What is a hostname?

A **hostname** is the **name assigned to your system** that identifies it on a **network**.

Think of it like a **computer's name**, just like a person's name on an office ID.

- Uniquely identifies a Linux machine on a network
- Helps other systems recognize and communicate with it
- Is used in logs, prompts, and network services

Example:

```
sd.lin.com
pqr.rhel.com
```

Types of hostnames in RHEL 9

RHEL uses **three hostname types**:

1. **Static hostname**
   - Set by the admin
   - Stored in `/etc/hostname`
   - Example: `rhel9-server`
2. **Transient hostname**
   - Temporary
   - Assigned by DHCP
   - Lost after reboot
3. **Pretty hostname**
   - Human-friendly name
   - Can include spaces and capital letters
   - Example: `Production Database Server`

How to check hostname in RHEL 9

Hostname

```
[root@pqr ~]# hostname
pqr.rad.com
```

or (recommended)

hostnamectl

```
[root@pqr ~]# hostnamectl
 Static hostname: pqr.rad.com
       Icon name: computer-vm
         Chassis: vm □
      Machine ID: 8bd038f364f4445a9a02d4767f389bd5
         Boot ID: 1d31e5053bbd42a1b870d6dcbb70a3c7
  Virtualization: vmware
Operating System: Red Hat Enterprise Linux 9.2 (Plow)
     CPE OS Name: cpe:/o:redhat:enterprise_linux:9::baseos
          Kernel: Linux 5.14.0-284.11.1.el9_2.x86_64
    Architecture: x86-64
 Hardware Vendor: VMware, Inc.
  Hardware Model: VMware Virtual Platform
Firmware Version: 6.00
```

Sample output:

```
Static hostname: rhel9-server
Pretty hostname: RHEL 9 Server
```

How to set/change hostname in RHEL 9

Temporary (until reboot)

```
hostname test-server
```

Permanent (recommended way)

```
hostnamectl set-hostname rhel9-server
```

Set pretty hostname

```
hostnamectl set-hostname "RHEL 9 Production Server" –pretty
```

Via file

/etc/hostname

```
vi /etc/hostname
```

OR

/etc/hosts:

```
IP_Address   Hostname   Alias(optional)
```

```
vi/etc/hosts
```

```
127.0.0.1   localhost localhost.localdomain localhost4
localhost4.localdomain4
::1         localhost localhost.localdomain localhost6
localhost6.localdomain6
172.16.0.100 pqr.rad.com pqr
```

Where hostname is used

- Shell prompt:
- `user@rhel9-server`
- Network identification
- SSH connections
- System logs
- Monitoring tools

Rules for hostname (important for exams & real systems)

✔ Letters (a–z)
✔ Numbers (0–9)
✔ Hyphen (-)
 No spaces (except pretty hostname)
 No special characters

Real-world example

In a company:

- `web01.company.com` → Web server
- `db01.company.com` → Database server
- `backup01.company.com` → Backup server

Pinging Hostname

[root@pqr ~]# ping pqr.rad.com

PING pqr.rad.com (192.168.11.128) 56(84) bytes of data.

64 bytes from pqr.rad.com (192.168.11.128): icmp_seq=1 ttl=64 time=0.091 ms

64 bytes from pqr.rad.com (192.168.11.128): icmp_seq=2 ttl=64 time=0.224 ms

64 bytes from pqr.rad.com (192.168.11.128): icmp_seq=3 ttl=64 time=0.175 ms

64 bytes from pqr.rad.com (192.168.11.128): icmp_seq=4 ttl=64 time=0.224 ms

^C

--- pqr.rad.com ping statistics ---

4 packets transmitted, 4 received, 0% packet loss, time 3060ms

rtt min/avg/max/mdev = 0.091/0.178/0.224/0.054 ms

Pinging alias of hostname

[root@pqr ~]# ping pqr

PING pqr.rad.com (192.168.11.128) 56(84) bytes of data.

64 bytes from pqr.rad.com (192.168.11.128): icmp_seq=1 ttl=64 time=0.126 ms

64 bytes from pqr.rad.com (192.168.11.128): icmp_seq=2 ttl=64 time=0.210 ms

64 bytes from pqr.rad.com (192.168.11.128): icmp_seq=3 ttl=64 time=0.138 ms

^C

--- pqr.rad.com ping statistics ---

3 packets transmitted, 3 received, 0% packet loss, time 2078ms

rtt min/avg/max/mdev = 0.126/0.158/0.210/0.037 ms

Common mistakes in /etc/hosts

Here are the **most common mistakes in `/etc/hosts`** in **RHEL 9**, explained **very simply** (RHCSA + real-world focused).

---

1 Wrong IP address

❌

```
127.0.0.1   server01
```

(for a networked server)

✔ Correct:

```
192.168.1.10   server01
```

❌ Use **real IP**, not loopback, for servers.

---

2 Missing hostname entry for your system

❌ No entry for your hostname
Result:

```
sudo: unable to resolve host server01
```

✔ Fix:

```
127.0.0.1   server01
```

or

```
192.168.1.10   server01
```

---

3 Typo in hostname

❌

```
192.168.1.10   sever01
```

✔

```
192.168.1.10   server01
```

❌ Even **one character mistake** breaks name resolution.

---

4 Using spaces or special characters in hostname

❌

```
192.168.1.10   my server!
```

✔

```
192.168.1.10   my-server
```

Rules reminder:

- ✔ letters, numbers, hyphen
- □ spaces, symbols

---

5 Duplicate hostnames with different IPs

□

```
192.168.1.10   web01
192.168.1.20   web01
```

□ Causes **random resolution**

✔ Fix: Use unique names

```
192.168.1.10   web01
192.168.1.20   web02
```

---

6 Multiple IPs on same line incorrectly

□

```
192.168.1.10 192.168.1.11 server01
```

✔

```
192.168.1.10   server01
192.168.1.11   server01-backup
```

---

7 Removing or breaking localhost entries

□ Deleting:

```
127.0.0.1   localhost
::1         localhost
```

□ Breaks many applications

✔ Always keep:

```
127.0.0.1   localhost
::1         localhost
```

---

8 Wrong file permissions

□

```
-rw-rw-rw- /etc/hosts
```

✔ Correct:

```
-rw-r--r--  /etc/hosts
```

Fix:

```
chmod 644 /etc/hosts
```

---

9 Forgetting to save file in vi

 Exit with:

```
:q
```

✔ Save properly:

```
:wq
```

□ Expecting DNS changes to affect `/etc/hosts`

 Thinking DNS overrides `/etc/hosts`

✔ Reality:

```
/etc/hosts → DNS
```

(`hosts` file is checked **first**)

How to verify after editing

```
getent hosts server01
ping server01
```

RHCSA exam tip □

- `/etc/hosts` changes work **immediately**
- No service restart needed
- Very common **troubleshooting question**