

```

# connect to server
$ ssh <my_username>@<my_server_URL>

$ source .bash_profile    # .profile, .bash_profile, .bashrc

##### .bashrc #####
#!/bin/sh

umask 007

#ulimit -n 32000

alias my_server_shoutcut="ssh -X <my_username>@<my_server_URL>"

if [ $HOSTNAME = "<my_server_1>" ] || [ $HOSTNAME = "<my_server_2>" ]; then

    unset JAVA_TOOL_OPTIONS

    export JAVA_HOME=</my_java_home_folder/java/home>
    export PYTHONIOENCODING=utf-8
    conda activate <my_python_virtual_environment>
    cd <my_folder>
fi
##### .bashrc #####

# use SSH key to login Linux server
$ ssh-keygen -t rsa -b 1024 -N "" -C <my_email_address>
$ ssh-copy-id -i $HOME/.ssh/id_rsa.pub <my_username>@<my_server_URL>

# create a folder
$ mkdir <my_folder>

# delete a folder
$ rm -r <my_folder>

# move/rename file
$ mv -i <my_file.txt> <my_destination>
$ mv <my_name.sas7bdat> <my_new_name.sas7bdat>

# copy file
$ cp <my_source> <my_destination>
$ cp </my_folder/my_file.txt> .
$ rsync -r -t <my_source> <my_destination>    # copy folder
$ rsync -t <my_source.sas> <my_destination.sas>    # copy a file

# search a pattern
$ grep -i <my_str_pattern> *.py
$ grep -s <my_str1> <my_str2>
$ find . -name "*.log" | xargs grep -i "^err"    # find keyword

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$ grep -r <my_keyowrd_pattern> .      # search keyword in entire content of a
directory

# search folder belong to me
$ find </my_folder/my_path> -user <my_username> -exec ls -l {} \;

# change permission
$ chmod 755 .profile
$ chmod +x my_python.py      # executable file, python my_python.py
$ chmod -R 775 </my_folder/my_path>   # change folder permission

$ sudo chown notme:notmygroup <my_file.txt>    # change owner of a file to different
unix group

$ newgrp <my_new_group>
$ groups      # my_new_group is now the first of all your groups

# check jobs run on server
$ ps
$ pss      # check my programs running on server
$ ps -ef | grep <my_username>      # list jobs
$ ps -fu <my_username>
$ kill -9 <my_PID>
$ ps aux | grep <my_search_keyword>    # search jobs, such as vnc, firefox, etc..
$ vncserver -kill :<my_port>      # kill VNC
$ bin/bash      # switch bash in VNC konsole

# output the first 100 line records to a file
$ head -100 <my_file.txt> > <my_result.txt>
$ head <my_file>      # read file content
$ tail -100 <my_file.txt> <my_file_tail_record.txt>

# delete rows #2 to #4 from a file
$ sed '2,4d' <my_file.csv> > <my_reduced_file.csv>

# cut columns and only keep column 1, 2, 27 to 56 for a tab-delimited file
$ cut -d$'\t' -f1,2,27-56 <my_file.csv> > <my_file_reduced_columns.csv>

# count number of lines (records) in file
$ wc -l <my_file.txt>
$ zcat <my_file.gz> | wc -l
$ zcat <my_file.gz> | head -10 > <my_result_file.txt>

$ cat my_file.csv | awk '{ print NF}'      # count # of columns
$ sed -n '1209311p' <my_file.csv>      # view a specific line of record

$ cmp <my_file_1.csv> <my_file_2.csv>      # compare two files byte by byte
$ diff <my_file_1.csv> <my_file_2.csv> | cat -t      # show any special characters
clearly - e.g. ^M for CR, ^I for tab
$ grep "^M" <my_files.csv>      # ctrl+v+m for "^M"      find CR in my_files.csv

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# zip/unzip file
$ bzip2 -z <my_file>
$ bzip2 -d <my_file.bz2>
$ tar -cf <my_zip.tar> <my_file>
$ tar -xf <my_zip.tar>
$ tar -xzf <my_file.tar.gz>    # unzip .tar.gz file

# Launch graphic display for PyCharm/IntelliJ/Firefox/Sublime Text on another server
(#2) with VNC while using server (#1)
# don't need to export, if do this on server with VNC
$ export DISPLAY=<my_server_URL>:<my_port>
$ firefox &

$ curl localhost:9200

$ ssh -L 5601:localhost:5601 <my_username>@<my_server_URL>    # Enable Windows to
use Kibana which is launched on Unix server (tunnel screen back to Windows from
Unix); execute from Windows

# help file
$ grep --help
$ man grep    # help command for MAC

# abort to execute a command
$ Ctrl + c

# monitor SAS job
$ sasgsub -gridgetstatus all
$ sasgsub -gridsubmitpgm <my_saspgm.sas>

# check space usage
$ du
$ du -sk

# create log
$ wc -l <*.sas> > <log.log>
$ wc -l <*.sas> | head -7
$ wc -l <*.sas> | tail -5
$ wc <*.sas> >> <log2.log>    # also save info into file

# other commands
$ which python
$ which firefox
$ firefox -p
$ whoami
$ pwd
$ cd    # "tab" to search options
$ ls -lahtr    # dash flags for options = ls -l -a -h -t -r
$ clear

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$ history
$ bash
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# hidden file has name starting with .
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# pcrn (job scheduler)
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```
# move file between different unix servers
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# copy the <my_source> directory and place it at <my_destination> on another server
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```
$ rsync -av <my_username>@<my_server_URL>:{my_source} {my_destination}
```

```
# sFTP from one server to another
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```
# login to Server #1
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$ sftp <my_server_URL>
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```
# type password
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```
$ lcd <location on server #1>
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$ cd <location on server #2>
```

```
$ mget <my_file.txt> # copy file on server2 to server1
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# email
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```
$ mailx -s "-s for subject" email@email.com < <my_file.txt>
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##### vim #####
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i: insert
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Esc: exit
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Shift + q: exit mode
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##### MySQL on server #####
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$ mysql -u my_username -p
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```
mysql> SHOW DATABASES;
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```
mysql> USE my_database;
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```
mysql> SHOW TABLES;
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mysql> CREATE TABLE my_table (my_column_1 INT PRIMARY KEY,my_column_2  
VARCHAR(20),my_column_3 DATE);
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mysql> INSERT INTO my_table (my_column_1,my_column_2,my_column_3)  
VALUES(1,"2","2019-11-06")
```

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mysql> SELECT * FROM my_table WHERE my_column_3 > "2019-11-06"
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mysql> DESCRIBE my_table;
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mysql> DROP TABLE my_table;
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mysql> quit;
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