Minecraft Server with AWS Workshop Notes

Hi there! Perhaps you missed something from the workshop, it was too fast paced, or you simply want to try to do this on your own time? Don't worry! I put together a few notes so you can replicate what we did in the workshop in your own time.

First things first, make sure you created your AWS account ahead of time, it is a good practice to create another account so you're not directly handling resources from the root account, for this, you'll have to play around with creating accounts in your organization in IAM and attaching the right policies, or simply add the administrator policy
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Let's get started!

- Log in to your account and go to EC2
- **Part 1: Create a new EC2 instance**
    - Name: <server-name>
    - Instance type: I recommend you use at least a t2.medium (not free), it should be able to host between 4 – 6 players comfortably but upgrade it if you have a bigger party.
    - Create a key pair *<key-name.pem> (RSA, .pem)*
    - Make sure key pair is downloaded in an accessible location (e.g. Desktop)
    - Network settings:
        - Leave ssh rule as is.
        - Create inbound rule (Custom TCP, port range 25565)
        - Source Type: custom, 0.0.0.0
        - Create another inbound rule (Custom UDP, range 25565)
        - Source TypeL custom, 0.0.0.0
    - Launch Instance!

- **Part 2: Launch SSH host and get files**
    - Open the terminal AS AN ADMINISTRATOR *(sudo for mac and linux, run command prompt as admin in windows)*
    - Navigate to where key file *<key-name.pem>* is located
    - On the AWS tab, navigate to connect to instance, and find the command to SSH
    - `ssh -i "test-server-key.pem" ec2-user@ec2-34-201-106-240.compute-1.amazonaws.com`
    - Once the bird comes up, we have successfully entered the terminal!

- **Part 3: Getting Server API**
  - Go to *https://papermc.io/*
  - Copy the link for the latest project
  - `Wget https://api.papermc.io/v2/projects/paper/versions/1.21.4/builds/147/downloads/paper-1.21.4-147.jar` (To get the server package from the website)
  - `sudo yum install java` (To install java)
  - Go to the paper docs and get running command
  - NOTE: change storage and file name as needed
  - `java -Xms4G -Xmx4G -jar paper.jar --nogui`
  - This will compile the file, but before it runs the server, we must accept terms and conditions.
  - **Next we must accept eula.txt**
    - ls to double check the files in the directory
    - COMMAND -> nano eula.txt
    - change `eula=false` to `eula=true`
    - Ctrl + O to overwrite (save)
    - then Ctrl + X to exit
  - Rerun compile (with the same modifiers for memory you used earlier)
  - `java -Xms4G -Xmx4G -jar paper.jar --nogui`
  - Server is now running!
- **Part 4: Finding the IP address for the server & Connecting**
  - Go back to AWS
  - Find the running instance
  - Copy the Private IPv4 address
  - Go to Minecraft and add the server with the PUBLIC IPv4 address
  - We are now in game!
- **Part 5: Resizing the Server (Optional)**
  - Stop the instance
  - Actions -> Settings -> change instance type
  - Change to the desired type of instance
  - Restart instance

If you made it to the end of this tutorial, congrats! You have successfully created a Minecraft server. If you are up for more fun with AWS, consider playing around with CloudWatch to add alerts and metrics on your server. You can also read the documentation on the **paper** website to add configurations on your server.

If you are not planning on using this server every day, I suggest you stop the EC2 instance from the console, so you won't get charged. You can simply start the instance whenever you need to run the server. You will need to connect to a secure host (SSH) to run the server each time you do this.