

COMPUTER NETWORKS SWE2002

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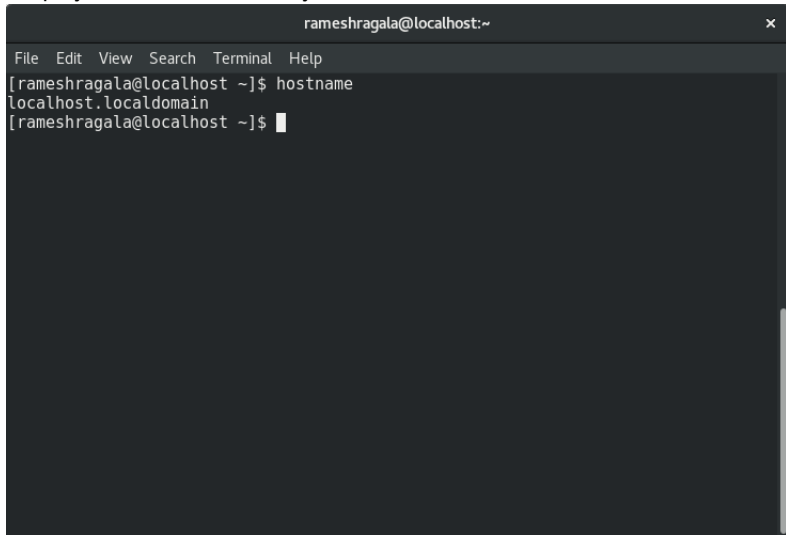
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- **Hostname**

- It is the program that is used to either set or display the current host, domain or node name of the system.
- These names are used by many of the networking programs to identify the machine.
- command is
 - **hostname [options] [file]**

- **Hostname**

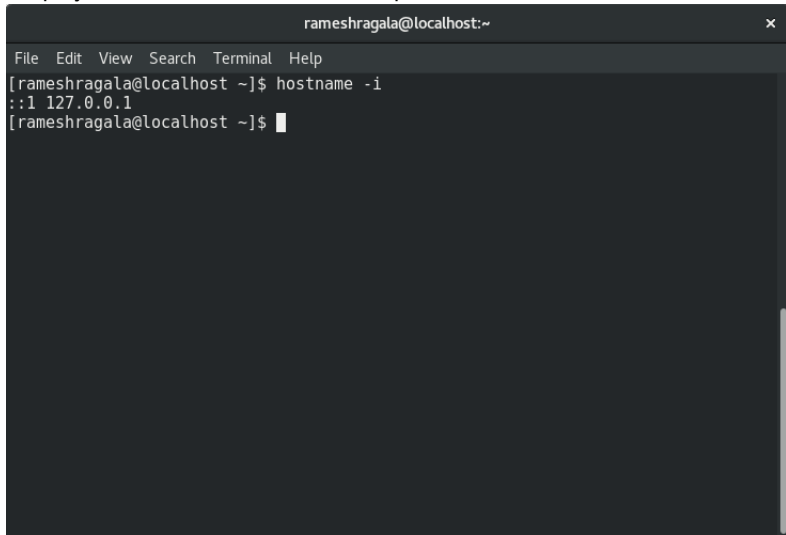
- Displays the name of the system on terminal.



```
rameshragala@localhost:~  
File Edit View Search Terminal Help  
[rameshragala@localhost ~]$ hostname  
localhost.localdomain  
[rameshragala@localhost ~]$
```

- **Hostname**

- Displays the IP address of the computer



```
rameshragala@localhost:~  
File Edit View Search Terminal Help  
[rameshragala@localhost ~]$ hostname -i  
::1 127.0.0.1  
[rameshragala@localhost ~]$
```

• **Hostname**

- Command to get the help
- **man hostname**
- few options are:

```
-a : Prints the alisa name of the host if created any.  
-d : prints the domain name  
-i : prints the ip address of the host  
-s : prints the shortname of the host.  
-v : verbose data  
-V : version information  
-h : help about hostname command
```

• **Hostname**

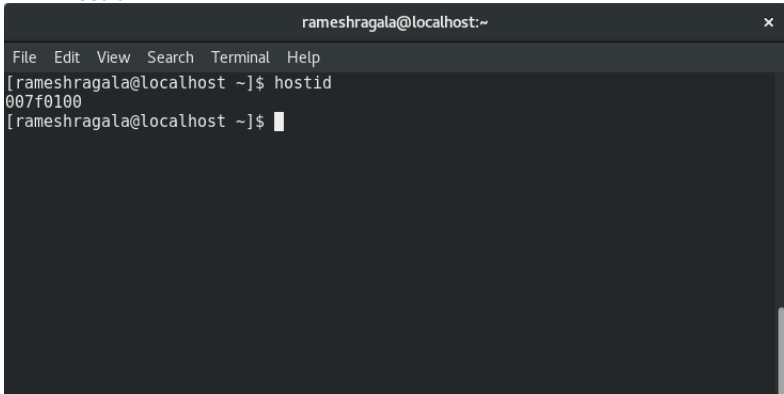
- hostname -i → check the output
- hostname -a → check the output
- hostname -d → check the output
- hostname -s → check the output
- hostname -h → check the output

• How to set the hostname

```
rameshragala@localhost:~  
File Edit View Search Terminal Help  
[rameshragala@localhost ~]$ sudo hostname rameshragala  
[sudo] password for rameshragala:  
Sorry, try again.  
[sudo] password for rameshragala:  
[rameshragala@localhost ~]$ hostname  
rameshragala  
[rameshragala@localhost ~]$
```

- **hostid**

- It outputs a number i.e host identification number, which identifies the current system.
- This unique number based on the machine's IPv4 network address
- It is represented in Hexadecimal
- command is
 - **hostid**



```
rameshragala@localhost:~  
File Edit View Search Terminal Help  
[rameshragala@localhost ~]$ hostid  
007f0100  
[rameshragala@localhost ~]$
```

• **netstat**

- It is a command line utility that can be used to list out all the network (socket) connections on a system.
- It lists out all the TCP, UDP socket connections and the UNIX socket connections.
- It also list out the listing sockets, which are waiting for incoming connections
- command is
 - **netstat**

```
rameshragala@localhost:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 localhost.localdo:53176 151.101.2.2:https       ESTABLISHED
tcp        0      0 localhost.localdo:35296 104.19.192.102:https    TIME_WAIT
tcp        0      0 localhost.localdo:43222 a23-57-219-27.depl:http TIME_WAIT
tcp        0      0 localhost.localdo:43352 a23-57-219-27.depl:http ESTABLISHED
tcp        0      0 localhost.localdo:43606 maa03s19-in-f98.1:https ESTABLISHED
tcp        0      0 localhost.localdo:33490 74.125.24.157:https    TIME_WAIT
tcp        0      0 localhost.localdo:33394 119.42.60.108:https    ESTABLISHED
tcp        0      0 localhost.localdo:46404 maa03s28-in-f10.1:https ESTABLISHED
tcp        0      0 localhost.localdo:37616 maa03s28-in-f6.1e:https TIME_WAIT
tcp        0      0 localhost.localdo:56844 ec2-52-72-21-40.c:https ESTABLISHED
tcp        0      0 localhost.localdo:35704 maa03s18-in-f34.1:https ESTABLISHED
```


• **netstat**

- `man netstat` → check the output
- `netstat -a` → list out all current connections
- `netstat -at` → list out only tcp connections
- `netstat -au` → list out only udp connections
- `netstat -tnl` → list out only tcp listening connections
- `netstat -unl` → list out only udp listening connections
- `netstat -nl` → list out all listening connections
- `netstat -s` → prints the statistics like total number of packets received and transmitted by protocol
- `netstat -ts` → check the output
- `netstat -us` → check the output
- `netstat -rn` → gives the kernel routing information
- `netstat -i` → gives the network interface information
- `netstat -it` → check the output
- `netstat -g` → displays the multicast group information

● ping

- it sends echo requests to the host which specified on the command line.
- It sends the ICMP echo message
- This may go continually until you hit Control+C
- Ping tells you if the other Host is Up.
- It is used to ensure that a network connection can be established

```
rameshragala@localhost:~  
File Edit View Search Terminal Help  
[rameshragala@localhost ~]$ ping www.vit.ac.in  
PING www.vit.ac.in (115.248.50.221) 56(84) bytes of data.  
64 bytes from www.vit.ac.in (115.248.50.221): icmp_seq=1 ttl=54 time=6.32 ms  
64 bytes from www.vit.ac.in (115.248.50.221): icmp_seq=2 ttl=54 time=14.0 ms  
64 bytes from www.vit.ac.in (115.248.50.221): icmp_seq=3 ttl=54 time=24.6 ms  
64 bytes from www.vit.ac.in (115.248.50.221): icmp_seq=4 ttl=54 time=7.62 ms  
64 bytes from www.vit.ac.in (115.248.50.221): icmp_seq=5 ttl=54 time=9.39 ms  
^C  
--- www.vit.ac.in ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 4006ms  
rtt min/avg/max/mdev = 6.326/12.421/24.698/6.676 ms  
[rameshragala@localhost ~]$
```

- **ping**

- ping -i 5 www.vit.ac.in → it waits for 5 seconds before sending the next packet → increases the ping time interval
- ping -i 0.1 www.vit.ac.in → decreases the ping time interval
- ping -c 10 www.vit.ac.in → it sends 10 packets and stop pinging
- ping -q www.vit.ac.in → check the output
- ping -c 10 -q 127.0.0.1 → Print Only Ping Command Summary Statistics
- ping -s 100 localhost → changes the default packet size from 64 to 100
- ping -w 6 localhost → it will ping for 6 seconds i.e ping command will exit after 6 seconds
- ping -R www.vit.ac.in → Record and print route of how ECHO_REQUEST sent and ECHO_REPLY received