

[root@ipa-replica carlos]# vi /etc/resolv.conf

```
search example.com
```

```
nameserver 192.168.100.200
```

```
nameserver 192.168.100.205
```

[root@ipa-replica carlos]# vi /etc/hosts

```
192.168.100.200    ipa-server.example.com    ipa-server
192.168.100.205    ipa-replica.example.com    ipa-replica
192.168.100.201    ipa-client01.example.com    ipa-client01
192.168.100.202    ipa-client02.example.com    ipa-client02
```

[root@ipa-replica carlos]# dig example.com. any

```
; <<>> DiG 9.9.4-RedHat-9.9.4-38.el7_3.2 <<>> example.com. any
```

```
;; global options: +cmd
```

```
;; Got answer:
```

```
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 2963
```

```
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 9, AUTHORITY: 0, ADDITIONAL: 5
```

```
;; OPT PSEUDOSECTION:
```

```
;; EDNS: version: 0, flags:; udp: 4096
```

```
;; QUESTION SECTION:
```

```
;example.com.          IN      ANY
```

```
;; ANSWER SECTION:
```

```
example.com.          86400 IN      SOA     ipa-server.example.com. root.example.com. 100 86400
7200 2419200 3600
```

```
example.com.          86400 IN      NS      ipa-server.example.com.
```

```
example.com.          86400 IN      NS      ipa-client02.example.com.
```

```
example.com.          86400 IN      NS      ipa-replica.example.com.
```

```
example.com.          86400 IN      NS      ipa-client01.example.com.
```

```
example.com.          86400 IN      A       192.168.100.202
```

```
example.com.          86400 IN      A       192.168.100.200
```

```
example.com.          86400 IN      A       192.168.100.201
```

```
example.com.          86400 IN      A       192.168.100.205
```

```
;; ADDITIONAL SECTION:
```

```
ipa-server.example.com. 86400 IN      A       192.168.100.200
```

```
ipa-replica.example.com. 86400 IN      A       192.168.100.205
```

```
ipa-client01.example.com. 86400 IN      A       192.168.100.201
```

```
ipa-client02.example.com. 86400 IN A 192.168.100.202
```

```
:: Query time: 2 msec  
:: SERVER: 192.168.100.200#53(192.168.100.200)  
:: WHEN: jue feb 23 15:18:57 CET 2017  
:: MSG SIZE rcvd: 314
```

```
[root@ipa-replica carlos]# yum install ipa-server ipa-server-dns
```

```
[root@ipa-replica carlos]# ipa-replica-install --principal admin --password bergerac --server ipa-server.example.com --domain example.com
```

```
Configuring client side components  
Client hostname: ipa-replica.example.com  
Realm: EXAMPLE.COM  
DNS Domain: example.com  
IPA Server: ipa-server.example.com  
BaseDN: dc=example,dc=com
```

```
Skipping synchronizing time with NTP server.
```

```
Successfully retrieved CA cert
```

```
Subject: CN=Certificate Authority,O=EXAMPLE.COM  
Issuer: CN=Certificate Authority,O=EXAMPLE.COM  
Valid From: Thu Feb 23 12:21:12 2017 UTC  
Valid Until: Mon Feb 23 12:21:12 2037 UTC
```

```
Enrolled in IPA realm EXAMPLE.COM
```

```
Created /etc/ipa/default.conf
```

```
New SSSD config will be created
```

```
Configured sudoers in /etc/nsswitch.conf
```

```
Configured /etc/sss/sss.conf
```

```
Configured /etc/krb5.conf for IPA realm EXAMPLE.COM
```

```
trying https://ipa-server.example.com/ipa/json
```

```
Forwarding 'schema' to json server 'https://ipa-server.example.com/ipa/json'
```

```
trying https://ipa-server.example.com/ipa/session/json
```

```
Forwarding 'ping' to json server 'https://ipa-server.example.com/ipa/session/json'
```

```
Forwarding 'ca_is_enabled' to json server 'https://ipa-server.example.com/ipa/session/json'
```

```
Systemwide CA database updated.
```

```
Adding SSH public key from /etc/ssh/ssh_host_rsa_key.pub
```

```
Adding SSH public key from /etc/ssh/ssh_host_ecdsa_key.pub
```

```
Adding SSH public key from /etc/ssh/ssh_host_ed25519_key.pub
```

```
Forwarding 'host_mod' to json server 'https://ipa-server.example.com/ipa/session/json'
```

```
Could not update DNS SSHFP records.
```

```
SSSD enabled
```

```
Configured /etc/openldap/ldap.conf
```

```
Configured /etc/ssh/ssh_config
```

```
Configured /etc/ssh/sshd_config
```

```
Configuring example.com as NIS domain.
```

```
Client configuration complete.
```

Run connection check to master

Connection check OK

Configuring NTP daemon (ntpd)

[1/4]: stopping ntpd

[2/4]: writing configuration

[3/4]: configuring ntpd to start on boot

[4/4]: starting ntpd

Done configuring NTP daemon (ntpd).

Configuring directory server (dirsrv). Estimated time: 1 minute

[1/44]: creating directory server user

[2/44]: creating directory server instance

[3/44]: updating configuration in dse.ldif

[4/44]: restarting directory server

[5/44]: adding default schema

[6/44]: enabling memberof plugin

[7/44]: enabling winsync plugin

[8/44]: configuring replication version plugin

[9/44]: enabling IPA enrollment plugin

[10/44]: enabling ldapi

[11/44]: configuring uniqueness plugin

[12/44]: configuring uuid plugin

[13/44]: configuring modrdn plugin

[14/44]: configuring DNS plugin

[15/44]: enabling entryUSN plugin

[16/44]: configuring lockout plugin

[17/44]: configuring topology plugin

[18/44]: creating indices

[19/44]: enabling referential integrity plugin

[20/44]: configuring certmap.conf

[21/44]: configure autobind for root

[22/44]: configure new location for managed entries

[23/44]: configure dirsrv ccache

[24/44]: enabling SASL mapping fallback

[25/44]: restarting directory server

[26/44]: creating DS keytab

[27/44]: retrieving DS Certificate

[28/44]: restarting directory server

[29/44]: setting up initial replication

Starting replication, please wait until this has completed.

Update in progress, 4 seconds elapsed

Update succeeded

[30/44]: adding sasl mappings to the directory

[31/44]: updating schema

[32/44]: setting Auto Member configuration

[33/44]: enabling S4U2Proxy delegation

[34/44]: importing CA certificates from LDAP

[35/44]: initializing group membership
[36/44]: adding master entry
[37/44]: initializing domain level
[38/44]: configuring Posix uid/gid generation
[39/44]: adding replication acis
[40/44]: enabling compatibility plugin
[41/44]: activating sidgen plugin
[42/44]: activating extdom plugin
[43/44]: tuning directory server
[44/44]: configuring directory to start on boot
Done configuring directory server (dirsrv).
Configuring ipa-custodia
[1/5]: Generating ipa-custodia config file
[2/5]: Generating ipa-custodia keys
[3/5]: Importing RA Key
`/usr/lib/python2.7/site-packages/urllib3/connection.py:251: SecurityWarning: Certificate has no `subjectAltName`, falling back to check for a `commonName` for now. This feature is being removed by major browsers and deprecated by RFC 2818. (See https://github.com/shazow/urllib3/issues/497 for details.)`
SecurityWarning
[4/5]: starting ipa-custodia
[5/5]: configuring ipa-custodia to start on boot
Done configuring ipa-custodia.
Configuring Kerberos KDC (krb5kdc). Estimated time: 30 seconds
[1/4]: configuring KDC
[2/4]: adding the password extension to the directory
[3/4]: starting the KDC
[4/4]: configuring KDC to start on boot
Done configuring Kerberos KDC (krb5kdc).
Configuring kadmind
[1/2]: starting kadmind
[2/2]: configuring kadmind to start on boot
Done configuring kadmind.
Configuring ipa_memcached
[1/2]: starting ipa_memcached
[2/2]: configuring ipa_memcached to start on boot
Done configuring ipa_memcached.
Configuring the web interface (httpd). Estimated time: 1 minute
[1/20]: setting mod_nss port to 443
[2/20]: setting mod_nss cipher suite
[3/20]: setting mod_nss protocol list to TLSv1.0 - TLSv1.2
[4/20]: setting mod_nss password file
[5/20]: enabling mod_nss renegotiate
[6/20]: adding URL rewriting rules
[7/20]: configuring httpd
[8/20]: configure certmonger for renewals
[9/20]: setting up httpd keytab
[10/20]: setting up ssl

[11/20]: importing CA certificates from LDAP

[12/20]: publish CA cert

[13/20]: clean up any existing httpd ccache

[14/20]: configuring SELinux for httpd

[15/20]: create KDC proxy user

[16/20]: create KDC proxy config

[17/20]: enable KDC proxy

[18/20]: restarting httpd

[19/20]: configuring httpd to start on boot

[20/20]: enabling oddjobd

Done configuring the web interface (httpd).

Applying LDAP updates

Upgrading IPA:

[1/9]: stopping directory server

[2/9]: saving configuration

[3/9]: disabling listeners

[4/9]: enabling DS global lock

[5/9]: starting directory server

[6/9]: upgrading server

[7/9]: stopping directory server

[8/9]: restoring configuration

[9/9]: starting directory server

Done.

Configuring ipa-otpd

[1/2]: starting ipa-otpd

[2/2]: configuring ipa-otpd to start on boot

Done configuring ipa-otpd.

The screenshot shows the Identity Management web interface in Mozilla Firefox. The browser address bar shows the URL <https://ipa-server.example.com/ipa/ui/#/e/host/search>. The page title is "freelIPA" and the user is logged in as "Administrator". The navigation menu includes Identity, Policy, Authentication, Network Services, and IPA Server. The "Hosts" page is active, displaying a search bar and a table of hosts.

Host name	Description	Enrolled
<input type="checkbox"/> ipa-replica.example.com		True
<input type="checkbox"/> ipa-server.example.com		True

Showing 1 to 2 of 2 entries.

The screenshot shows the freeIPA web interface in a Mozilla Firefox browser. The browser's address bar displays the URL `https://ipa-replica.example.com/ipa/ui/#/p/topology-graph`. The interface features a top navigation bar with tabs for 'Identity Management' and 'Identity Management'. Below this is a secondary navigation bar with categories: 'Role Based Access Control', 'ID Ranges', 'ID Views', 'Realm Domains', 'Topology' (selected), 'API browser', and 'Configuration'. A sidebar on the left lists navigation options: 'Topology', 'Topology suffixes', 'IPA Servers', 'Server Roles', 'Domain Level', 'Topology Graph' (highlighted), and 'IPA Locations'. The main content area is titled 'Topology Graph' and includes 'Refresh', '+ Add', and 'Delete' buttons. Below these buttons, the domain 'ca' is listed, followed by 'domain'. The central part of the page displays a topology graph with two green circular nodes: 'ipa-server' and 'ipa-replica', connected by a bidirectional orange arrow.