How to create and use own virtual nameservers

STEP 1: Select one or more nameserver parent domains and the nameserver hostnames

For this HowTo, we have selected exactly **one** domain to become our nameserver parent domain. For the purpose of this HowTo, we are going to call this domain name "dnsdomain.net".

PLEASE MAKE SURE THAT THE DOMAIN NAME IS ALREADY REGISTERED ON YOUR BEHALF OR THAT IT IS STILL AVAILABLE !!!

The 3 nameserver hostnames will be called "ns1.dnsdomain.net", "ns2.dnsdomain.net" and "ns3.dnsdomain.net".
However these are finally called, you need to assign the following 3 IP addresses to them:

- 194.50.187.134
- 194.0.182.1
- 193.227.117.124

Within this HowTo, we use the following map:

ns1.dnsdomain.net => 194.50.187.134
ns2.dnsdomain.net => 194.0.182.1
ns3.dnsdomain.net => 193.227.117.124

DNSDOMAIN.NET IS ONLY A PLACEHOLDER, PLEASE USE YOUR OWN DOMAIN NAME !!!

STEP 2: Register the domain name (if it is not registered yet)

If the domain "dnsdomain.net" is not registered yet, then you should register it right now. There is currently no need to assign any nameservers to it (except if the registry requires that).

STEP 3: Create an appropriate DNS zone

Now that the domain "dnsdomain.net" is safely registered, we are going to create a new DNS zone "dnsdomain.net.". Please pay attention to the fact that DNS zones always end with an dot (.).

An basic DNS zone for "dnsdomain.net" should look like that:

dnsdomain.net. 3600 IN SOA ns1.dnsdomain.net. hostmaster.dnsdomain.net. 1 86400 7200 3600000 172800

dnsdomain.net. 3600 IN NS ns1.dnsdomain.net.
dnsdomain.net. 3600 IN NS ns2.dnsdomain.net.
dnsdomain.net. 3600 IN NS ns3.dnsdomain.net.
ns1.dnsdomain.net. 3600 IN A 194.50.187.134
ns2.dnsdomain.net. 3600 IN A 194.0.182.1
ns3.dnsdomain.net. 3600 IN A 193.227.117.124

Other DNS resource records could be added of course, but are not needed for our purpose.

A simple API command to create this zone would look like follows:

[COMMAND]
command = CreateDNSZone
dnszone = dnsdomain.net.
soamname = ns1
rr0 = @ NS ns1
rr1 = @ NS ns2
rr2 = @ NS ns3
rr3 = ns1 A 194.50.187.134
rr4 = ns2 A 194.0.182.1
rr5 = ns3 A 193.227.117.124
EOF

STEP 4: Register the nameserver hostnames within the registry

Now it's time to register "ns1.dnsdomain.net", "ns2.dnsdomain.net" and "ns3.dnsdomain.net" as real nameserver objects. If the "dnsdomain.net" is managed through our API, then the following commands would perform this task:

[COMMAND]
command = AddNameserver
nameserver = ns1.dnsdomain.net
ipaddress0 = 194.50.187.134
EOF
[COMMAND]
command = AddNameserver
nameserver = ns2.dnsdomain.net
ipaddress0 = 194.0.182.1
EOF
[COMMAND]
command = AddNameserver
nameserver = ns3.dnsdomain.net
ipaddress0 = 193.227.117.124
EOF

(Note: For .de-Domains, you can skip this step. See Appendix 1)

STEP 5: Modify "dnsdomain.net" and assign ns1, ns2 and ns3 as nameservers

If the previous steps have been completed successfully, then it will now make sense to assign the new nameservers to their parent domain. This can be done using the follwowing API command:

[COMMAND]
command = ModifyDomain

domain = dnsdomain.net
nameserver0 = ns1.dnsdomain.net
nameserver1 = ns1.dnsdomain.net
nameserver2 = ns1.dnsdomain.net
EOF

After successful completition of this command, ns1, ns2 and ns3 will become real 'glue'-records.

STEP 6: Wait for the root DNS-servers to update "dnsdomain.net".

Depending on the TLD of the nameserver parent domain(s), it may take up to 24 hours for the modifications to be reflected in DNS.

-------- NAMESERVER CREATED --------
Now you have your own virtual nameservers:

"ns1.dnsdomain.net", "ns2.dnsdomain.net" and "ns3.dnsdomain.net"

From now on, you can assign these nameservers to any of your domain names.
But before you do so, you should create the DNS zones for the respective domain names.
E.g. if you want to assign them to "domain.com", then you will need to create a DNS zone "domain.com." first:

[COMMAND]
command = CreateDNSZone
dnszone = domain.com.
soamname = ns1.dnsdomain.net.
rr0 = @ NS ns1.dnsdomain.net.
rr1 = @ NS ns2.dnsdomain.net.
rr2 = @ NS ns3.dnsdomain.net.
EOF

Other DNS resource records could be added of course, but are not needed for our purpose.
For most purposes, you could use the following template:

(adjust "domain.com.", "dnsdomain.net.", "YOURIPADDRESS" and "YOUR.MAILSERVER.HOSTNAME.")

[COMMAND]
command = CreateDNSZone
dnszone = domain.com.
soamname = ns1.dnsdomain.net.
rr0 = @ NS ns1.dnsdomain.net.
rr1 = @ NS ns2.dnsdomain.net.
rr2 = @ NS ns3.dnsdomain.net.
rr3 = @ A YOURIPADDRESS
rr4 = @ MX 10 YOUR.MAILSERVER.HOSTNAME.

*rr5 = * CNAME @*
EOF

Appendix 1: Special Case - Virtual Nameserver with .DE-Domains

If you want to use a virtual Nameserver setup with .DE-domain names, you have to use the *ModifyDomain* command instead of choosing „Create Nameserver Host“. The glue record is automatically established by the system if you provide the IP of the virtual nameserver separated with a blank from it's name.

[COMMAND]
command = ModifyDomain
nameserver0 = ns1.mydomain.de IP_OF_VIRTUAL_NS
...
EOF

Appendix 2: Used DNS software

We have a heterogeneously set up DNS system, combining the DNS softwares Bind, PowerDNS and MyDNS.
All 3 DNS systems work correct according to currently appliable RFCs. Nevertheless, we give our customers the possibility to use a homogeneously set up DNS system, based on PowerDNS only. The IP addresses for this DNS system are:

- 194.50.187.33
- 194.0.182.114
- 193.227.117.100

Please notice that this type of DNS system is not protected against special PowerDNS exploits. We therefore recommend you to use the heterogeneously set up DNS system.