

The background of the title section features a large, blue, 3D 'FTP' logo. Below the logo, three silver laptops are arranged in a row, each displaying a blue world map on its screen. Cables connect the laptops to the 'FTP' logo, suggesting a network or web application context.

Despliegue de aplicaciones Web

BIND9 Y OPENLDAP

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Actividad 1

Instalar bind9:

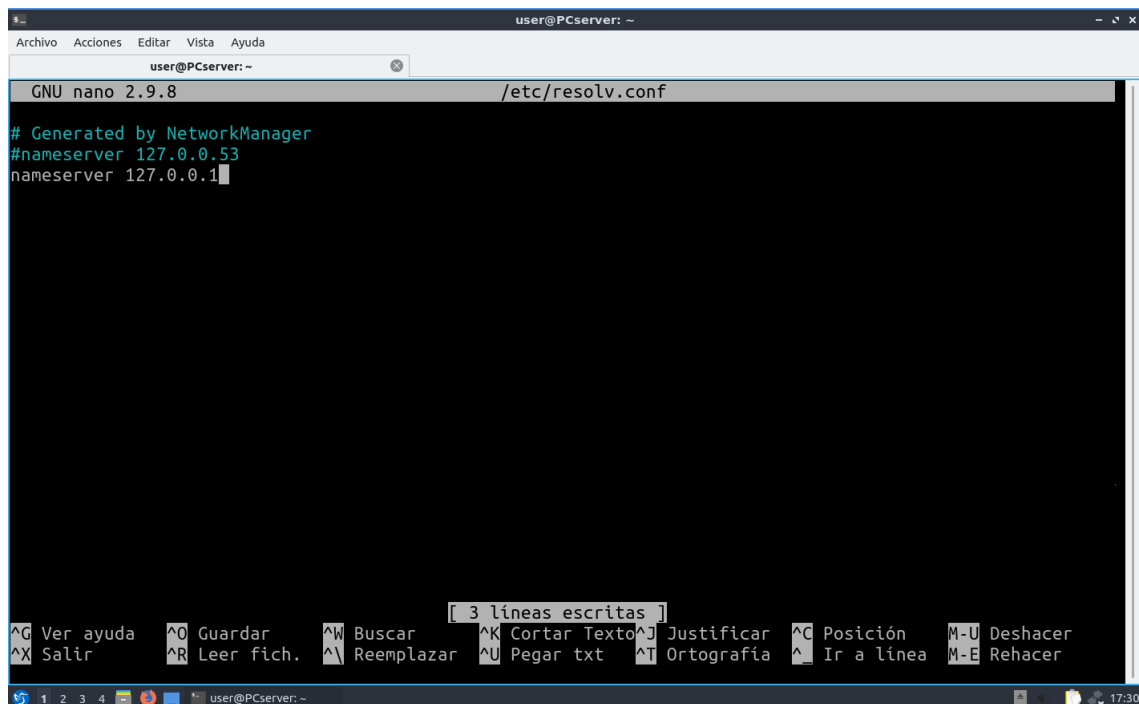
```
user@PCserver:~$ sudo apt-get install bind9 bind9utils
[sudo] contraseña para user:
```

Verificamos que se ha instalado correctamente:

```
Procesando disparadores para dhc (0.55+0) ...
user@PCserver:~$ service bind9 status
● bind9.service - BIND Domain Name Server
   Loaded: loaded (/lib/systemd/system/bind9.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2019-04-10 17:22:13 CEST; 2min 41s ago
     Docs: man:named(8)
    Main PID: 26286 (named)
      Tasks: 4 (limit: 2314)
     Memory: 13.7M
    CGroup: /system.slice/bind9.service
            └─26286 /usr/sbin/named -u bind

abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './DNSKEY/IN': 2001:500:2d::d#53
abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './NS/IN': 2001:500:2d::d#53
abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './DNSKEY/IN': 2001:500:a8::e#53
abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './NS/IN': 2001:500:a8::e#53
abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './DNSKEY/IN': 2001:500:2::c#53
abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './NS/IN': 2001:500:2::c#53
abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './DNSKEY/IN': 2001:503:c27::2:30#53
abr 10 17:22:13 PCserver named[26286]: network unreachable resolving './NS/IN': 2001:503:c27::2:30#53
abr 10 17:22:14 PCserver named[26286]: managed-keys-zone: Key 20326 for zone . acceptance timer complete:
abr 10 17:22:14 PCserver named[26286]: resolver priming query complete
lines 1-20/20 (END)
```

Una vez comprobado, editamos el fichero /etc/resolv.conf para que quede de la siguiente manera.



```
user@PCserver: ~
GNU nano 2.9.8 /etc/resolv.conf

# Generated by NetworkManager
#nameserver 127.0.0.53
nameserver 127.0.0.1

[ 3 líneas escritas ]
^G Ver ayuda  ^O Guardar  ^W Buscar  ^K Cortar Texto  ^J Justificar  ^C Posición  M-U Deshacer
^X Salir      ^R Leer fich. ^_ Reemplazar ^V Pegar txt  ^T Ortografía ^I Ir a línea M-E Rehacer
```

Ahora, en el archivo **named.conf.options** descomentamos las líneas referentes al forwarders, quedaría de la siguiente manera.

```

user@PCserver: ~
GNU nano 2.9.8 /etc/bind/named.conf.options Modificado

options {
    directory "/var/cache/bind";

    // If there is a firewall between you and nameservers you want
    // to talk to, you may need to fix the firewall to allow multiple
    // ports to talk. See http://www.kb.cert.org/vuls/id/800113

    // If your ISP provided one or more IP addresses for stable
    // nameservers, you probably want to use them as forwarders.
    // Uncomment the following block, and insert the addresses replacing
    // the all-0's placeholder.

    forwarders {
        0.0.0.0;
    };

    //=====
    // If BIND logs error messages about the root key being expired,
    // you will need to update your keys. See https://www.isc.org/bind-keys
    //=====
    dnssec-validation auto;

    listen-on-v6 { any; };

^G Ver ayuda ^O Guardar ^W Buscar ^K Cortar Texto ^J Justificar ^C Posición M-U Deshacer
^X Salir ^R Leer fich. ^N Reemplazar ^U Pegar txt ^T Ortografía ^_ Ir a línea M-E Rehacer

1 2 3 4 user@PCserver: ~ 17:37

```

Reiniciamos el servidor con “`service bind9 reload`”.

Prueba desde el Servidor

```

user@PCserver: ~
user@PCserver:~$ dig eltiempo.es

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> eltiempo.es
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: SERVFAIL, id: 35219
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 52c176ad260ba79e584acf925cae0e8837ba0a27896254c3 (good)
;; QUESTION SECTION:
;eltiempo.es.                IN      A

;; Query time: 883 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: mié abr 10 17:40:56 CEST 2019
;; MSG SIZE rcvd: 68

user@PCserver:~$ dig eltiempo.es

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> eltiempo.es
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 14376
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 4, ADDITIONAL: 1

;; OPT PSEUDOSECTION:

```

```

user@PCserver: ~
Archivo Acciones Editar Vista Ayuda
user@PCserver:~
; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> eltiempo.es
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 14376
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 4, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 4096
;; COOKIE: 18b91c97cd3855f8b1f313cf5cae0ea1df6d0b73a5100f1f (good)
;; QUESTION SECTION:
;eltiempo.es.                IN      A

;; ANSWER SECTION:
eltiempo.es.                60      IN      A      52.18.161.31
eltiempo.es.                60      IN      A      34.240.99.225

;; AUTHORITY SECTION:
eltiempo.es.                86375   IN      NS      ns-540.awsdns-03.net.
eltiempo.es.                86375   IN      NS      ns-1399.awsdns-46.org.
eltiempo.es.                86375   IN      NS      ns-1704.awsdns-21.co.uk.
eltiempo.es.                86375   IN      NS      ns-508.awsdns-63.com.

;; Query time: 294 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: mié abr 10 17:41:21 CEST 2019
;; MSG SIZE rcvd: 240

user@PCserver:~$

```

Prueba desde el Cliente

```

user@PCclient: ~
Archivo Acciones Editar Vista Ayuda
user@PCclient:~
user@PCclient:~$ dig eltiempo.es

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> eltiempo.es
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 26513
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;eltiempo.es.                IN      A

;; ANSWER SECTION:
eltiempo.es.                37      IN      A      52.18.161.31
eltiempo.es.                37      IN      A      34.240.99.225

;; Query time: 756 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: mié abr 10 17:55:27 CEST 2019
;; MSG SIZE rcvd: 72

user@PCclient:~$ dig eltiempo.es

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> eltiempo.es
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 2189
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;eltiempo.es.                IN      A

```

```

user@PCclient: ~
Archivo Acciones Editar Vista Ayuda
user@PCclient: ~
; eltiempo.es.          IN      A
;; ANSWER SECTION:
eltiempo.es.          37      IN      A      52.18.161.31
eltiempo.es.          37      IN      A      34.240.99.225
;; Query time: 756 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: mié abr 10 17:55:27 CEST 2019
;; MSG SIZE rcvd: 72
user@PCclient:~$ dig eltiempo.es
; <<> DiG 9.11.4-3ubuntu5.1-Ubuntu <<> eltiempo.es
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 2189
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
; eltiempo.es.          IN      A
;; ANSWER SECTION:
eltiempo.es.          27      IN      A      34.240.99.225
eltiempo.es.          27      IN      A      52.18.161.31
;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: mié abr 10 17:55:37 CEST 2019
;; MSG SIZE rcvd: 72
user@PCclient:~$

```

Apartado 1.2:

Configuramos el fichero `/etc/bind/named.conf.local` :

```

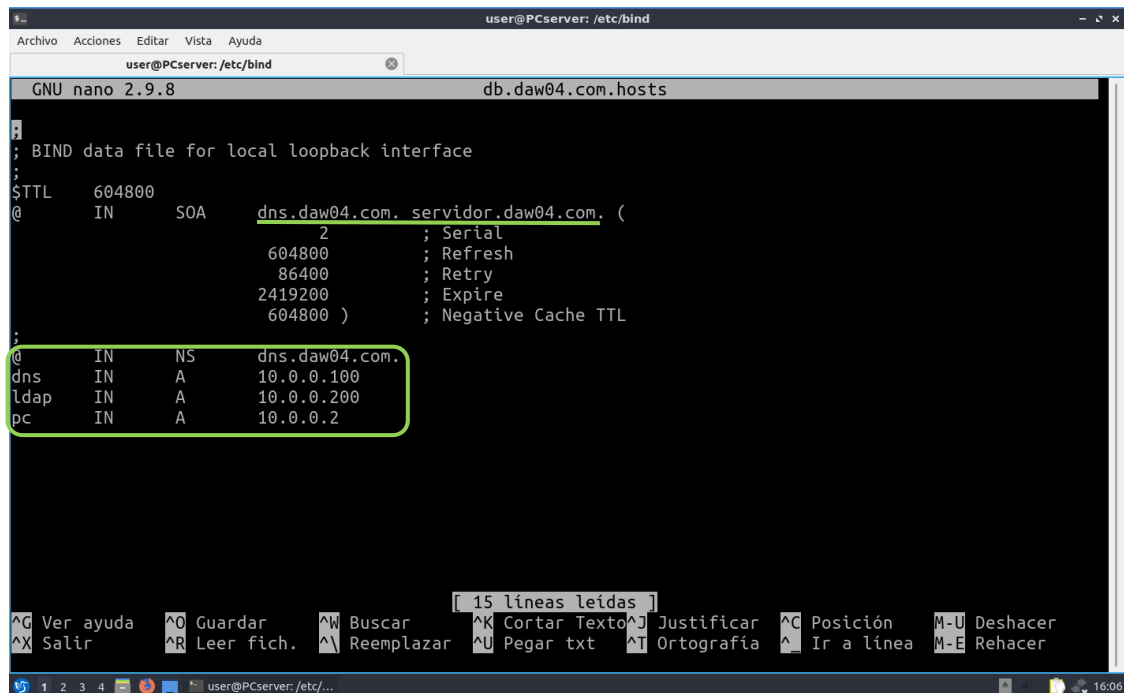
user@PCserver: /etc/bind
GNU nano 2.9.8      named.conf.local
//
// Do any local configuration here
//
// Consider adding the 1918 zones here, if they are not used in your
// organization
//include "/etc/bind/zones.rfc1918";
zone "daw04.com" {
    type master;
    file "/etc/bind/db.daw04.com.hosts";
};

```

[El fichero «named.conf.local» no es de escritura]

Ver ayuda Guardar Buscar Cortar Texto Justificar Posición M-U Deshacer
 Salir Leer fich. Reemplazar Pegar txt Ortografía Ir a línea M-E Rehacer

Creamos el fichero “db”, el nombre sería ‘db.daw04.com.host’, hacemos una copia de uno de los ficheros que ya existen y le cambiamos la configuración, quedaría de la siguiente



```

user@PCserver: /etc/bind
GNU nano 2.9.8 db.daw04.com.hosts

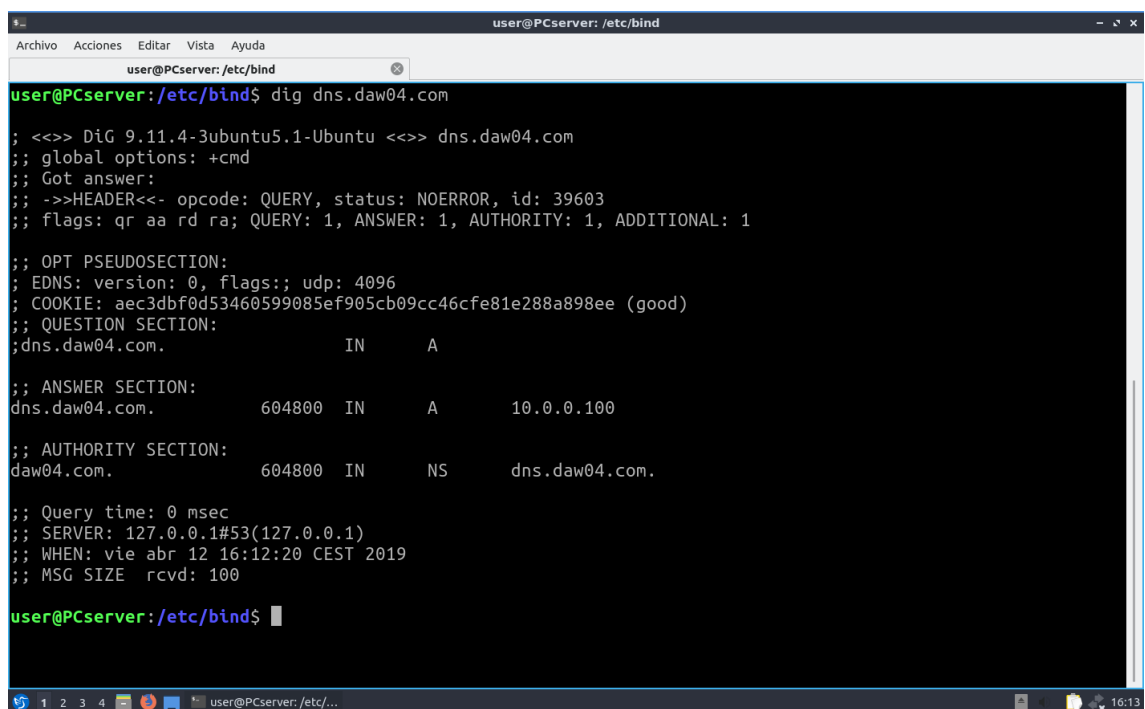
;
; BIND data file for local loopback interface
;
$TTL 604800
@ IN SOA dns.daw04.com. servidor.daw04.com. (
        2      ; Serial
        604800 ; Refresh
        86400  ; Retry
        2419200 ; Expire
        604800 ) ; Negative Cache TTL
;
@ IN NS dns.daw04.com.
dns IN A 10.0.0.100
ldap IN A 10.0.0.200
pc IN A 10.0.0.2

```

manera.

Reiniciamos bind9 y comprobamos su funcionamiento con el comando **DIG**.

DIG desde MV1



```

user@PCserver: /etc/bind
user@PCserver:/etc/bind$ dig dns.daw04.com

;<<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> dns.daw04.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 39603
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 4096
;; COOKIE: aec3dbf0d53460599085ef905cb09cc46cfe81e288a898ee (good)
;; QUESTION SECTION:
;dns.daw04.com.                IN      A

;; ANSWER SECTION:
dns.daw04.com.                604800  IN      A      10.0.0.100

;; AUTHORITY SECTION:
daw04.com.                    604800  IN      NS      dns.daw04.com.

;; Query time: 0 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: vie abr 12 16:12:20 CEST 2019
;; MSG SIZE rcvd: 100

user@PCserver:/etc/bind$

```

```
user@PCserver: /etc/bind

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> ldap.daw04.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 58677
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 2

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 80af106d58ef7d82c872b97c5cb09d213884c557785ad6c2 (good)
;; QUESTION SECTION:
;ldap.daw04.com.                IN      A

;; ANSWER SECTION:
ldap.daw04.com.                604800  IN      A      10.0.0.200

;; AUTHORITY SECTION:
daw04.com.                     604800  IN      NS      dns.daw04.com.

;; ADDITIONAL SECTION:
dns.daw04.com.                 604800  IN      A      10.0.0.100

;; Query time: 0 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: vie abr 12 16:13:53 CEST 2019
;; MSG SIZE rcvd: 121

user@PCserver: /etc/bind$
```

```
user@PCserver: /etc/bind

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> pc.daw04.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 756
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 2

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 4a132ca6bc6754e9b950ac4d5cb09d3d6bda5cec13c07abe (good)
;; QUESTION SECTION:
;pc.daw04.com.                 IN      A

;; ANSWER SECTION:
pc.daw04.com.                 604800  IN      A      10.0.0.2

;; AUTHORITY SECTION:
daw04.com.                     604800  IN      NS      dns.daw04.com.

;; ADDITIONAL SECTION:
dns.daw04.com.                 604800  IN      A      10.0.0.100

;; Query time: 0 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: vie abr 12 16:14:21 CEST 2019
;; MSG SIZE rcvd: 119

user@PCserver: /etc/bind$
```

```

user@PCserver: /etc/bind
; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> eltiempo.es
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NOERROR, id: 10443
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 4, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 4096
;; COOKIE: dbb1fccaaccfb159ee9edf55cb09e2aea828c7be5ff6313 (good)
;; QUESTION SECTION:
;eltiempo.es.                IN      A

;; ANSWER SECTION:
eltiempo.es.                60      IN      A      52.18.161.31
eltiempo.es.                60      IN      A      34.240.99.225

;; AUTHORITY SECTION:
eltiempo.es.                86383   IN      NS      ns-1704.awsdns-21.co.uk.
eltiempo.es.                86383   IN      NS      ns-540.awsdns-03.net.
eltiempo.es.                86383   IN      NS      ns-508.awsdns-63.com.
eltiempo.es.                86383   IN      NS      ns-1399.awsdns-46.org.

;; Query time: 342 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: vie abr 12 16:18:18 CEST 2019
;; MSG SIZE rcvd: 240

user@PCserver:/etc/bind$

```

DIG desde MV2

```

user@PCclient: ~
; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> dns.daw04.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NXDOMAIN, id: 25674
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;dns.daw04.com.              IN      A

;; Query time: 53 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: vie abr 12 16:21:30 CEST 2019
;; MSG SIZE rcvd: 42

user@PCclient:~$ dig ldap.daw04.com

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> ldap.daw04.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NXDOMAIN, id: 4871
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;ldap.daw04.com.             IN      A

;; Query time: 50 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: vie abr 12 16:21:40 CEST 2019
;; MSG SIZE rcvd: 43

user@PCclient:~$ dig pc.daw04.com

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> pc.daw04.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NXDOMAIN, id: 51362
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;pc.daw04.com.               IN      A

;; Query time: 51 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: vie abr 12 16:22:26 CEST 2019
;; MSG SIZE rcvd: 41

user@PCclient:~$

```



```
user@PCclient: ~  
Archivo Acciones Editar Vista Ayuda  
user@PCclient: ~  
user@PCclient:~$ dig eltiempo.es  
;<<> DiG 9.11.4-3ubuntu5.1-Ubuntu <<> eltiempo.es  
;; global options: +cmd  
;; Got answer:  
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 59877  
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1  
;<<> OPT PSEUDOSECTION:  
;; EDNS: version: 0, flags:; udp: 65494  
;; QUESTION SECTION:  
;eltiempo.es. IN A  
;<<> ANSWER SECTION:  
eltiempo.es. 59 IN A 34.240.99.225  
eltiempo.es. 59 IN A 52.18.161.31  
;<<> Query time: 43 msec  
;<<> SERVER: 127.0.0.53#53(127.0.0.53)  
;<<> WHEN: vie abr 12 16:26:29 CEST 2019  
;<<> MSG SIZE rcvd: 72  
user@PCclient:~$
```

Apartado 1.3

Abrimos el fichero **named.conf.local** y escribimos la siguiente configuración:

```
user@PCserver: /etc/bind  
Archivo Acciones Editar Vista Ayuda  
user@PCserver: /etc/bind  
GNU nano 2.9.8 named.conf.local  
//  
// Do any local configuration here  
//  
// Consider adding the 1918 zones here, if they are not used in your  
// organization  
//include "/etc/bind/zones.rfc1918";  
zone "daw04.com" {  
    type master;  
    file "/etc/bind/db.daw04.com.hosts";  
};  
zone "0.0.10.in-addr.arpa" IN{  
    type master;  
    file "/etc/bind/db.10.0.0.com";  
};  
[ 17 líneas leídas ]  
^G Ver ayuda ^O Guardar ^W Buscar ^K Cortar Texto ^J Justificar ^C Posición M-U Deshacer  
^X Salir ^R Leer fich. ^\ Reemplazar ^U Pegar txt ^T Ortografía ^_ Ir a línea M-E Rehacer  
1 2 3 4 user@PCserver: /etc/...
```

Ahora creamos un nuevo fichero 'db' en el que pondremos las direcciones IP y los nombres.

```

GNU nano 2.9.8 db.10.0.0.com
; BIND data file for local loopback interface
;
$ORIGIN 0.0.10.in-addr.arpa.
$TTL 604800
@ IN SOA dns.daw04.com. servidor.daw04.com. (
    2 ; Serial
    604800 ; Refresh
    86400 ; Retry
    2419200 ; Expire
    604800 ) ; Negative Cache TTL
;
IN NS dns.daw04.com.
100 IN PTR dns.daw04.com.
200 IN PTR ldap.daw04.com.
2 IN PTR pc.daw04.com.

```

Reiniciamos bind9 y comprobamos que funciona utilizando el comando DIG.

Servidor principal

```

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> -x 10.0.0.100
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 36337
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 2
;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 4096
;; COOKIE: ff95e80fefa8e71338bec3165cb0bce4efc44b27d7d6ba53 (good)
;; QUESTION SECTION:
;100.0.0.10.in-addr.arpa. IN PTR
;; ANSWER SECTION:
100.0.0.10.in-addr.arpa. 604800 IN PTR dns.daw04.com.
;; AUTHORITY SECTION:
0.0.10.in-addr.arpa. 604800 IN NS dns.daw04.com.
;; ADDITIONAL SECTION:
dns.daw04.com. 604800 IN A 10.0.0.100
;; Query time: 0 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: vie abr 12 18:29:24 CEST 2019
;; MSG SIZE rcvd: 137
user@PCserver:/etc/bind$

```

```
user@PCserver: /etc/bind

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> -x 10.0.0.200
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NOERROR, id: 35576
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 2

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 32932e70b3298fcab51f85875cb0bd0ba642c2ded5ab85b0 (good)
;; QUESTION SECTION:
;200.0.0.10.in-addr.arpa.      IN      PTR

;; ANSWER SECTION:
200.0.0.10.in-addr.arpa. 604800 IN      PTR      ldap.daw04.com.

;; AUTHORITY SECTION:
0.0.10.in-addr.arpa.    604800 IN      NS       dns.daw04.com.

;; ADDITIONAL SECTION:
dns.daw04.com.          604800 IN      A        10.0.0.100

;; Query time: 0 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: vie abr 12 18:30:03 CEST 2019
;; MSG SIZE rcvd: 142

user@PCserver: /etc/bind$
```

```
user@PCserver: /etc/bind

; <<>> DiG 9.11.4-3ubuntu5.1-Ubuntu <<>> -x 10.0.0.2
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NOERROR, id: 49977
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 2

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 67bb2ef96f177b59d1d471045cb0bd2ef09844e2cc1c80d3 (good)
;; QUESTION SECTION:
;2.0.0.10.in-addr.arpa.      IN      PTR

;; ANSWER SECTION:
2.0.0.10.in-addr.arpa. 604800 IN      PTR      pc.daw04.com.

;; AUTHORITY SECTION:
0.0.10.in-addr.arpa.    604800 IN      NS       dns.daw04.com.

;; ADDITIONAL SECTION:
dns.daw04.com.          604800 IN      A        10.0.0.100

;; Query time: 0 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: vie abr 12 18:30:38 CEST 2019
;; MSG SIZE rcvd: 138

user@PCserver: /etc/bind$
```

Ordenador usuario

```
user@PCclient: ~  
Archivo Acciones Editar Vista Ayuda  
user@PCclient: ~  
;<<<> Dig 9.11.4-3ubuntu5.1-Ubuntu <<> -x 10.0.0.200  
;; global options: +cmd  
;; Got answer:  
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 18035  
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1  
;; OPT PSEUDOSECTION:  
;; EDNS: version: 0, flags:; udp: 65494  
;; QUESTION SECTION:  
;200.0.0.10.in-addr.arpa. IN PTR  
;; ANSWER SECTION:  
200.0.0.10.in-addr.arpa. 0 IN PTR PCclient.  
200.0.0.10.in-addr.arpa. 0 IN PTR PCclient.local.  
;; Query time: 25 msec  
;; SERVER: 127.0.0.53#53(127.0.0.53)  
;; WHEN: vie abr 12 21:37:41 CEST 2019  
;; MSG SIZE rcvd: 102  
user@PCclient:~$ dig -x 10.0.0.2  
;<<<> Dig 9.11.4-3ubuntu5.1-Ubuntu <<> -x 10.0.0.2  
;; global options: +cmd  
;; Got answer:  
;; ->HEADER<- opcode: QUERY, status: NXDOMAIN, id: 35894  
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1  
;; OPT PSEUDOSECTION:  
;; EDNS: version: 0, flags:; udp: 65494  
;; QUESTION SECTION:  
;2.0.0.10.in-addr.arpa. IN PTR  
;; Query time: 31 msec  
;; SERVER: 127.0.0.53#53(127.0.0.53)  
;; WHEN: vie abr 12 21:38:22 CEST 2019  
;; MSG SIZE rcvd: 50  
user@PCclient:~$ dig -x 10.0.0.200  
;<<<> Dig 9.11.4-3ubuntu5.1-Ubuntu <<> -x 10.0.0.200  
;; global options: +cmd  
;; Got answer:  
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 18035  
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1  
;; OPT PSEUDOSECTION:  
;; EDNS: version: 0, flags:; udp: 65494  
;; QUESTION SECTION:  
;200.0.0.10.in-addr.arpa. IN PTR  
;; ANSWER SECTION:  
200.0.0.10.in-addr.arpa. 0 IN PTR PCclient.  
200.0.0.10.in-addr.arpa. 0 IN PTR PCclient.local.  
;; Query time: 25 msec  
;; SERVER: 127.0.0.53#53(127.0.0.53)  
;; WHEN: vie abr 12 21:37:41 CEST 2019  
;; MSG SIZE rcvd: 102  
user@PCclient:~$
```