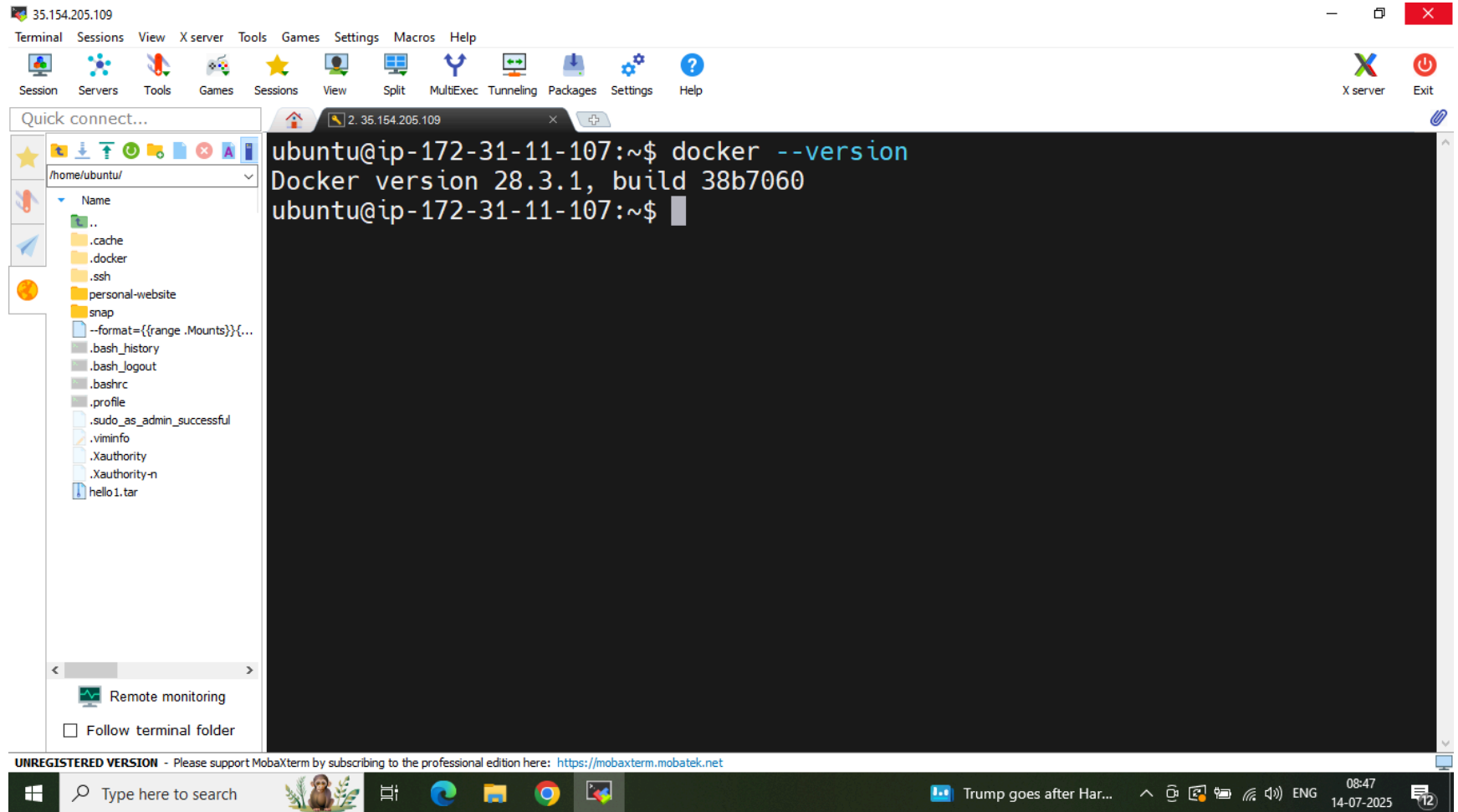
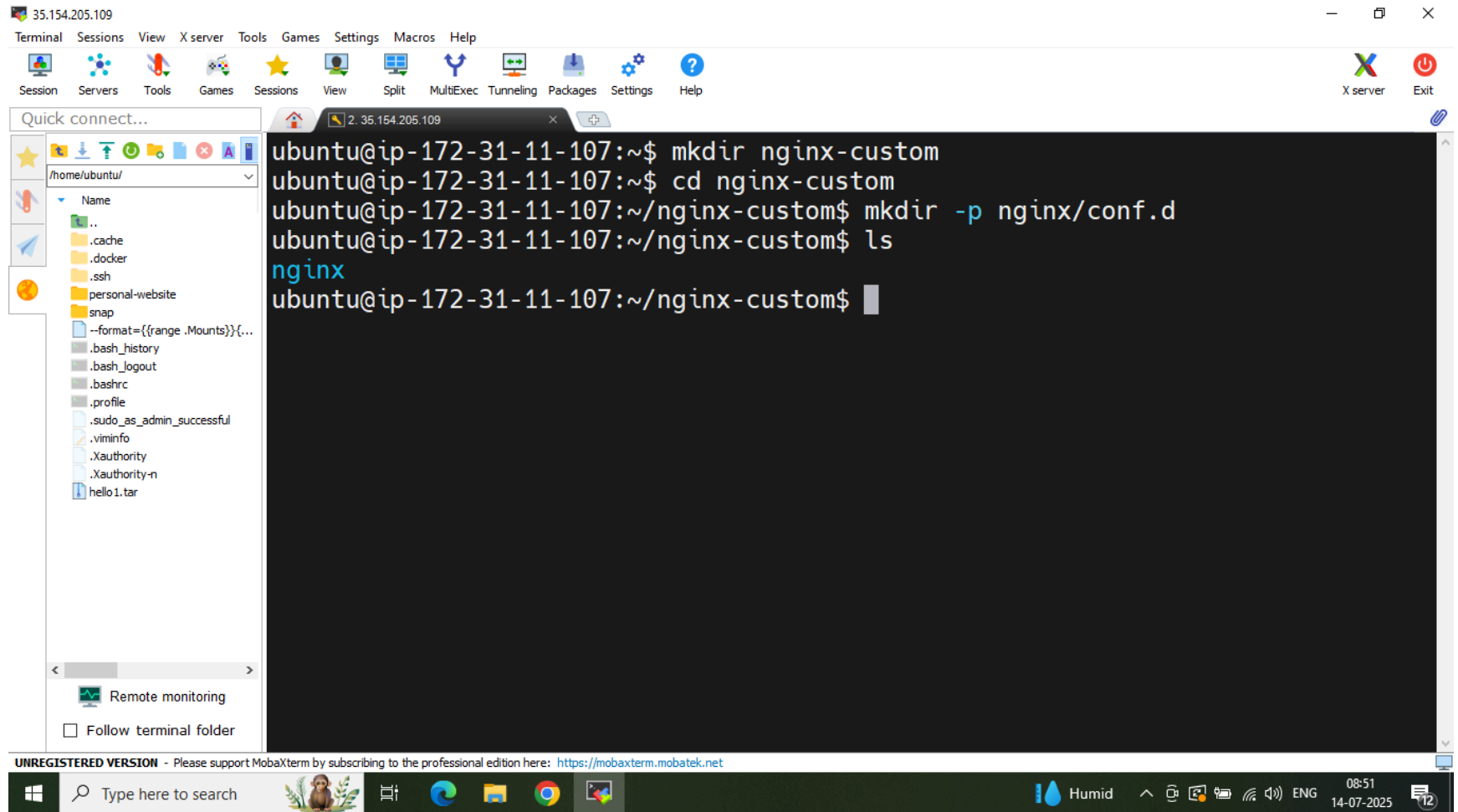


1. Connection to docker installed EC2 server



2. Creating directories for Nginx



The screenshot shows a MobaXterm terminal window with a file explorer on the left and a terminal session on the right. The terminal session is on a remote host with IP 35.154.205.109. The user 'ubuntu' is at the prompt. The commands executed are: `mkdir nginx-custom`, `cd nginx-custom`, `mkdir -p nginx/conf.d`, and `ls`. The output of `ls` shows the directory structure: `nginx`. The file explorer on the left shows the local file system of the user, with the terminal session open in the `/home/ubuntu/` directory. The terminal window has a menu bar with options: Terminal, Sessions, View, X server, Tools, Games, Settings, Macros, Help. The file explorer has a menu bar with options: Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, Help. The terminal window also has a status bar at the bottom with the text: "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>".

```
ubuntu@ip-172-31-11-107:~$ mkdir nginx-custom
ubuntu@ip-172-31-11-107:~$ cd nginx-custom
ubuntu@ip-172-31-11-107:~/nginx-custom$ mkdir -p nginx/conf.d
ubuntu@ip-172-31-11-107:~/nginx-custom$ ls
nginx
ubuntu@ip-172-31-11-107:~/nginx-custom$
```

3. Creating Dockerfile

The screenshot shows the MobaXterm application window. The title bar indicates the connection is to 35.154.205.109. The menu bar includes Terminal, Sessions, View, X server, Tools, Games, Settings, Macros, and Help. The toolbar contains icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. On the right side of the toolbar are X server and Exit buttons. The left sidebar shows a 'Quick connect...' search bar and a file explorer for the /home/ubuntu/ directory. The main terminal window displays the following Dockerfile content:

```
# nginx/Dockerfile

FROM nginx:alpine

# Copy custom configuration
COPY conf.d/ /etc/nginx/conf.d/

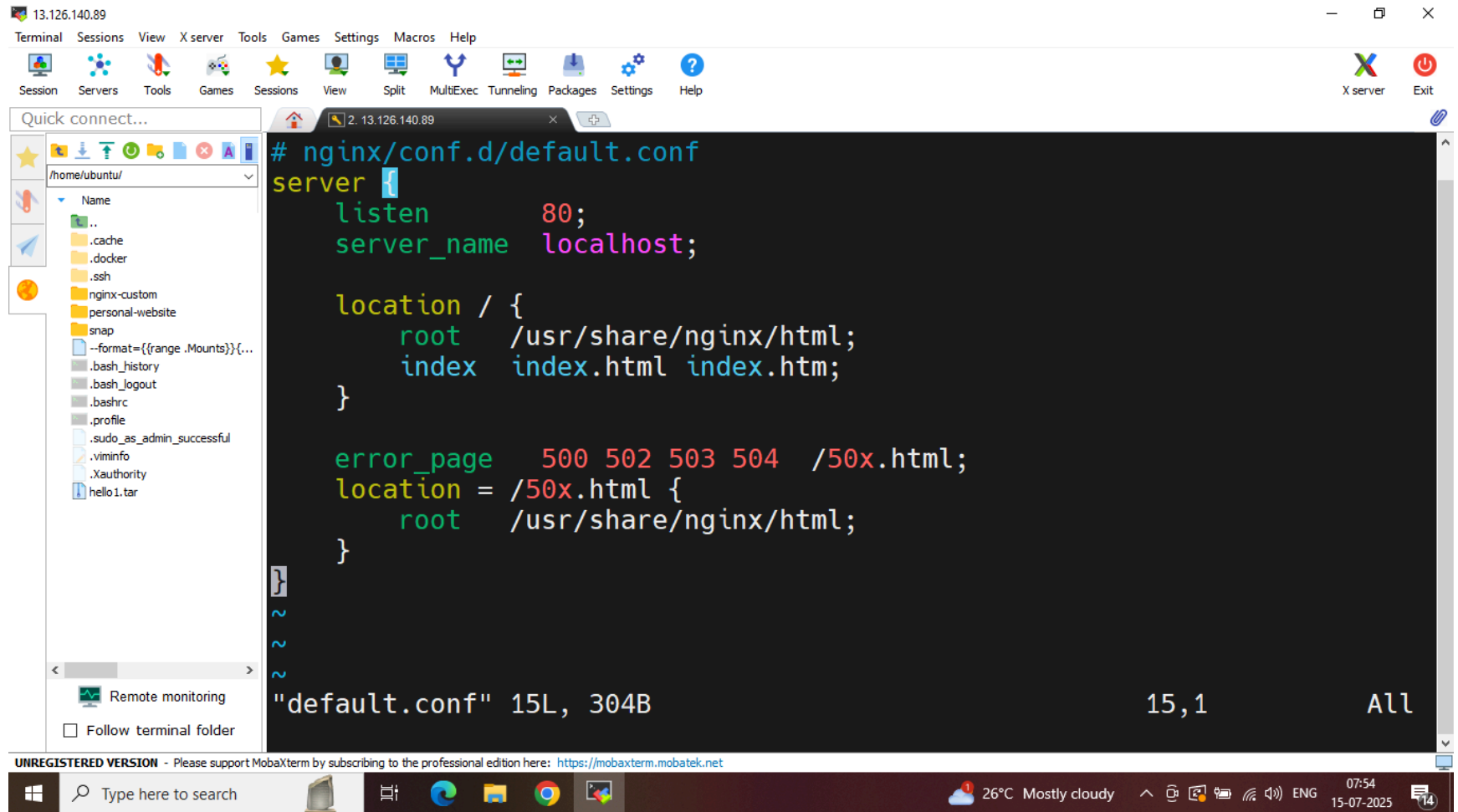
# Create directory for logs
RUN mkdir -p /var/log/nginx

# Expose ports
EXPOSE 80 443

# Health Check
HEALTHCHECK --interval=30s --timeout=3s \
"Dockerfile" 21L, 289B
```

At the bottom of the terminal window, it says '1,1' and 'Top'. The status bar at the bottom of the application shows 'UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>'. The Windows taskbar at the very bottom shows the search bar, task view, and several open applications, including a browser showing 'US consumer sentim...'. The system clock indicates 09:02 on 14-07-2025.

4. Creating Nginx configuration file in the location /nginx-custom/nginx/conf.d [default.conf]



The screenshot shows the MobaXterm application window. On the left, the 'Quick connect...' sidebar is open, displaying a file tree for the remote host 13.126.140.89. The tree shows various system and user files, including a folder named 'nginx-custom'. The main terminal pane displays the content of the file '/nginx-custom/nginx/conf.d/default.conf'. The configuration is for an Nginx server listening on port 80, serving static files from /usr/share/nginx/html. It also includes an error page configuration for 500-504 status codes. The status bar at the bottom indicates the file is 15 lines long and 304 bytes in size. The Windows taskbar at the very bottom shows the system clock as 07:54 on 15-07-2025.

```
# nginx/conf.d/default.conf
server {
    listen      80;
    server_name localhost;

    location / {
        root    /usr/share/nginx/html;
        index   index.html index.htm;
    }

    error_page  500 502 503 504  /50x.html;
    location = /50x.html {
        root    /usr/share/nginx/html;
    }
}
```

"default.conf" 15L, 304B 15,1 All

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5. Creating docker-compose.yml file project root folder

The screenshot shows the MobaXterm application interface. On the left, a file explorer pane displays the directory structure of a remote host at 13.126.140.89, specifically the /home/ubuntu/ directory. The main terminal window shows the output of a command, displaying the version of Docker Compose as 3.8. Below this, the content of a docker-compose.yml file is shown, defining a 'web' service using the 'custom-nginx' image, mapping port 8080 to 80, and setting various resource limits. The terminal window title is '2. 13.126.140.89'. The bottom status bar indicates the software is an 'UNREGISTERED VERSION' and provides a link to the professional edition. The system tray at the bottom shows the date and time as 15-07-2025, 08:03.

```
version: '3.8'

services:
  web:
    image: custom-nginx
    container_name: nginx-app
    ports:
      - "8080:80"
    volumes:
      - nginx-data:/usr/share/nginx/html
      - ./nginx/conf.d:/etc/nginx/conf.d
      - ./logs:/var/log/nginx
    restart: unless-stopped
    deploy:
      resources:
        limits:
          cpus: '0.5'
          memory: 512M
        reservations:
          cpus: '0.5'
          memory: 512M
```

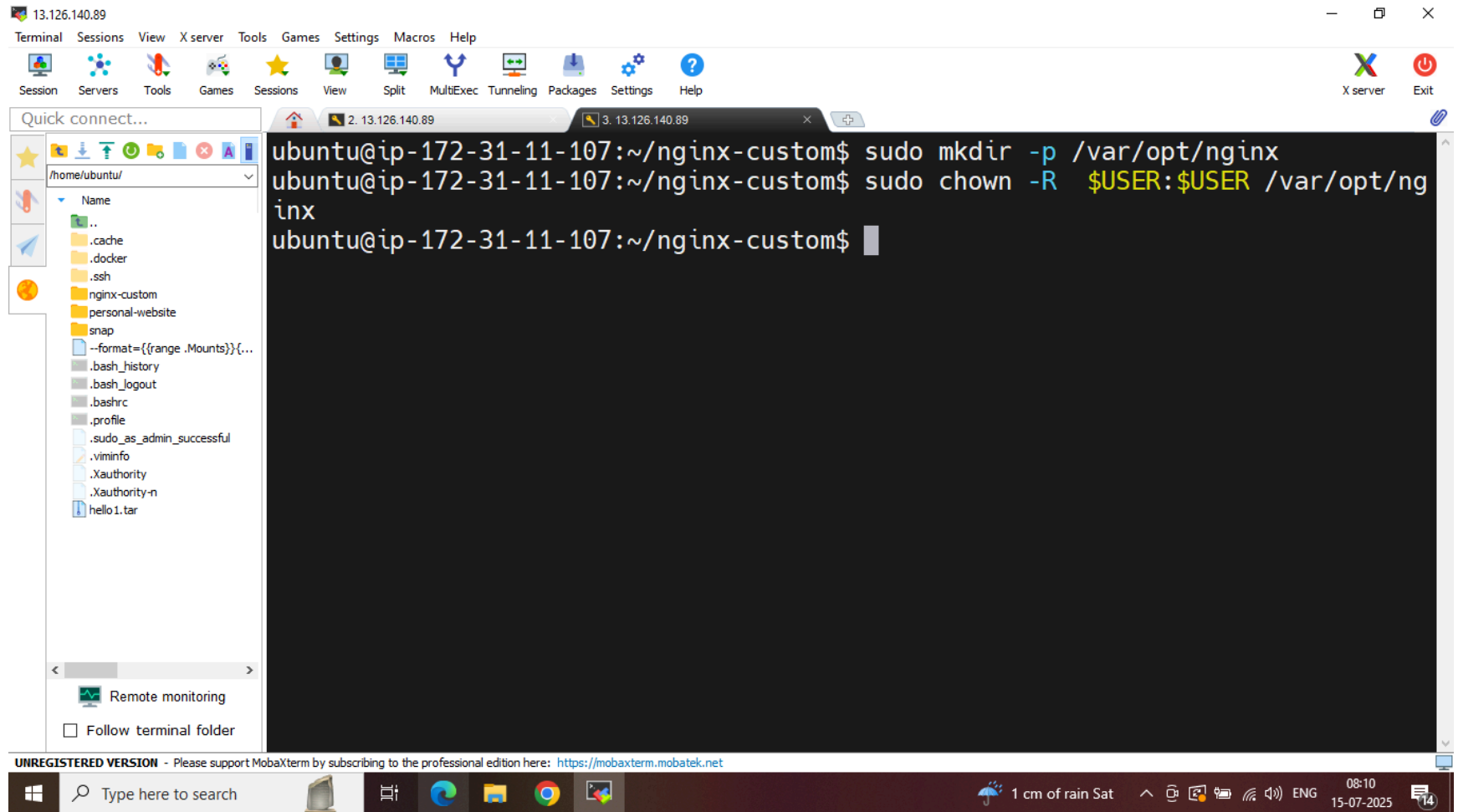
"docker-compose.yml" 30L, 547B 1,1 Top

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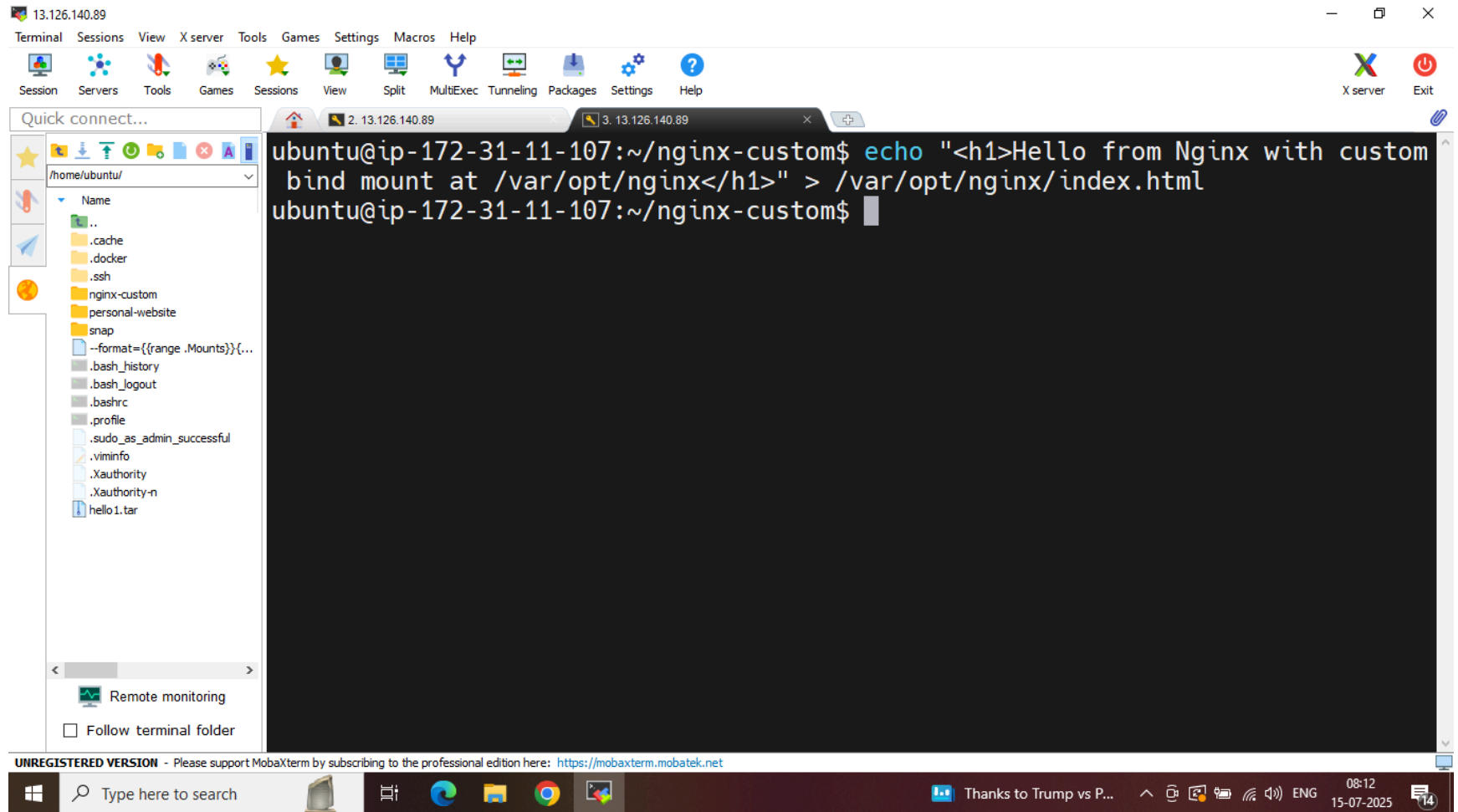
Type here to search

Very humid 08:03 15-07-2025

6. Creating the bind mount directory with proper permissions

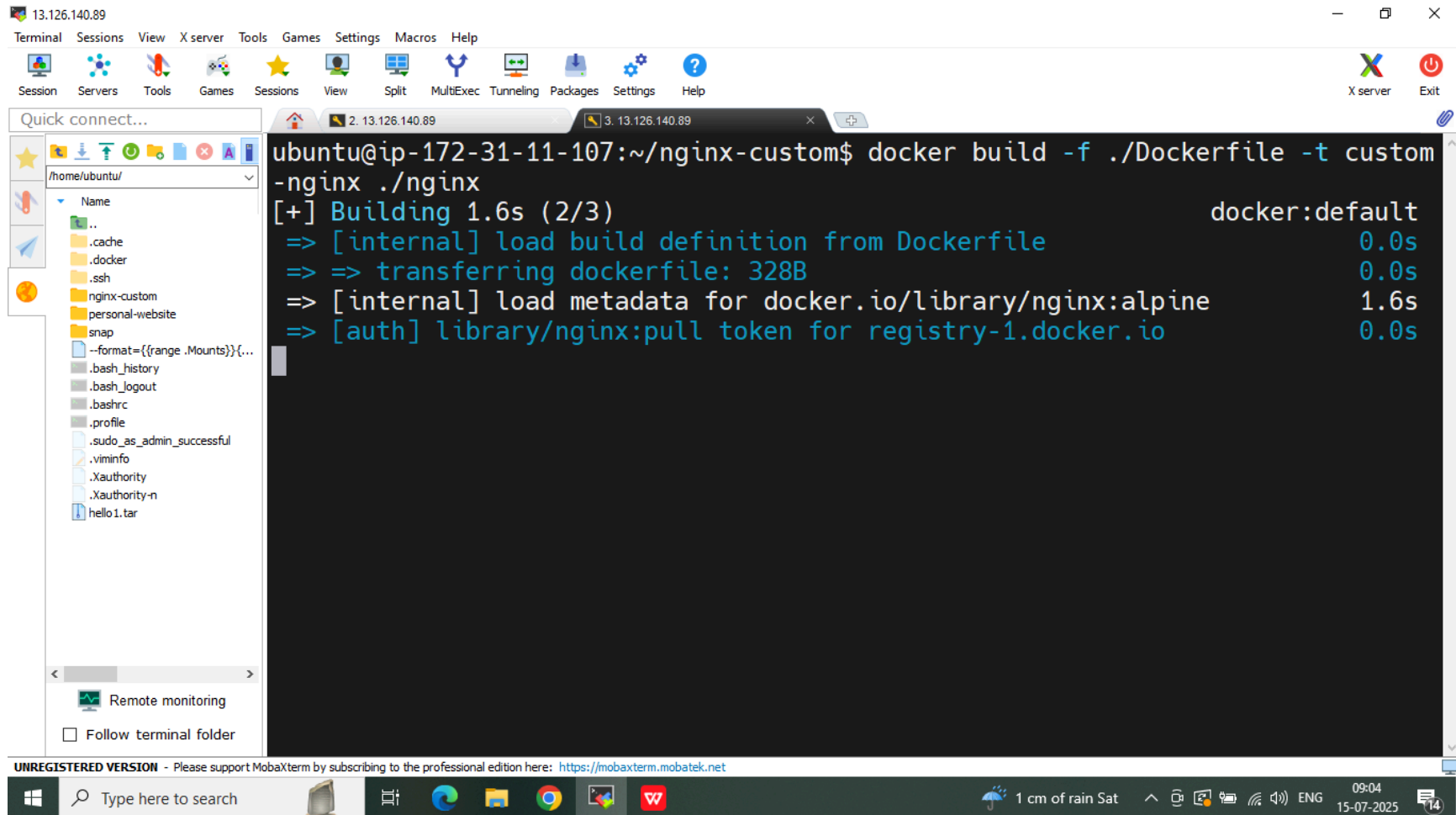


7. Creating the index.html in the bind mount location



8. Docker build image

Command: `docker build -f ./Dockerfile -t custom-nginx ./nginx`



9. Created docker image

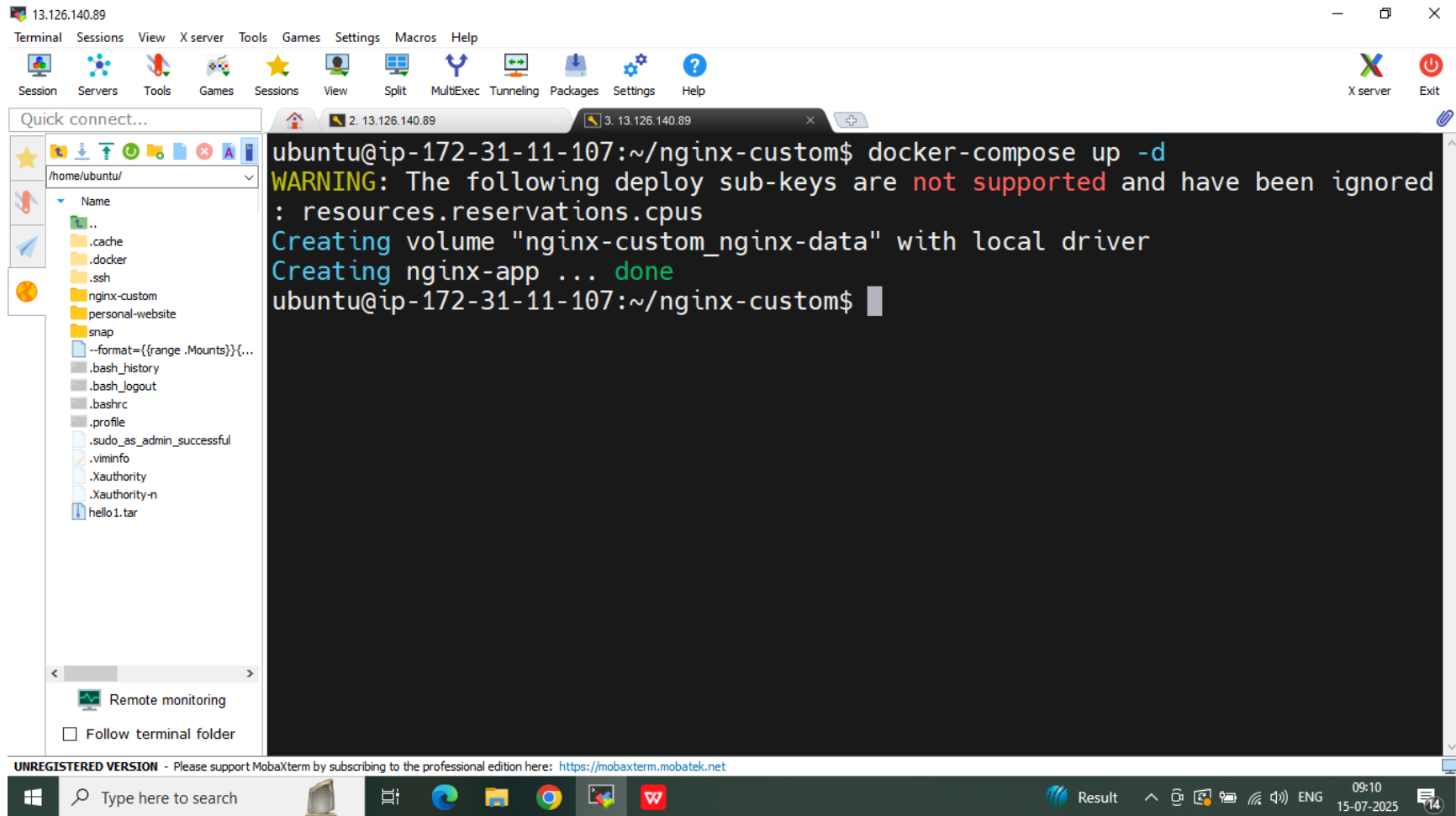
The screenshot shows the MobaXterm application interface. On the left is a 'Quick connect...' sidebar with a file tree for the remote host. The main terminal window displays the output of the 'docker images' command. The output is as follows:

```
ubuntu@ip-172-31-11-107:~/nginx-custom$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
custom-nginx        latest             592c8946af1e       2 minutes ago      52.5MB
ubuntu@ip-172-31-11-107:~/nginx-custom$
```

The sidebar on the left shows the file structure of the remote host, including directories like .cache, .docker, .ssh, nginx-custom, personal-website, snap, and various configuration files. At the bottom of the terminal window, there is a notice: 'UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>'. The Windows taskbar at the very bottom shows the search bar, task view button, and several open applications including Edge, File Explorer, Chrome, and Word. The system clock indicates the time is 09:07 on 15-07-2025.

10. Deploy with docker compose

Command: `docker-compose up -d`



13.126.140.89

Terminal Sessions View X server Tools Games Settings Macros Help

Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...

/home/ubuntu/

- Name
- ..
- .cache
- .docker
- .ssh
- nginx-custom
- personal-website
- snap
- format={{range .Mounts}}{...
- .bash_history
- .bash_logout
- .bashrc
- .profile
- .sudo_as_admin_successful
- .viminfo
- .Xauthority
- .Xauthority-n
- hello1.tar

Remote monitoring

Follow terminal folder

ubuntu@ip-172-31-11-107:~/nginx-custom\$ docker-compose ps

WARNING: The following deploy sub-keys are not supported and have been ignored
: resources.reservations.cpus

Name	Command	State	Ports
nginx-app	/docker-entrypoint.sh nginx ...	Up (healthy)	443/tcp, 0.0.0.0:8080->80/tcp, :::8080->80/tcp

ubuntu@ip-172-31-11-107:~/nginx-custom\$

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Type here to search

Trump goes after Har...

09:11
15-07-2025

11. Enabling necessary Security Group inbound rules for the EC2

The screenshot shows the AWS Management Console interface for editing inbound rules on a Security Group. The browser address bar shows the URL: `ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#ModifyInboundSecurityGroupRules:securityGroupId=sg-049e7c4ea5f304f61`. The console header shows the AWS logo, a search bar, and the region 'Asia Pacific (Mumbai)'.

The breadcrumb navigation is: `EC2 > Security Groups > sg-049e7c4ea5f304f61 - launch-wizard-19 > Edit inbound rules`.

The main content area is titled 'Inbound rules' and displays a table of rules. The table has columns: Security group rule ID, Type, Protocol, Port range, Source, and Description - optional. There are five rules listed, each with a 'Delete' button. The source for the last rule is highlighted as `0.0.0.0/0`.

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sg-0eb8e38d914d0cab3	HTTP	TCP	80	Cust...	
sg-055be42aafaea45f5	Custom TCP	TCP	5000 - 511	Cust...	
sg-0c6d995cd89a1ffce	HTTPS	TCP	443	Cust...	
sg-06399e7394f3ba939	SSH	TCP	22	Cust...	
-	Custom TCP	TCP	8080	Any...	

At the bottom of the table is an 'Add rule' button. A warning message at the bottom of the console states: 'Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.'

12. Custom bind verify

The screenshot shows a MobaXterm terminal window with a file explorer on the left and a terminal session on the right. The terminal session is running on a remote host with IP 13.126.140.89. The user is in the directory `~/nginx-custom`.

Terminal Commands and Output:

```
ubuntu@ip-172-31-11-107:~/nginx-custom$ docker exec nginx-app ls -la /usr/share/nginx/html
total 12
drwxr-xr-x  2 1000      1000          4096 Jul 15 02:41 .
drwxr-xr-x  3 root      root          4096 Jun 24 21:25 ..
-rw-rw-r--  1 1000      1000          67 Jul 15 02:41 index.html

ubuntu@ip-172-31-11-107:~/nginx-custom$ docker-compose ps
WARNING: The following deploy sub-keys are not supported and have been ignored
: resources.reservations.cpus
```

Name	Command	State	Ports
nginx-app	/docker-entrypoint.sh nginx ...	Up (healthy)	443/tcp, 0.0.0.0:8080->80/tcp, :::8080->80/tcp

```
ubuntu@ip-172-31-11-107:~/nginx-custom$ sudo ls /var/opt/nginx
index.html

ubuntu@ip-172-31-11-107:~/nginx-custom$
```

File Explorer (Left Panel):

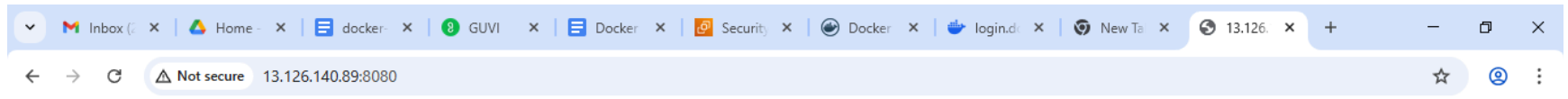
- Home/ubuntu/
 - Name
 - ..
 - .cache
 - .docker
 - .ssh
 - nginx-custom
 - personal-website
 - snap
 - format={{range .Mounts}}{...}
 - .bash_history
 - .bash_logout
 - .bashrc
 - .profile
 - .sudo_as_admin_successful
 - .viminfo
 - .Xauthority
 - .Xauthority-n
 - hello1.tar

Bottom Bar:

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Windows taskbar: Type here to search, 28°C Mostly cloudy, 09:19, 15-07-2025

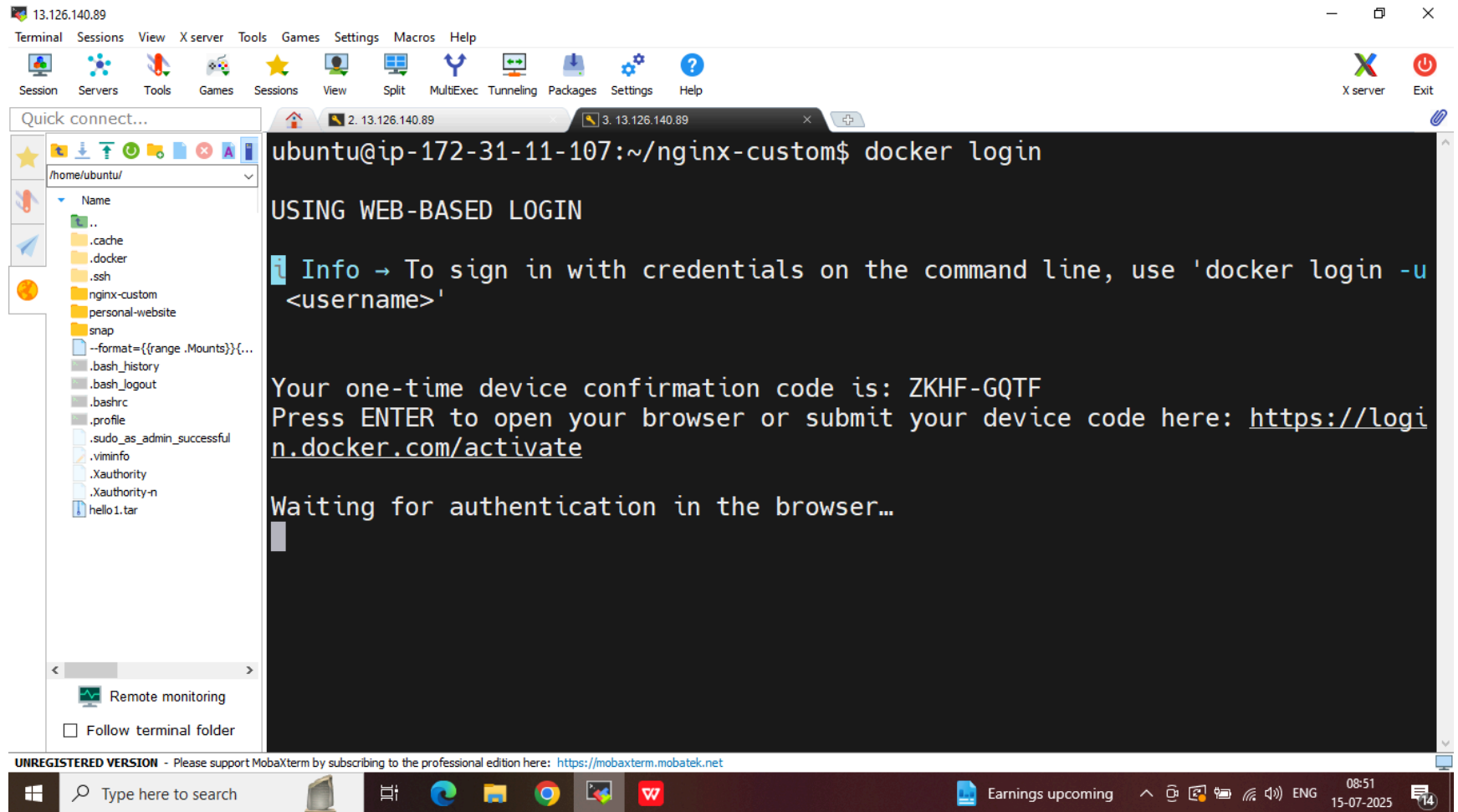
13. Nginx Webserver running successfully



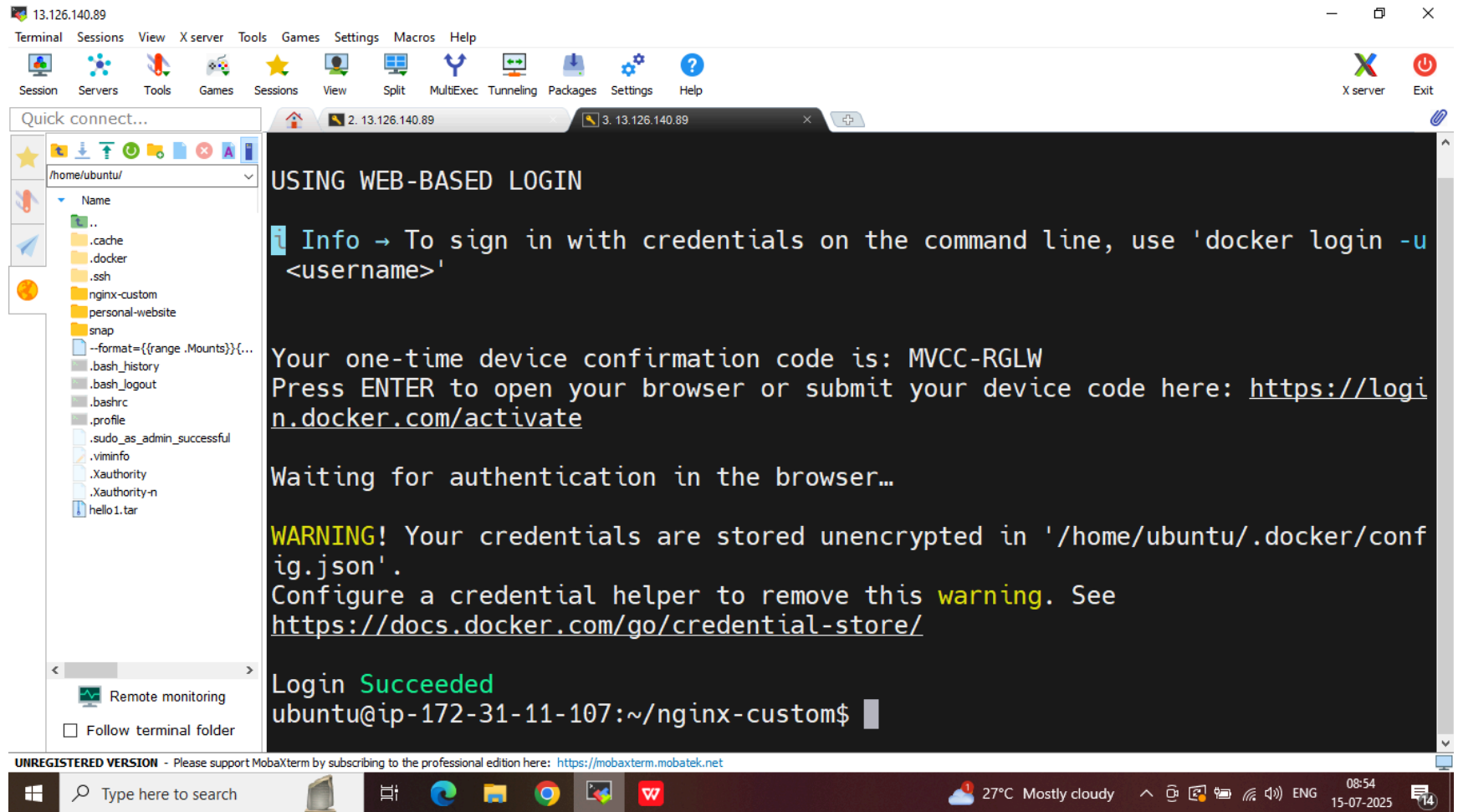
Hello from Nginx with custom bind mount at /var/opt/nginx



14. Login to docker account

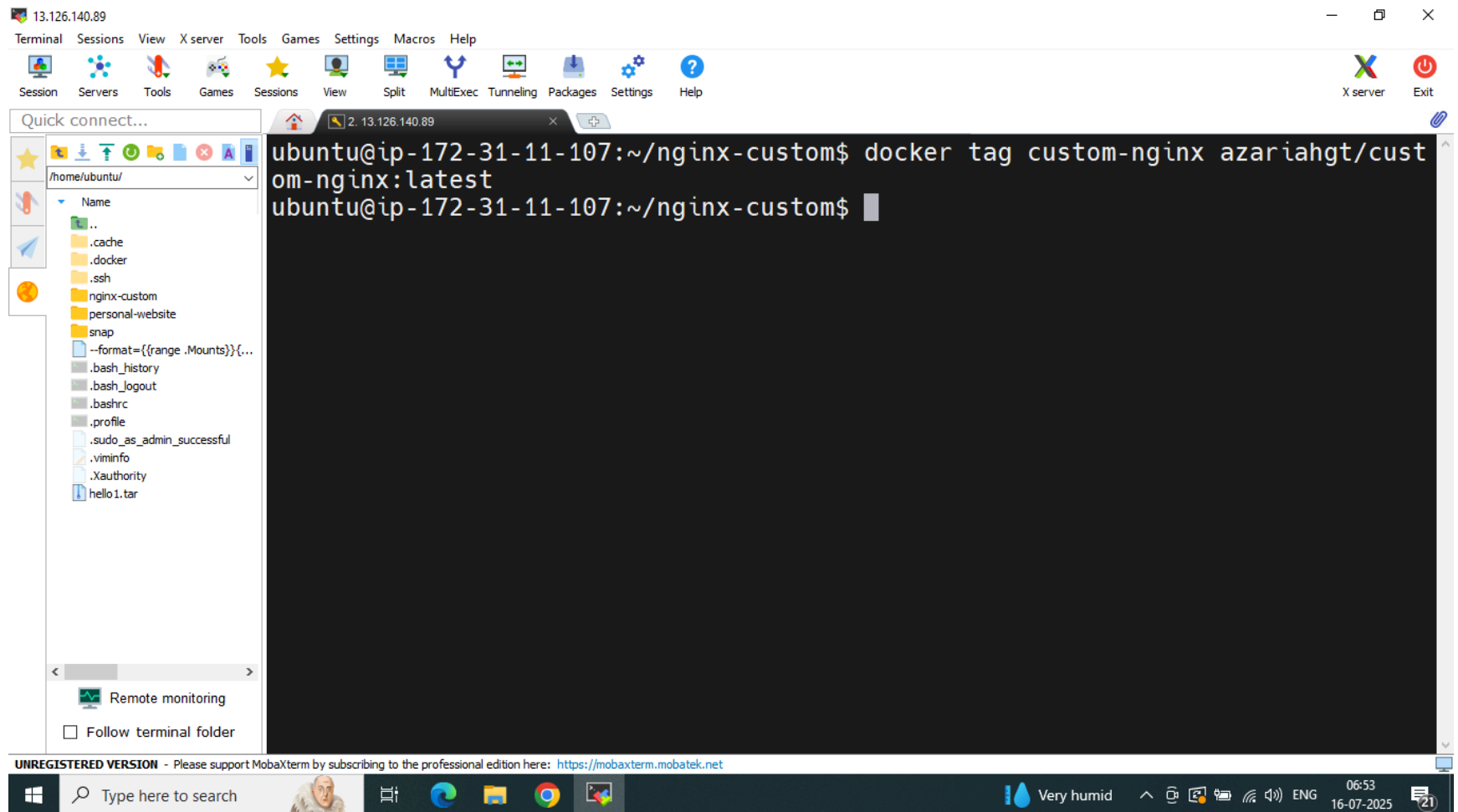


15. Docker login success



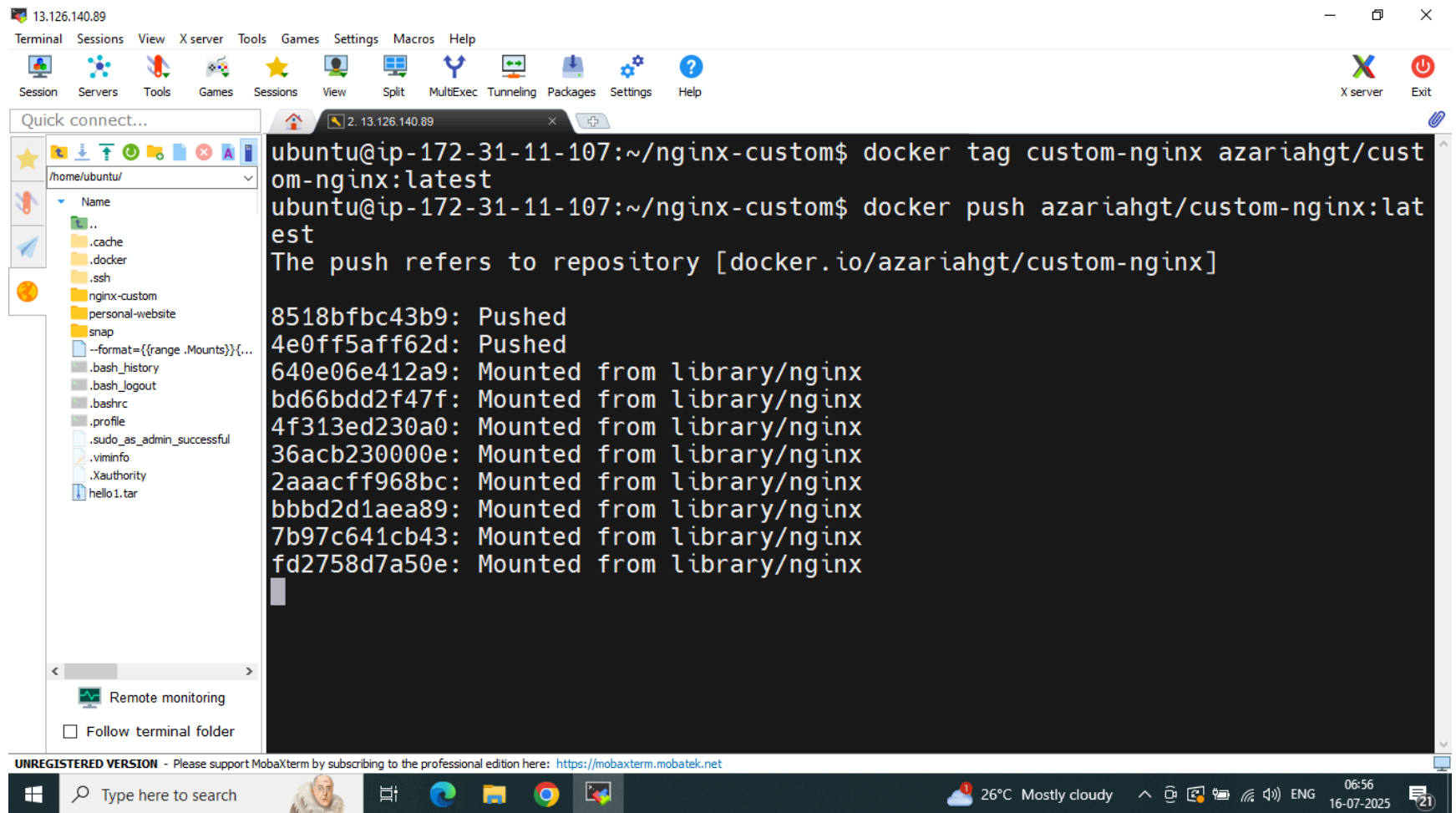
16. Tagging Image for Docker push

Command: `docker tag custom-nginx azariahgt/custom-nginx:latest`



17. Pushing the image to docker hub

Command: `docker push azariahgt/custom-nginx:latest`

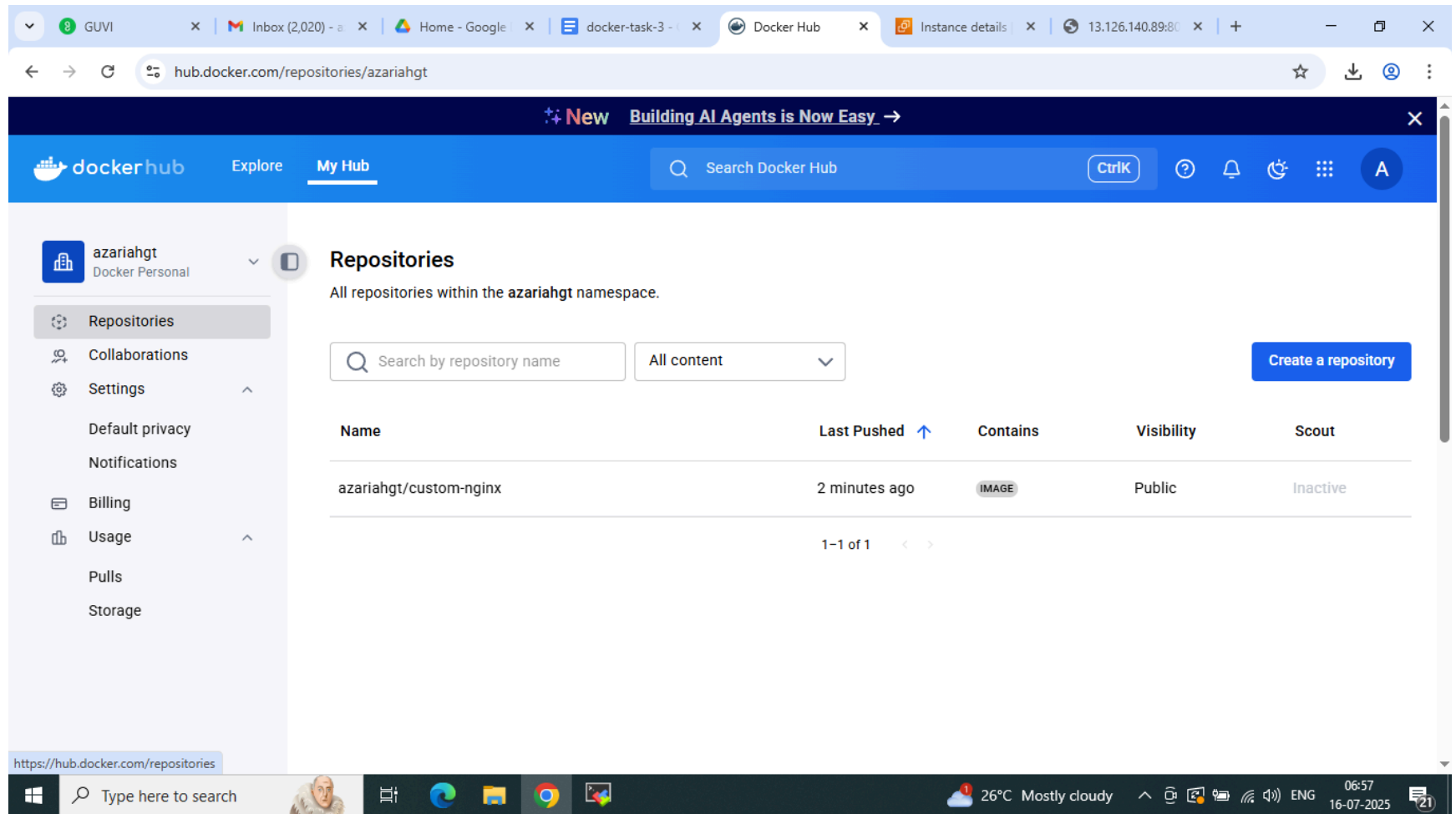


The screenshot shows a MobaXterm window with a terminal session. The terminal output shows the execution of two Docker commands: `docker tag custom-nginx azariahgt/custom-nginx:latest` and `docker push azariahgt/custom-nginx:latest`. The push command results in a list of layers being pushed or mounted from the library/nginx image.

```
ubuntu@ip-172-31-11-107:~/nginx-custom$ docker tag custom-nginx azariahgt/custom-nginx:latest
ubuntu@ip-172-31-11-107:~/nginx-custom$ docker push azariahgt/custom-nginx:latest
The push refers to repository [docker.io/azariahgt/custom-nginx]

8518bfb43b9: Pushed
4e0ff5aff62d: Pushed
640e06e412a9: Mounted from library/nginx
bd66bdd2f47f: Mounted from library/nginx
4f313ed230a0: Mounted from library/nginx
36acb230000e: Mounted from library/nginx
2aaacff968bc: Mounted from library/nginx
bbbd2d1aea89: Mounted from library/nginx
7b97c641cb43: Mounted from library/nginx
fd2758d7a50e: Mounted from library/nginx
```

18. Docker image successfully pushed to docker hub



The screenshot shows the Docker Hub interface for the user 'azariahgt'. The left sidebar contains navigation links: Repositories, Collaborations, Settings, Default privacy, Notifications, Billing, Usage, Pulls, and Storage. The main content area is titled 'Repositories' and shows a list of repositories within the 'azariahgt' namespace. A single repository, 'azariahgt/custom-nginx', is listed with a 'Last Pushed' time of '2 minutes ago', a status of 'IMAGE', and 'Public' visibility. The 'Scout' status is 'Inactive'. A 'Create a repository' button is visible in the top right of the repository list area. The browser's address bar shows 'hub.docker.com/repositories/azariahgt'. The Windows taskbar at the bottom displays the search bar, taskbar icons, and system tray information including temperature (26°C), weather (Mostly cloudy), and date/time (16-07-2025, 06:57).

https://hub.docker.com/repositories

Name	Last Pushed	Contains	Visibility	Scout
azariahgt/custom-nginx	2 minutes ago	IMAGE	Public	Inactive

19. The project files are successfully pushed to following git repository

<https://github.com/gtazariah/docker-task-3>