

Installing IPA Server and Configuring Services

- Installing FREE IPA Server
- Adding DNS Zones and DNS Records
- Creating LDAP Users and Home directories
- Configuring NTP Server
- Installing and Configuring NFS Server
- Installing and Configuring Samba Server

Installing FREE IPA Server

Prerequisites:

- Hostname [ipaserver.example.com](#) must be configured on IPA Server VM.
- Static IPv4 address [192.168.99.254/24](#) must be configured on ethernet interface on IPA Server VM.
- DNF (YUMv4) repositories must be setup and configured.

Tips:

- Don't connect IPA Server VM to internet to avoid conflicts related to domain name ,however it can be resolved by using [--allow-zone-overlap](#) option while installing FREE IPA Server.
- If installation fails , connect VM to internet and update all packages with [dnf update -y](#) ,and Start all over again.

Note: We will use Linux VM (Auto partitioning) with 20 GiB storage and 3 GiB RAM (4 GiB recommended) .

Steps to Install :

- **Installing required packages**

dnf install -y ipa-server ipa-server-dns -To install all required packages

- **Installing IPA Server, execute below command as root :**

ipa-server-install

Do you want to configure integrated DNS (BIND)? [no]:**yes**

Server host name [ipaserver.example.com]:**ipaserver.example.com**

Please confirm the domain name [example.com]:**example.com**

Please provide a realm name [EXAMPLE.COM]:**EXAMPLE.COM**

Directory Manager password:*****

Password (confirm):*****

IPA admin password: *****

Password (confirm): *****

Do you want to configure DNS forwarders? [yes]:**no**

Do you want to search for missing the reverse zone? [yes]: **no**

NetBIOS domain name [EXAMPLE] : **Enter to Accept default**

Do you want to configure chrony with NTP server or pool address ? [no]: **no**

Continue to configure the system with these values? [no]: **yes** (approximate 15-20 minutes)

- **Configuring firewall to allow inbound traffic**

firewall-cmd --permanent --add-service={ntp,http,https,ldap,ldaps,kerberos,dns}

firewall-cmd --reload

<https://t.me/learningnets>

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Managing DNS zones and DNS Record Entries

Command	Action/Description
<code>kinit admin</code>	To authenticate as IPA Admin
<code>ipa dnszone-add 99.168.192.in-addr.arpa.</code>	To add Reverse zone by name
<code>ipa dnsrecord-add 99.168.192.in-addr.arpa. 254 --ptr-rec ipaserver.example.com.</code>	Adding PTR record for 192.168.99.254
<code>ipa dnsrecord-add example.com system --a-rec 192.168.99.10</code>	Adding A record for system.example.com
<code>ipa dnsrecord-add 99.168.192.in-addr.arpa. 10 --ptr-rec system.example.com.</code>	Adding PTR record for 192.168.99.10
<code>host system.example.com</code>	Forward DNS lookup
<code>host 192.168.99.10</code>	Reverse DNS lookup
<code>ipa dnszone-show example.com</code>	Displaying Zone

Creating LDAP Users

Command	Action/Description
kinit admin	Authenticating as IPA Admin
ipa user-add --homedir=/home/ldapuser/ldap --password	Creating ldap (uname) user with home directory /home/ldapuser/ldap
mkdir -p /home/ldapuser/ldap	Creating directory path
chown ldap:ldap /home/ldapuser/ldap	Setting user:group ownership on user's home directory
ipa user-add --homedir=/ldap/home/ldap1 --password	Creating ldap1(uname) user with home directory /ldap/home/ldap1
mkdir -p /ldap/home/ldap1	Creating directory path
chown ldap1:ldap1 /ldap/home/ldap1	Setting user:group ownership on user's home directory
ipa user-add --homedir=/ldap/home/ldap2 --password	Creating ldap2(uname) user with home directory /ldap/home/ldap2
mkdir -p /ldap/home/ldap2	Creating directory path
chown ldap2:ldap2 /ldap/home/ldap2	Setting user:group ownership on user's home directory
ipa user-add --password	Creating smb1(uname) user with default home directory
mkdir /home/smb1	Creating directory
chown smb1:smb1 /home/smb1	Setting user:group ownership on user's home directory

Configuring NTP Server

Command	Action/Description
<code>vim /etc/chrony.conf</code> <code>allow 192.168.99.0/24</code> <code>:wq</code>	To allow network to use time services
<code>systemctl restart chronyd</code>	Restarting chronyd to make changes effective
<code>firewall-cmd --add-service=ntp --permanent</code>	Configuring firewall to accept inbound traffic
<code>firewall-cmd --reload</code>	Reload the firewall to make permanent changes effective

Installing & Configuring NFS Server

Command	Action/Description
<code>dnf install nfs-utils</code>	Installing nfs-server package(s)
<code>systemctl enable --now nfs-server</code>	Starting and configuring service to start at boot
<code>vim /etc/exports</code> <code>/nfsshare *(rw)</code> <code>/home/ldapuser *(rw)</code> <code>/ldap/home *(rw)</code> <code>:wq</code>	Defining exports in exports file
<code>exportfs -arv</code>	Exporting NFS exports
<code>firewall-cmd --add-service={nfs,rpc-bind,mountd} --permanent</code>	Configuring firewall to accept inbound NFS traffic
<code>firewall-cmd --reload</code>	Reloading firewall to make configs effective

Installing & Configuring Samba Server

Command	Action/Description
<code>dnf install samba cifs-utils</code>	Installing required packages
<code>systemctl enable --now smb</code>	Starting/enabling smb.service
<code>vim /etc/samba/smb.conf</code> [samba] comment = samba_share path = /samba writable = yes :wq	Defining samba share (We must create /samba directory)
<code>systemctl restart smb</code>	Restarting smb.service to make changes effective
<code>smbpasswd -a smb1</code>	Creating samba user profile for smb1 user
<code>firewall-cmd --add-service=samba --permanent</code>	Configuring firewall to accept inbound traffic from client(s)
<code>firewall-cmd --reload</code>	
<code>semanage fcontext -a -t samba_share_t "/samba(/.*)?"</code>	Setting correct SELinux context type
<code>restorecon -Rv /samba</code>	Restoring context