…

<https://www.howtogeek.com/336775/how-to-enable-and-use-windows-10s-built-in-ssh-commands/>

### Telnet Client

The telnet client is used to help diagnose connectivity issues. It is not required to use the database, but if you have problems connecting it helps in troubleshooting the issue.

Open a command prompt and type “telnet” and press enter. If you receive this result, you have telnet client installed.

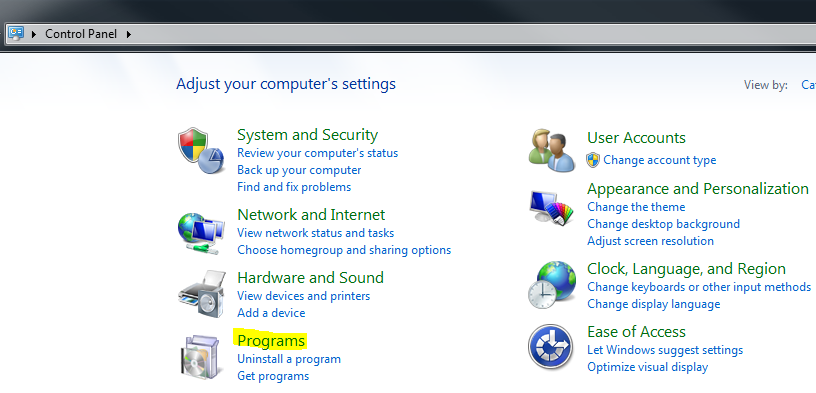


If you receive an error, you need to install the telnet client.

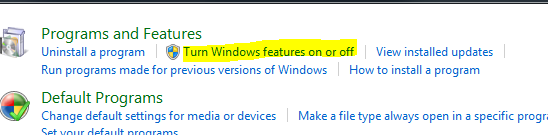
*Install Telnet Client*

Open control panel,

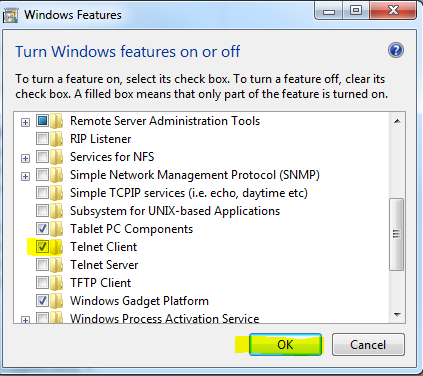
Depending on your operating system, click Programs.



Click on Turn Windows features on or off



Scroll down to the Telnet Client checkbox, check it and click OK.



This will install the Telnet client on Windows.

## MAC:

### SSH Client

MacOS includes SSH client and you can run it from a terminal window.

### Telnet Client

Apple removed Telnet client starting in High Sierra (I think). They did include netcat (nc) that will provide the same function for this purpose, or you can install the telnet client using homebrew.

<https://www.youtube.com/watch?v=L3gVLQ4zh0c> (telnet client install)

<https://medium.com/ayuth/bring-telnet-back-on-macos-high-sierra-11de98de1544> (telnet client install and how to use netcat)

## Linux:

SSH and Telnet are installed by default so you should not have to install anything. If you do, then Google how to install them for your version of Linux.

# Connection Details

This information is needed to connect and login to the PostgreSQL database server.

Postgresql Database server: 138.26.48.83

SSH UserID: Team#

SSH Password: team#

SSH Port: 22

Postgresql UserID: Team#

Postgresql Password: team#

Postgresql Port: 5432

Postgresql DB Name: Team#DB

PGAdmin4 UserID: team#@uab.edu

PGAdmin4 Password: team#123

PGAdmin4 Port: 80

NOTE: replace # symbol with your team number

## Connection Steps

### Using Campus Network (WiFi)

To manage the database using PSQL:

1. SSH to DB server

2. Start PSQL (psql -d Team#DB)

To connect to the database via code:

Connect code to the database server and port (<database server IP>:5432)

### Using the VPN

To manage the database using PSQL:

1. Connect VPN

2. SSH to DB server (<database server IP>:22)

3. Start PSQL (psql -d Team#DB)

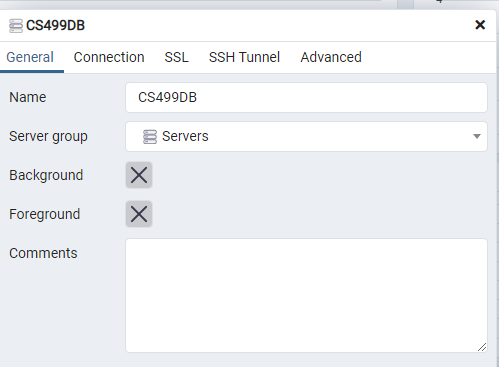
To connect to the database via code:

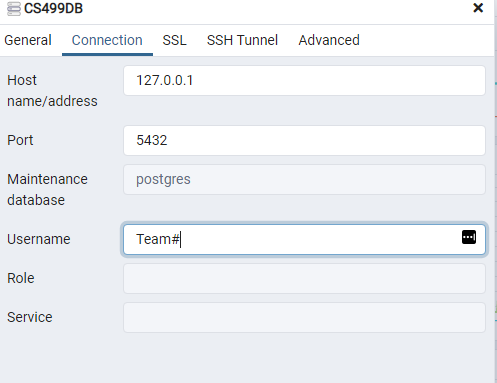
1. Connect VPN

2. Connect code to the database server and port (<database server IP>:5432)

### PGADMIN4

If you are using PGAdmin4 to manage your database, when you first connect you will need to setup the server connection. When adding the server, use these values…..





Change Team# replacing the # with your team number. You will also provide your Postgresql password team#

## PSQL Commands

This site has the PSQL commands and usage

<https://tomcam.github.io/postgres/>

# Commands for Debugging

If you are having issues connecting to the database server, these diagnostic steps can help in determining if the problem is connecting to the database server (is it a network issue) or a problem with the code being used.

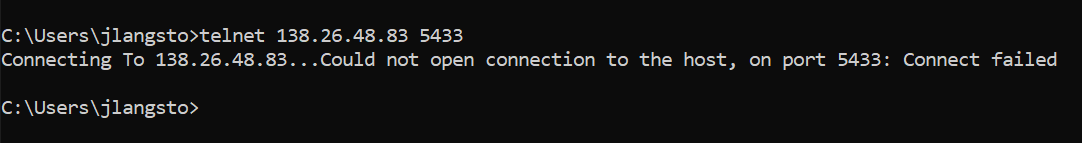
### Connectivity to Server Port

To check that the server port can receive connections, we will use Telnet to establish a connection.

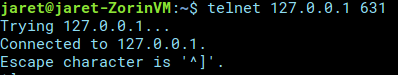
For all OS (Windows, Linux, and Mac) the operation is the same.

On Mac, if you are using netcat, type nc and not telnet.

From a command prompt/terminal window, type: *telnet 138.26.48.83 5432* and press enter. If it cannot connect, you will receive an error message similar to this:



If you can connect, you will get a blank command window in Windows or something like this in Mac and Linux:



If it is successful, this indicates the SSH mapping to the PostgreSQL server is working and you can connect to it.

If both the listening port and the Telnet diagnostics are successful, the issue is probably with the code being used to connect to the database server.