

# LAPORAN PEMROSESAN PARALEL



Disusun Oleh :

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SISTEM KOMPUTER  
FAKULTAS ILMU KOMPUTER  
UNIVERSITAS SRIWIJAYA  
2023

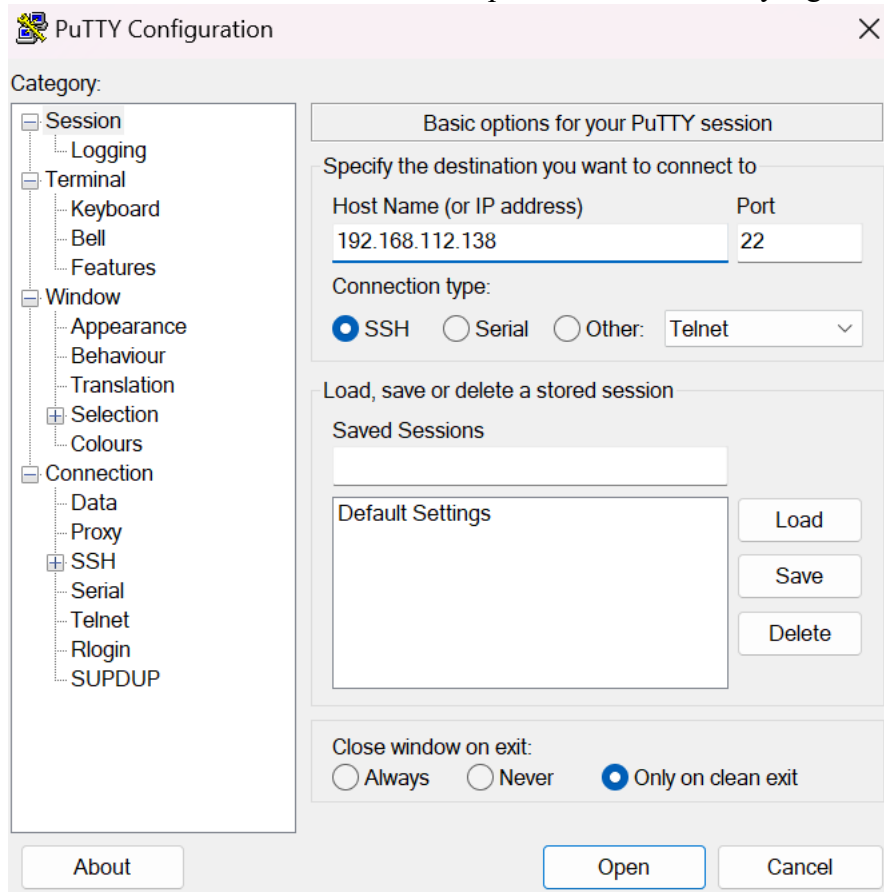
## 1. Remote Ubuntu Server Menggunakan PuTTY

### ➤ Install Ubuntu Server

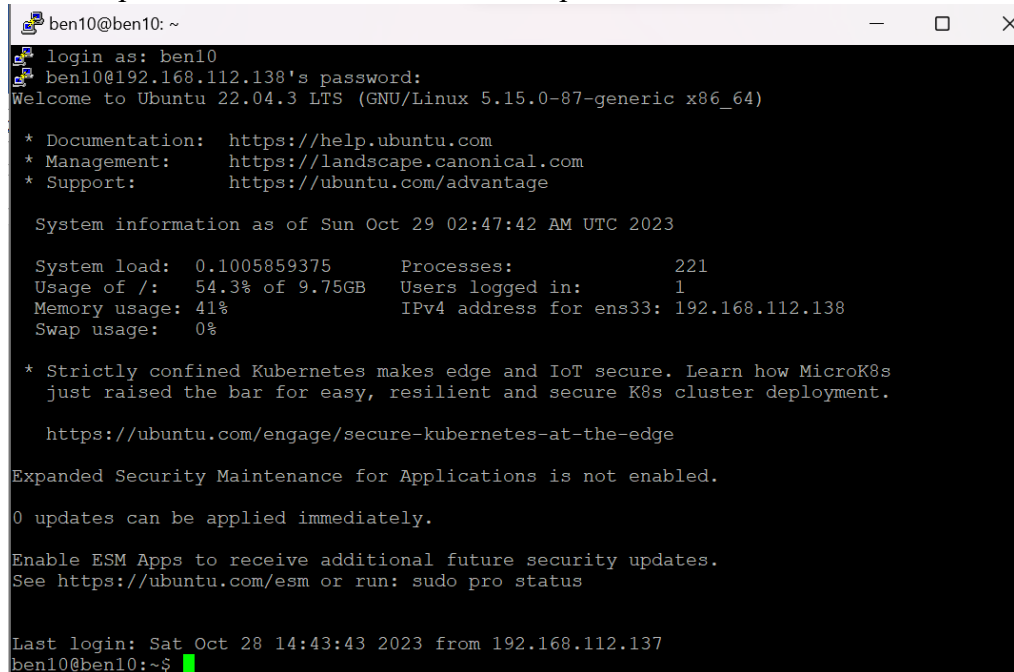
```
ben10@ben10:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:0c:29:32:bc:d1 brd ff:ff:ff:ff:ff:ff
    altname enp2s1
    inet 192.168.112.138/24 metric 100 brd 192.168.112.255 scope global dynamic ens33
        valid_lft 1795sec preferred_lft 1795sec
    inet6 fe80::20c:29ff:fe32:bcd1/64 scope link
        valid_lft forever preferred_lft forever
ben10@ben10:~$
```

Masukkan perintah ip a untuk melihat ip address dari ubuntu server

### ➤ Install PuTTY, kemudian masukkan ip address dari server yang akan kita remote



- Tekan Open, lalu masukkan username dan password dari server

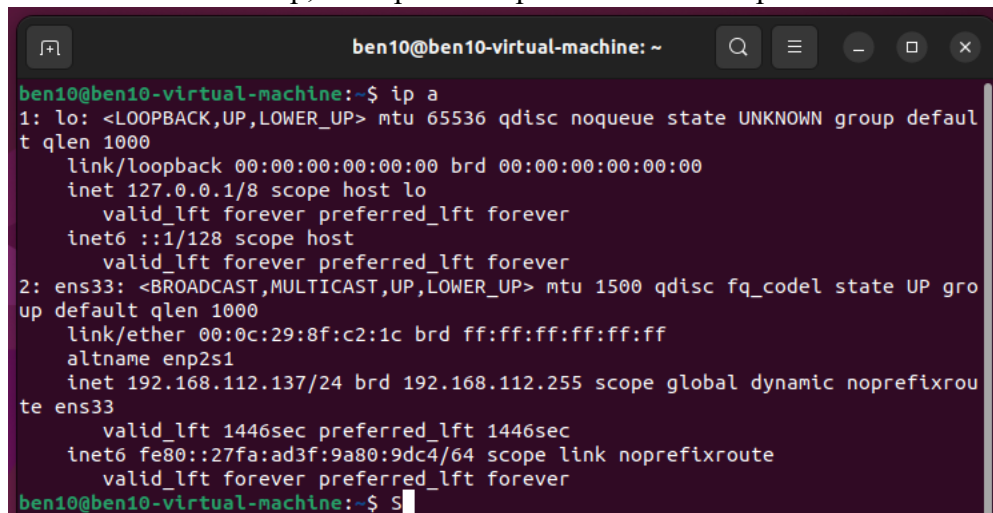


```
ben10@ben10: ~  
login as: ben10  
ben10@192.168.112.138's password:  
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-87-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
System information as of Sun Oct 29 02:47:42 AM UTC 2023  
  
System load:  0.1005859375      Processes:            221  
Usage of /:   54.3% of 9.75GB   Users logged in:     1  
Memory usage: 41%              IPv4 address for ens33: 192.168.112.138  
Swap usage:   0%  
  
* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s  
  just raised the bar for easy, resilient and secure K8s cluster deployment.  
  
  https://ubuntu.com/engage/secure-kubernetes-at-the-edge  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
Last login: Sat Oct 28 14:43:43 2023 from 192.168.112.137  
ben10@ben10:~$
```

Maka akan tampak seperti diatas

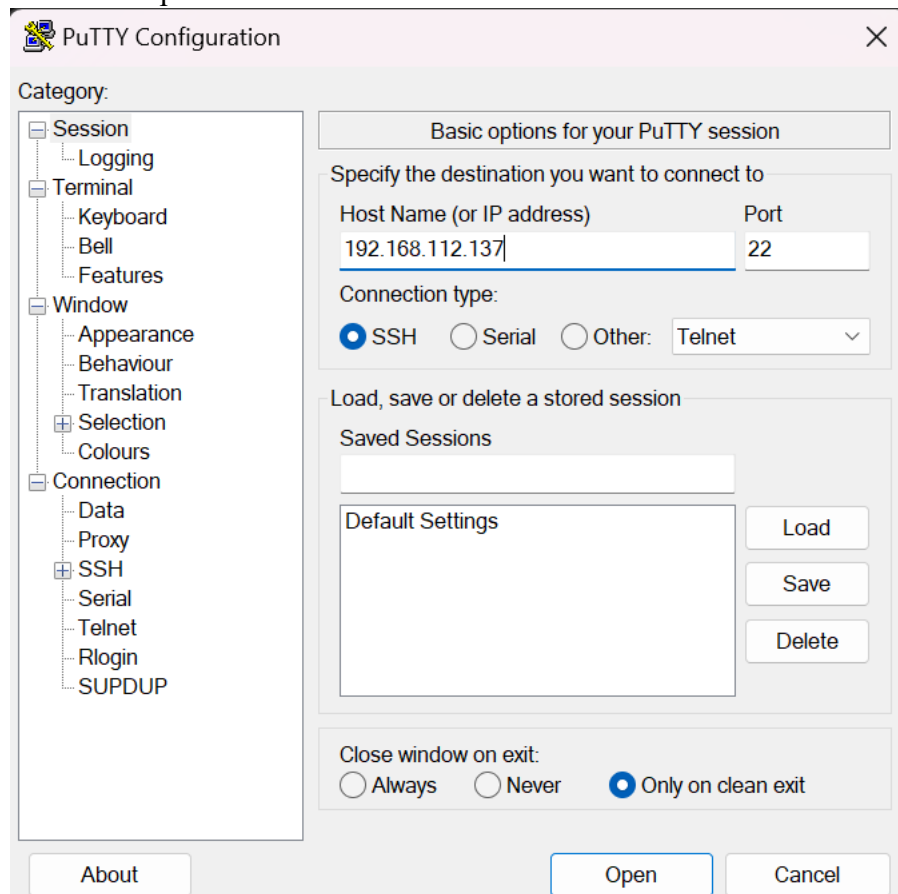
## 2. Remote Ubuntu Desktop dengan PuTTY

- Install Ubuntu Desktop, ketik perintah ip a untuk melihat ip address

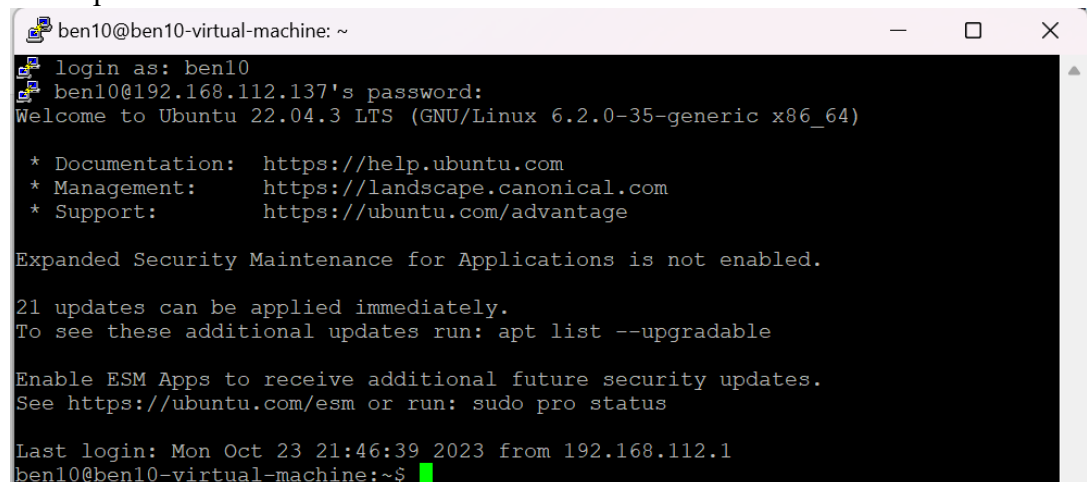


```
ben10@ben10-virtual-machine: ~  
ben10@ben10-virtual-machine:~$ ip a  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid_lft forever preferred_lft forever  
    inet6 ::1/128 scope host  
        valid_lft forever preferred_lft forever  
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000  
    link/ether 00:0c:29:8f:c2:1c brd ff:ff:ff:ff:ff:ff  
    altname enp2s1  
    inet 192.168.112.137/24 brd 192.168.112.255 scope global dynamic noprefixroute ens33  
        valid_lft 1446sec preferred_lft 1446sec  
    inet6 fe80::27fa:ad3f:9a80:9dc4/64 scope link noprefixroute  
        valid_lft forever preferred_lft forever  
ben10@ben10-virtual-machine:~$
```

- Masukkan ip address ke PuTTY



- Tekan Open, kemudian kita akan diminta username dan password dari ubuntu desktop



Setelah itu kita akan dapat me-remote ubuntu desktop kita dari PuTTY

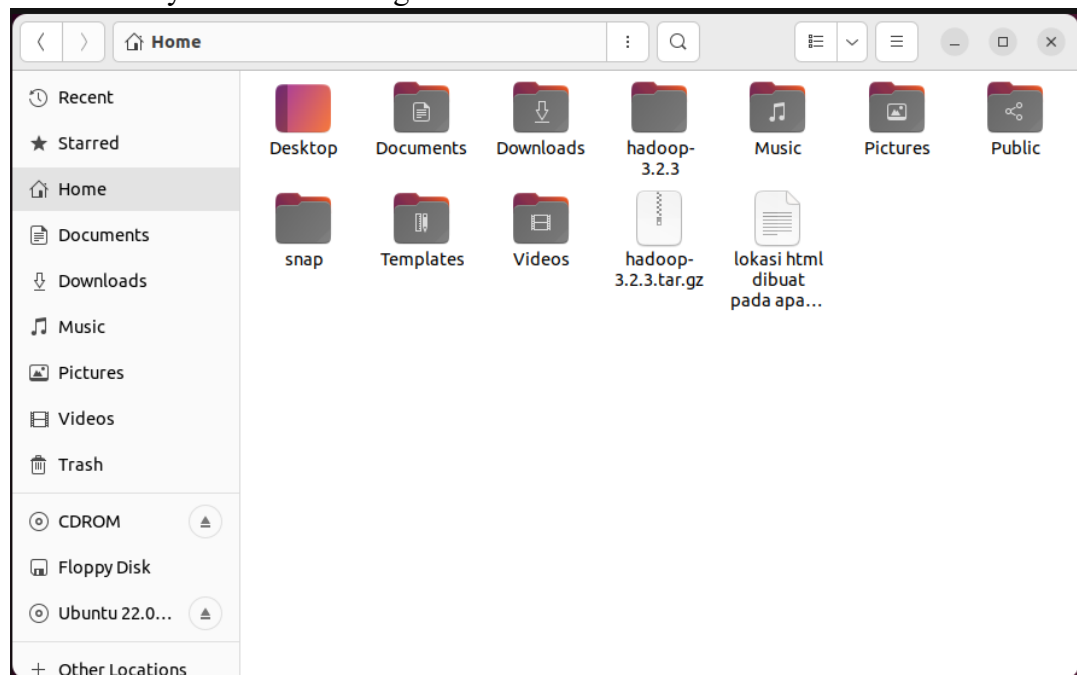
- Setelah itu, kita coba ping google untuk melihat apakah terkoneksi atau tidak

```
ben10@ben10-virtual-machine: ~  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=15 ttl=128 time=15.2 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=16 ttl=128 time=15.0 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=17 ttl=128 time=62.6 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=18 ttl=128 time=17.6 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=19 ttl=128 time=14.9 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=20 ttl=128 time=15.1 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=21 ttl=128 time=15.5 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=22 ttl=128 time=15.9 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=23 ttl=128 time=17.4 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=24 ttl=128 time=15.7 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=25 ttl=128 time=14.5 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=26 ttl=128 time=15.0 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=27 ttl=128 time=15.9 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=28 ttl=128 time=15.0 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=29 ttl=128 time=16.4 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=30 ttl=128 time=14.7 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=31 ttl=128 time=28.8 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=32 ttl=128 time=15.0 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=33 ttl=128 time=43.3 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=34 ttl=128 time=66.7 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=35 ttl=128 time=13.7 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=36 ttl=128 time=15.8 ms  
64 bytes from any-in-2678.1e100.net (216.239.38.120): icmp_seq=37 ttl=128 time=15.4 ms
```

- Untuk melihat apakah PuTTY benar dapat me-remote ubuntu kita maka kita dapat melihat direktori dengan mengetikkan perintah ls

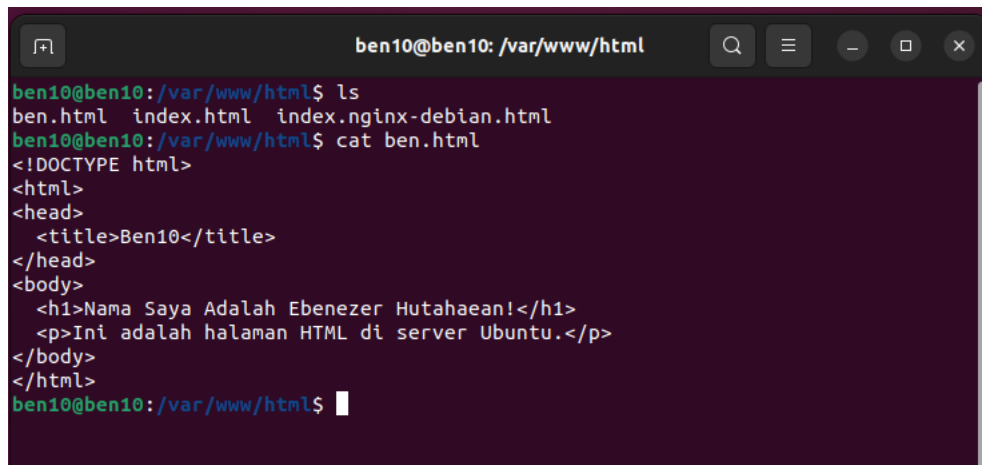
```
ben10@ben10-virtual-machine: ~  
ben10@ben10-virtual-machine:~$ ls  
Desktop      hadoop-3.2.3.tar.gz      Public  
Documents    'lokasi html dibuat pada apache2' snap  
Downloads    Music                    Templates  
hadoop-3.2.3 Pictures                 Videos  
ben10@ben10-virtual-machine:~$
```

Maka hasilnya akan sama dengan direktori ubuntu kita



### 3. Pembuatan HTML

- Install Apache2 di ubuntu server  
sudo apt update  
sudo apt install apache2
- Untuk mengizinkan lalu lintas http gunakan perintah  
sudo ufw allow 'Apache'
- Kemudian buatlah file html di direktori /var/www/html dengan perintah “sudo nano /var/www/html/ben.html”

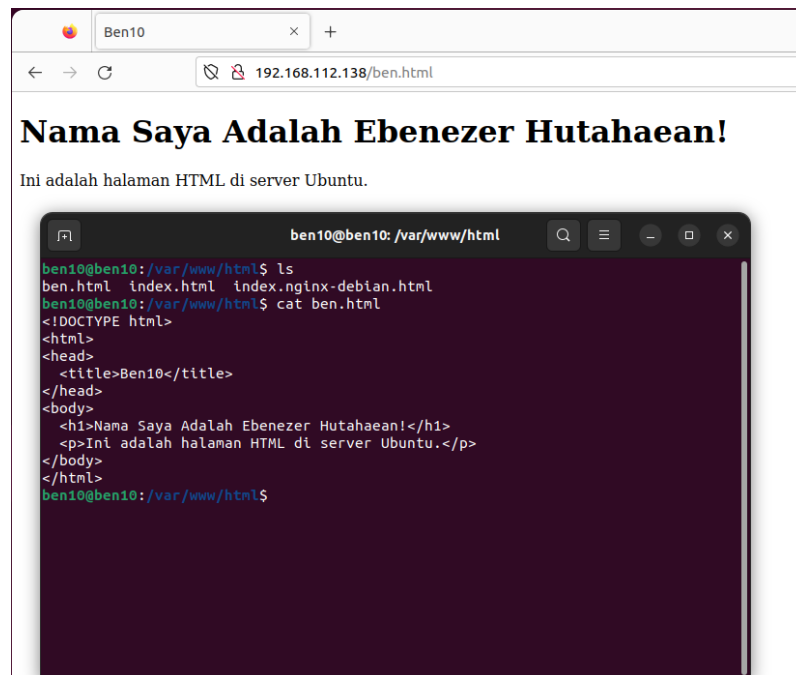
A terminal window titled 'ben10@ben10: /var/www/html' with search, menu, and window control icons. It shows the execution of 'ls' and 'cat ben.html' commands. The 'ls' command lists 'ben.html', 'index.html', and 'index.nginx-debian.html'. The 'cat' command displays the content of 'ben.html', which is an HTML document with a title 'Ben10' and a body containing a heading and a paragraph.

```
ben10@ben10:/var/www/html$ ls
ben.html  index.html  index.nginx-debian.html
ben10@ben10:/var/www/html$ cat ben.html
<!DOCTYPE html>
<html>
<head>
  <title>Ben10</title>
</head>
<body>
  <h1>Nama Saya Adalah Ebenezer Hutahaeen!</h1>
  <p>Ini adalah halaman HTML di server Ubuntu.</p>
</body>
</html>
ben10@ben10:/var/www/html$
```

Maka diatas adalah isi dari file ben.html

- Setelah itu bukalah Alamat ip address dari server diikuti dengan nama file html anda ( <http://192.168.112.138/ben.html> )

- Maka hasilnya akan sama dengan apa yang saya ketik di file ben.html



Disini saya me-remote ubuntu server melalui ubuntu desktop untuk dapat melihat halaman html melalui peramban browser yaitu dengan mengetikkan perintah berikut pada terminal :

ssh username ubuntu server@ip address ubuntu server

```
ben10@ben10: ~  
ben10@ben10-virtual-machine:~$ ssh ben10@192.168.112.138  
ben10@192.168.112.138's password:  
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-87-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
System information as of Sun Oct 29 03:12:16 AM UTC 2023  
  
System load:  0.02734375      Processes:            219  
Usage of /:   54.3% of 9.75GB  Users logged in:     1  
Memory usage: 41%            IPv4 address for ens33: 192.168.112.138  
Swap usage:   0%  
  
* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s  
  just raised the bar for easy, resilient and secure K8s cluster deployment.  
  https://ubuntu.com/engage/secure-kubernetes-at-the-edge  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
Last login: Sun Oct 29 03:00:17 2023 from 192.168.112.137  
ben10@ben10:~$
```