Reproduction steps:

Note: This is for a windows machine. Do not attempt on another OS, and if you do, this guide is not for you and you are on your own.

Possible needed downloads:

<https://www.puttygen.com/download-putty>

* download and install

<https://filezilla-project.org/>

* download client and install
* DECLINE TO INSTALL AVG SECURE BROWSER DURING INSTALLATION

<https://dev.mysql.com/downloads/workbench/>

* download and install

Create oracle cloud instance

* Create account
* Create instance of Ubuntu 22.04 VM.Standard.A1.Flex with 4 OCPU and 24GB Memory
* Note: may need to change “Placement” if AD-3 is out of VM.Standard.A1.Flex instances 🡪 AD-2 or AD-1

How to:

<https://www.youtube.com/watch?v=OrG-z6g5jQo>

Establish connection

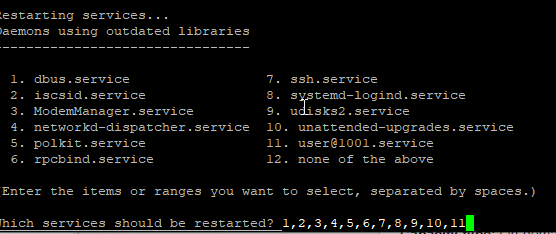
* Make downloaded key available for putty and FileZilla connection
* <https://www.youtube.com/watch?v=XhDpvIBLkgU>
* <https://www.youtube.com/watch?v=cBI1CTg4Rg4>

Update && Upgrade instance

sudo apt-get update

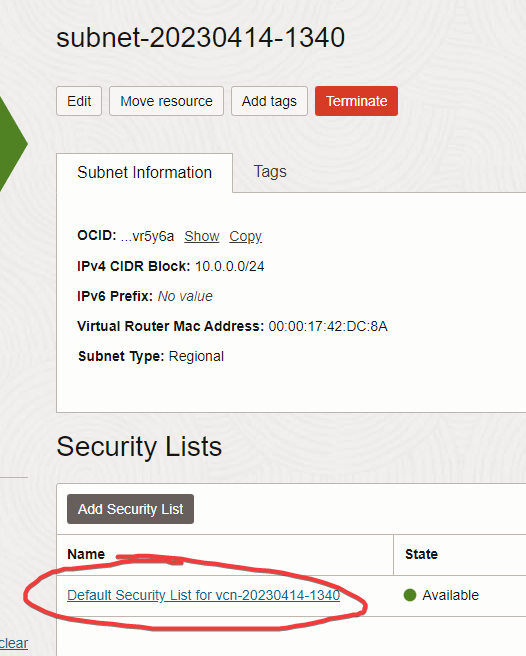
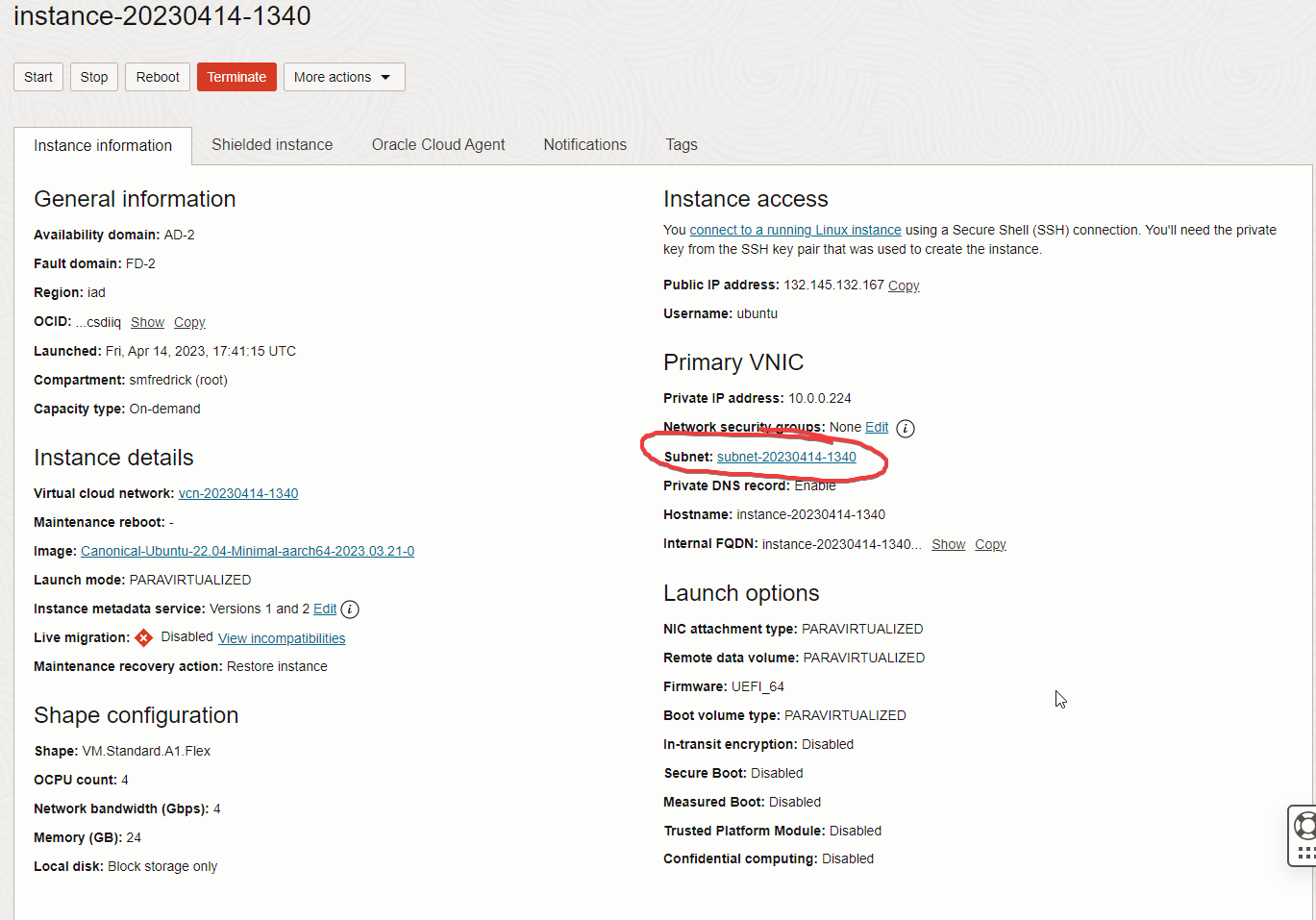
sudo apt-get upgrade

Select Y to all Y/N promps, and when asked which services should be restarted, list all of them

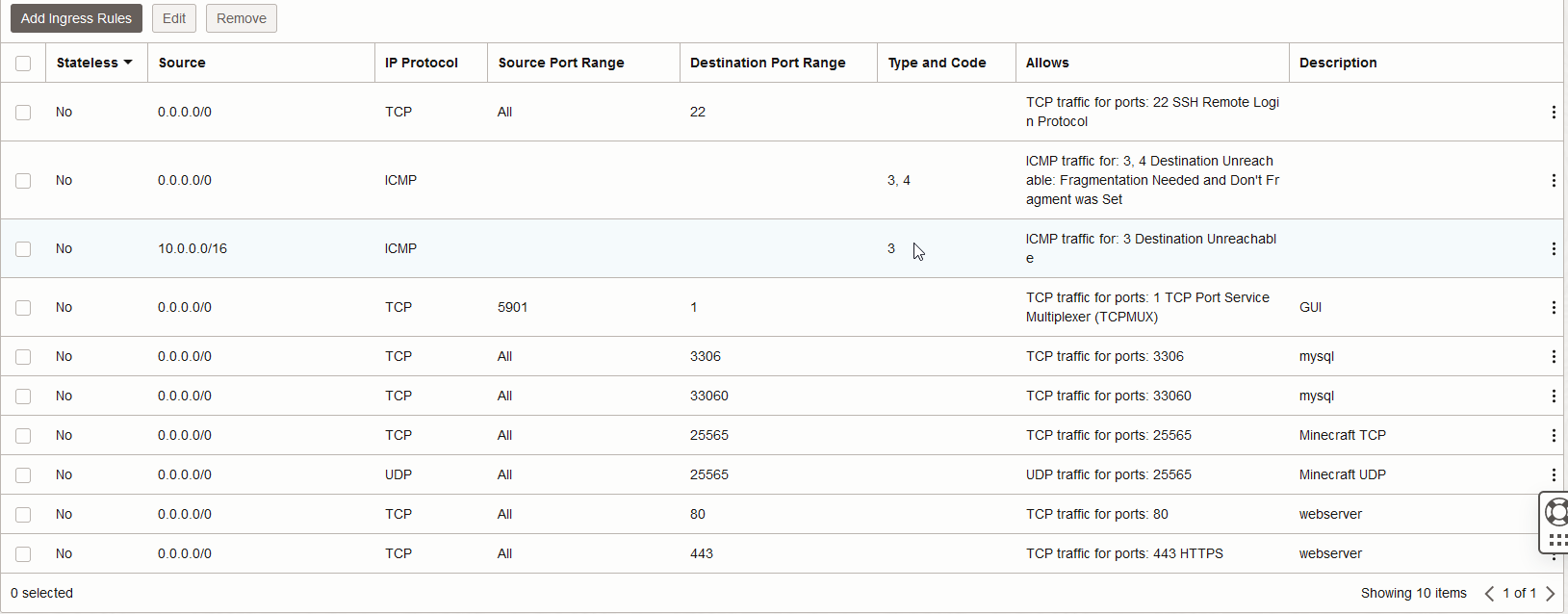


Install MySQL Server && configure

* sudo apt install mysql-server
* Y to install prompt
* sudo adduser school
* Fill out prompt & give password
* sudo mysql
* CREATE USER ‘pluginaccess’@’localhost’ IDENTIFIED BY ‘<password>’;
* CREATE USER ‘school’@’%’ IDENTIFIED BY ‘<password>’;
* GRANT ALL PRIVILEGES ON \*.\* TO ‘pluginaccess’@'localhost' WITH GRANT OPTION;
* GRANT ALL PRIVILEGES ON \*.\* TO ‘school’@’%’ WITH GRANT OPTION;
* exit
* WARNING: Such broad privileges **should not be granted lightly**, as anyone with access to this MySQL user will have complete control over every database on the server. This is done for this setup as the server is entirely used for this project alone. Please apply principle of least privilege where you can.
* This has created a user ‘pluginaccess’ which can only access the database from localhost, and a user ‘school’ that can access the database from anywhere. The plugin will use pluginaccess and you can use ‘school’ to edit/view the database manually.
* sudo apt install nano
* sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
* Change bind-address and mysqlx-bind-address from 127.0.0.1 to 0.0.0.0 to allow connections from all IPs [again, this is insecure]
* Ctrl + s then ctrl + x
* sudo iptables -I INPUT -s 0/0 -p tcp --dport 3306 -j ACCEPT
* sudo service mysql restart
* Note: installing persistent IP tables can prevent you from having to run “sudo iptables -I INPUT -s 0/0 -p tcp --dport 3306 -j ACCEPT” every time the instance reboots
* Go to oracle cloud control panel



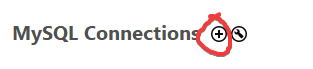
* Ensure they match this(add any missing[ignore port 5901])🡪(3306, 33060, 25565, 80, 443):



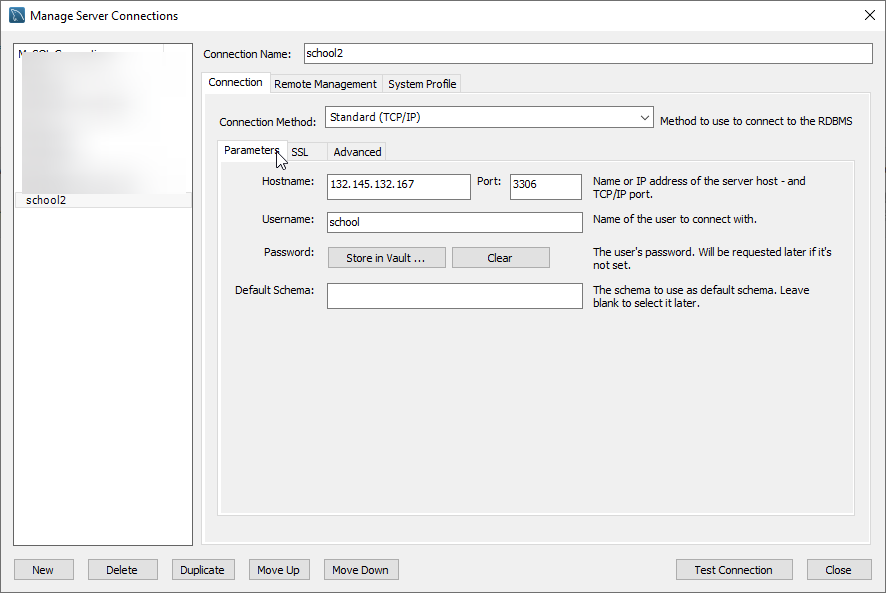
Ex. CIDR: 0.0.0.0/0 | Source Port Range: <blank> | Destination Port Range: 3306

Warning: allowing connections from any IP is insecure

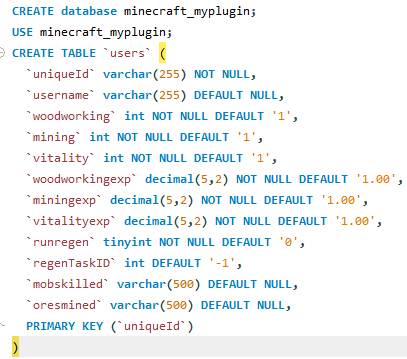
* You should be able to connect via command line, and also via MySQL Workbench at this point to the MySQL server



* Enter any connection name
* Enter IP from cloud oracle console and username set up for the MySQL account



Create mysql database and schema using MySQL Workbench



* Run above script by pressing the lightning bolt

Install tmux

* sudo apt install tmux
* Press y

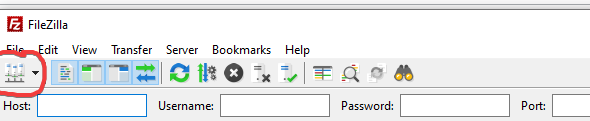
Install java && check version

* sudo apt install openjdk-17-jdk openjdk-17-jre
* press y
* java –version
* ensure java 17 is installed (ex. “17.0.6”)

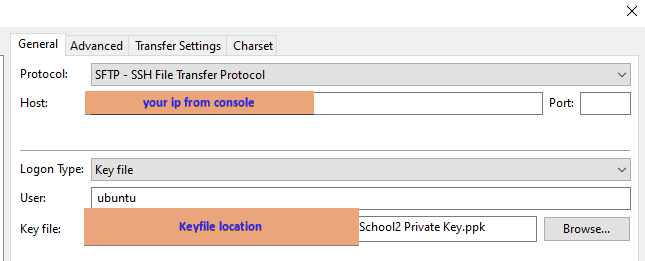
create tmux session

* tmux new –s PluginTest
* ctrl + b then “d” to detach from session ( CTRL + B, RELEASE ALL KEYS, then press D)

Open filezilla and connect, then upload server files



* new site



* Ensure protocol is SFTP
* Username is ubuntu by default
* Ensure login type is key file
* Hit connect
* drop PluginTest folder into /home/Ubuntu
* wait for download to finish
* go to PluginTest/plugins/MyPluginConfig/jdbc.txt
* edit it to match previously configured login(right click and view/edit)
* ex. jdbc:mysql://[username]:[password]@localhost/minecraft\_myplugin

Test server

* tmux attach-session –t “PluginTest”
* cd PluginTest
* java -Xms10G -Xmx10G -XX:+UseG1GC -XX:+ParallelRefProcEnabled -XX:MaxGCPauseMillis=200 -XX:+UnlockExperimentalVMOptions -XX:+DisableExplicitGC -XX:+AlwaysPreTouch -XX:G1NewSizePercent=30 -XX:G1MaxNewSizePercent=40 -XX:G1HeapRegionSize=8M -XX:G1ReservePercent=20 -XX:G1HeapWastePercent=5 -XX:G1MixedGCCountTarget=4 -XX:InitiatingHeapOccupancyPercent=15 -XX:G1MixedGCLiveThresholdPercent=90 -XX:G1RSetUpdatingPauseTimePercent=5 -XX:SurvivorRatio=32 -XX:+PerfDisableSharedMem -XX:MaxTenuringThreshold=1 -Dusing.aikars.flags=https://mcflags.emc.gs -Daikars.new.flags=true -jar paper-1.19.2-270.jar –nogui
* ctrl + b then “d” to detach from session ( CTRL + B, RELEASE ALL KEYS, then press D)
* sudo iptables -I OUTPUT -p tcp -m tcp --dport 25565 -j ACCEPT
* sudo iptables -I OUTPUT -p tcp -m udp --dport 25565 -j ACCEPT

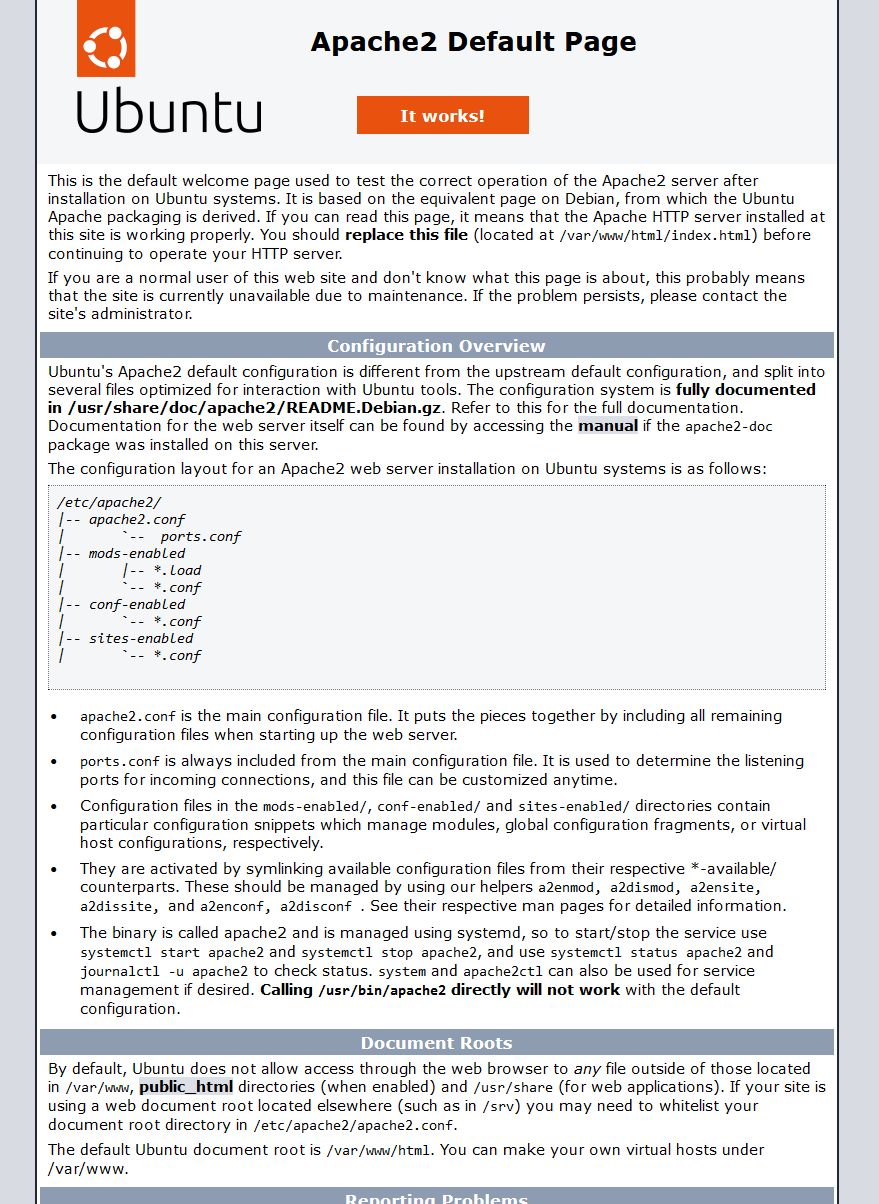
NOTE: THESE TWO IPTABLE COMMANDS MUST BE RUN EVERY TIME THE INSTANCE RESTARTS [can be solved with persistent ip-tables]

Server should now be online and running

Connect to it in minecraft by using the ip provided in the console

Scoreboard functionality:

* sudo apt install apache2
* press y
* sudo iptables -I INPUT -p tcp -m tcp --dport 80 -j ACCEPT
* you should now be able to reach the following page when entering the ip on google:



* sudo chown ubuntu:ubuntu /var/www/html
* connect to server on filezilla and navigate to /var/www/htlm
* put the contents of public\_html in it(not the folder itself)
* delete index.html so it defaults to index.php
* right click 🡪view/edit connection.php and change the username to ‘pluginaccess’ or whatever you set up in the previous step, and change the password to whatever password you set(default: password)
* sudo apt install libapache2-mod-php
* press y
* sudo a2enmod php
* sudo systemctl restart apache2
* sudo apt install php-mysql
* press y
* sudo systemctl restart apache2

You can now view the entirety of the scoreboard

Note: the plugin by default will not show any scores, this is because the server has nothing to provide it. To see this functionality, please login to the server and play a bit to give it data to use. Additionally, if data doesn’t show up after this, it’s because the plugin needs to have the correct database location. Please update in the jdbc.txt file as specified during setup.

You should be completely done with the setup now.