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# DNS commands

## display dns domain

Use `display dns domain` to display the domain name suffixes.

### Syntax

```
display dns domain [ dynamic ] [ vpn-instance vpn-instance-name ]
```

### Views

Any view

### Predefined user roles

network-admin

network-operator

### Parameters

**dynamic**: Displays the domain name suffixes dynamically obtained through DHCP or other protocols. If you do not specify this keyword, the command displays the statically configured and dynamically obtained domain name suffixes.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays domain name suffixes for the public network.

### Examples

# Display the statically configured and dynamically obtained domain name suffixes for the public network.

```
<Sysname> display dns domain
```

Type:

D: Dynamic    S: Static

```
No.    Type    Domain suffix
1      S      com
2      D      net
```

**Table 1 Command output**

Field	Description
No.	Sequence number.
Type	Domain name suffix type: <ul style="list-style-type: none"><li>• <b>S</b>—A statically configured domain name suffix.</li><li>• <b>D</b>—A domain name suffix dynamically obtained through DHCP or other protocols.</li></ul>
Domain suffix	Domain name suffixes.

### Related commands

`dns domain`

# display dns host

Use `display dns host` to display information about domain name-to-IP address mappings.

## Syntax

```
display dns host [ ip | ipv6 ] [ vpn-instance vpn-instance-name ]
```

## Views

Any view

## Predefined user roles

network-admin

network-operator

## Parameters

**ip**: Specifies type A queries. A type A query resolves a domain name to the mapped IPv4 address.

**ipv6**: Specifies type AAAA queries. A type AAAA query resolves a domain name to the mapped IPv6 address.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays domain name-to-IP address mappings for the public network.

## Usage guidelines

If you do not specify the **ip** or **ipv6** keyword, this command displays domain name-to-IP address mappings of all query types.

## Examples

```
# Display domain name-to-IP address mappings of all query types.
```

```
<Sysname> display dns host
```

```
Type:
```

```
  D: Dynamic    S: Static
```

```
Total number: 3
```

No.	Host name	Type	TTL	Query type	IP addresses
1	sample.com	D	3132	A	192.168.10.1 192.168.10.2 192.168.10.3
2	zig.sample.com	S	-	A	192.168.1.1
3	sample.net	S	-	AAAA	FE80::4904:4448

**Table 2 Command output**

Field	Description
No.	Sequence number.
Host name	Domain name.
Type	Domain name-to-IP address mapping type: <ul style="list-style-type: none"><li>• <b>S</b>—A static mapping configured by the <code>ip host</code> or <code>ipv6 host</code> command.</li><li>• <b>D</b>—A mapping dynamically obtained through dynamic domain name resolution.</li></ul>

Field	Description
TTL	Time in seconds that a mapping can be stored in the cache. For a static mapping, a hyphen (-) is displayed.
Query type	Query type: A and AAAA.
IP addresses	Replied IP address: <ul style="list-style-type: none"> <li>For a type A query, the replied IP address is an IPv4 address.</li> <li>For a type AAAA query, the replied IP address is an IPv6 address.</li> </ul>

## Related commands

`ip host`

`ipv6 host`

`reset dns host`

## display dns server

Use `display dns server` to display IPv4 DNS server information.

### Syntax

```
display dns server [ dynamic ] [ vpn-instance vpn-instance-name ]
```

### Views

Any view

### Predefined user roles

network-admin

network-operator

### Parameters

**dynamic**: Displays IPv4 DNS server information dynamically obtained through DHCP or other protocols. If you do not specify this keyword, the command displays statically configured and dynamically obtained IPv4 DNS server information.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays IPv4 DNS server information for the public network.

### Examples

```
# Display IPv4 DNS server information for the public network.
```

```
<Sysname> display dns server
```

```
Type:
```

```
  D: Dynamic   S: Static
```

```
No.  Type  IP address
  1   S    202.114.0.124
  2   S    169.254.65.125
```

**Table 3 Command output**

Field	Description
No.	Sequence number.

Field	Description
Type	DNS server type: <ul style="list-style-type: none"> <li><b>S</b>—A manually configured DNS server.</li> <li><b>D</b>—DNS server information dynamically obtained through DHCP or other protocols.</li> </ul>
IP address	IPv4 address of the DNS server.

## Related commands

`dns server`

## display ipv6 dns server

Use `display ipv6 dns server` to display IPv6 DNS server information.

### Syntax

```
display ipv6 dns server [ dynamic ] [ vpn-instance vpn-instance-name ]
```

### Views

Any view

### Predefined user roles

network-admin

network-operator

### Parameters

**dynamic**: Displays IPv6 DNS server information dynamically obtained through DHCP or other protocols. If you do not specify this keyword, the command displays the statically configured and dynamically obtained IPv6 DNS server information.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays IPv6 DNS server information for the public network.

### Examples

# Display IPv6 DNS server information for the public network.

```
<Sysname> display ipv6 dns server
```

Type:

```
  D: Dynamic   S: Static
```

```
No. Type IPv6 address          Outgoing Interface
  1  S    2::2
```

**Table 4 Command output**

Field	Description
No.	Sequence number.
Type	DNS server type: <ul style="list-style-type: none"> <li><b>S</b>—A manually configured DNS server.</li> <li><b>D</b>—DNS server information dynamically obtained through DHCP or other protocols.</li> </ul>
IPv6 address	IPv6 address of the DNS server.

Field	Description
Outgoing Interface	Output interface.

## Related commands

`ipv6 dns server`

## dns domain

Use `dns domain` to configure a domain name suffix.

Use `undo dns domain` to delete the specified domain name suffix.

## Syntax

`dns domain domain-name [ vpn-instance vpn-instance-name ]`

`undo dns domain domain-name [ vpn-instance vpn-instance-name ]`

## Default

No domain name suffix is configured. Only the provided domain name is resolved.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*domain-name*: Specifies a domain name suffix. It is a dot-separated, case-insensitive string that can include letters, digits, hyphens (-), underscores (\_), and dots (.), for example, aabbcc.com. The domain name suffix can include a maximum of 253 characters, and each separated string includes no more than 63 characters.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To configure a domain name suffix for the public network, do not specify this option.

## Usage guidelines

For domain name resolution, the resolver automatically uses the suffix list to supply the missing part of an incomplete name entered by a user.

A domain name suffix applies to both IPv4 DNS and IPv6 DNS.

The system allows a maximum of 16 domain name suffixes for the public network or each VPN instance. You can specify domain name suffixes for both public network and VPN instances.

## Examples

# Configure domain name suffix **com** for the public network.

```
<Sysname> system-view
[Sysname] dns domain com
```

## Related commands

`display dns domain`

## dns dscp

Use `dns dscp` to set the DSCP value for DNS packets sent by a DNS client or DNS proxy.

Use `undo dns dscp` to restore the default.

### Syntax

```
dns dscp dscp-value
undo dns dscp
```

### Default

The DSCP value is 0 in DNS packets sent by a DNS client or DNS proxy.

### Views

System view

### Predefined user roles

network-admin

### Parameters

*dscp-value*: Specifies the DSCP value in the range of 0 to 63.

### Usage guidelines

The DSCP value of a packet specifies the priority level of the packet and affects the transmission priority of the packet. A bigger DSCP value represents a higher priority.

### Examples

```
# Set the DSCP value to 30 for outgoing DNS packets.
<Sysname> system-view
[Sysname] dns dscp 30
```

## dns proxy enable

Use `dns proxy enable` to enable DNS proxy.

Use `undo dns proxy enable` to disable DNS proxy.

### Syntax

```
dns proxy enable
undo dns proxy enable
```

### Default

DNS proxy is disabled.

### Views

System view

### Predefined user roles

network-admin

### Usage guidelines

This configuration applies to both IPv4 DNS and IPv6 DNS.

### Examples

```
# Enable DNS proxy.
<Sysname> system-view
[Sysname] dns proxy enable
```

# dns server

Use `dns server` to specify the IPv4 address of a DNS server.

Use `undo dns server` to remove the IPv4 address of a DNS server.

## Syntax

```
dns server ip-address [ vpn-instance vpn-instance-name ]
```

```
undo dns server [ ip-address ] [ vpn-instance vpn-instance-name ]
```

## Default

No DNS server IPv4 address is specified.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*ip-address*: Specifies the IPv4 address of a DNS server.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To specify a DNS server IPv4 address for the public network, do not use this option.

## Usage guidelines

The device sends a DNS query request to the DNS servers in the order their IPv4 addresses are specified.

The system allows a maximum of six DNS server IPv4 addresses for the public network or each VPN instance. You can specify DNS server IPv4 addresses for both public network and VPN instances.

If you do not specify an IPv4 address, the `undo dns server` command removes all DNS server IPv4 addresses for the public network or the specified VPN instance.

## Examples

```
# Specify DNS server IPv4 address 172.16.1.1.
```

```
<Sysname> system-view
```

```
[Sysname] dns server 172.16.1.1
```

## Related commands

```
display dns server
```

# dns source-interface

Use `dns source-interface` to specify the source interface for DNS packets.

Use `undo dns source-interface` to restore the default.

## Syntax

```
dns source-interface interface-type interface-number [ vpn-instance vpn-instance-name ]
```

```
undo dns source-interface interface-type interface-number [ vpn-instance vpn-instance-name ]
```

## Default

No source interface is specified for DNS packets. The device uses the primary IP address of the output interface of the matching route as the source IP address for a DNS request.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*interface-type interface-number*: Specifies an interface by its type and number.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To specify a source interface for the public network, do not use this option.

## Usage guidelines

This configuration applies to both IPv4 and IPv6.

In IPv4 DNS, the device uses the primary IPv4 address of the specified source interface as the source IP address of a DNS query. In IPv6 DNS, the device selects an IPv6 address of the specified source interface as the source IP address of a DNS query. The method of selecting the IPv6 address is defined in RFC 3484.

The system allows only one source interface for the public network or each VPN instance. If you execute this command multiple times, the most recent configuration takes effect. You can specify source interfaces for both public network and VPN instances.

This command takes effect whether the source interface belongs to the VPN instance or not. As a best practice, specify an interface that belongs to the VPN instance as the source interface.

## Examples

# Specify VLAN-interface 2 as the source interface for DNS packets on the public network.

```
<Sysname> system-view  
[Sysname] dns source-interface vlan-interface 2
```

# dns spoofing

Use **dns spoofing** to enable DNS spoofing and specify the IPv4 address for spoofing DNS requests.

Use **undo dns spoofing** to disable DNS spoofing.

## Syntax

```
dns spoofing ip-address [ vpn-instance vpn-instance-name ]  
undo dns spoofing ip-address [ vpn-instance vpn-instance-name ]
```

## Default

DNS spoofing is disabled.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*ip-address*: Specifies the IPv4 address used to spoof DNS requests.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To enable DNS spoofing for the public network, do not specify this option.

## Usage guidelines

Use the **dns spoofing** command together with the **dns proxy enable** command.

DNS spoofing functions when the DNS proxy does not know the DNS server address or cannot reach the DNS server. It enables the DNS proxy to spoof DNS queries of type A by responding with the specified IPv4 address.

The system allows only one replied IPv4 address for the public network or each VPN instance. If you execute this command multiple times, the most recent configuration takes effect. You can configure DNS spoofing for both public network and VPN instances.

## Examples

```
# Enable DNS spoofing for the public network and specify IPv4 address 1.1.1.1 for spoofing DNS requests.
```

```
<Sysname> system-view
[Sysname] dns proxy enable
[Sysname] dns spoofing 1.1.1.1
```

## Related commands

**dns proxy enable**

# dns trust-interface

Use **dns trust-interface** to specify a DNS trusted interface.

Use **undo dns trust-interface** to remove a DNS trusted interface.

## Syntax

```
dns trust-interface interface-type interface-number
undo dns trust-interface [ interface-type interface-number ]
```

## Default

No DNS trusted interface is specified.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*interface-type interface-number*: Specifies an interface by its type and number.

## Usage guidelines

By default, an interface obtains DNS suffix and DNS server information from DHCP. A network attacker might act as the DHCP server to assign a wrong DNS suffix and DNS server address to the device. As a result, the device fails to obtain the resolved IP address or might get the wrong IP address. With the DNS trusted interface specified, the device only uses the DNS suffix and DNS server information obtained through the trusted interface to avoid attacks.

This configuration applies to both IPv4 DNS and IPv6 DNS.

You can configure a maximum of 128 DNS trusted interfaces on the device.

If you do not specify an interface, the **undo dns trust-interface** command removes all DNS trusted interfaces and restores the default.

## Examples

```
# Specify VLAN-interface 2 as a DNS trusted interface.
```

```
<Sysname> system-view  
[Sysname] dns trust-interface vlan-interface 2
```

## ip host

Use **ip host** to create a host name-to-IPv4 address mapping.

Use **undo ip host** to remove a host name-to-IPv4 address mapping.

### Syntax

```
ip host host-name ip-address [ vpn-instance vpn-instance-name ]  
undo ip host host-name ip-address [ vpn-instance vpn-instance-name ]
```

### Default

No host name-to-IPv4 address mappings exist.

### Views

System view

### Predefined user roles

network-admin

### Parameters

*host-name*: Specifies a host name, a case-insensitive string of 1 to 253 characters. Valid characters are letters, digits, hyphens (-), underscores (\_), and dots (.).

*ip-address*: Specifies the IPv4 address of the host.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To create a host name-to-IP address mapping for the public network, do not specify this option.

### Usage guidelines

The system allows a maximum of 1024 host name-to-IPv4 address mappings for the public network or each VPN instance. You can configure host name-to-IPv4 address mappings for both public network and VPN instances.

For the public network or a VPN instance, each host name maps to only one IPv4 address. If you execute this command multiple times, the most recent configuration takes effect.

Do not use the **ping** command parameter **ip**, **-a**, **-c**, **-f**, **-h**, **-i**, **-m**, **-n**, **-p**, **-q**, **-r**, **-s**, **-t**, **-tos**, **-v**, or **-vpn-instance** as the host name. For more information about the **ping** command parameters, see *Network Management and Monitoring Command Reference*.

## Examples

```
# Map IPv4 address 10.110.0.1 to host name aaa for the public network.
```

```
<Sysname> system-view  
[Sysname] ip host aaa 10.110.0.1
```

## Related commands

`display dns host`

## ipv6 dns dscp

Use `ipv6 dns dscp` to set the DSCP value for IPv6 DNS packets sent by an IPv6 DNS client or IPv6 DNS proxy.

Use `undo ipv6 dns dscp` to restore the default.

### Syntax

```
ipv6 dns dscp dscp-value
```

```
undo ipv6 dns dscp
```

### Default

The DSCP value is 0 in IPv6 DNS packets sent by an IPv6 DNS client or IPv6 DNS proxy.

### Views

System view

### Predefined user roles

network-admin

### Parameters

*dscp-value*: Specifies the DSCP value in the range of 0 to 63.

### Usage guidelines

The DSCP value of a packet specifies the priority level of the packet and affects the transmission priority of the packet. A bigger DSCP value represents a higher priority.

### Examples

```
# Set the DSCP value to 30 for outgoing IPv6 DNS packets.
```

```
<Sysname> system-view
```

```
[Sysname] ipv6 dns dscp 30
```

## ipv6 dns server

Use `ipv6 dns server` to specify the IPv6 address of a DNS server.

Use `undo ipv6 dns server` to remove the IPv6 address of a DNS server.

### Syntax

```
ipv6 dns server ipv6-address [ interface-type interface-number ]  
[ vpn-instance vpn-instance-name ]
```

```
undo ipv6 dns server [ ipv6-address [ interface-type interface-number ] ]  
[ vpn-instance vpn-instance-name ]
```

### Default

No DNS server IPv6 address is specified.

### Views

System view

## Predefined user roles

network-admin

## Parameters

*ipv6-address*: Specifies the IPv6 address of a DNS server.

*interface-type interface-number*: Specifies the output interface by its type and number. If you do not specify an interface, the device forwards DNS packets out of the output interface of the matching route. Specify this argument if the IPv6 address of the DNS server is a link-local address. Do not specify this argument if the IPv6 address of the DNS server is a global unicast address.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To specify a DNS server IPv6 address for the public network, do not use this option.

## Usage guidelines

For dynamic DNS, the device sends a DNS query request to the DNS servers in the order their IPv6 addresses are specified.

The system allows a maximum of six DNS server IPv6 addresses for the public network or each VPN instance. You can specify DNS server IPv6 addresses for both public network and VPN instances.

If you do not specify an IPv6 address, the **undo ipv6 dns server** command removes all DNS server IPv6 addresses for the public network or the specified VPN instance.

## Examples

```
# Specify DNS server IPv6 address 2002::1 for the public network.
```

```
<Sysname> system-view  
[Sysname] ipv6 dns server 2002::1
```

## Related commands

```
display ipv6 dns server
```

# ipv6 dns spoofing

Use **ipv6 dns spoofing** to enable DNS spoofing and specify the IPv6 address to spoof DNS requests.

Use **undo ipv6 dns spoofing** to disable DNS spoofing.

## Syntax

```
ipv6 dns spoofing ipv6-address [ vpn-instance vpn-instance-name ]  
undo ipv6 dns spoofing ipv6-address [ vpn-instance vpn-instance-name ]
```

## Default

DNS spoofing is disabled.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*ipv6-address*: Specifies the IPv6 address used to spoof DNS requests.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To enable DNS spoofing for the public network, do not specify this option.

## Usage guidelines

Use the **ipv6 dns spoofing** command together with the **dns proxy enable** command.

DNS spoofing functions when the DNS proxy does not know the DNS server address or cannot reach the DNS server. It enables the DNS proxy to spoof DNS queries of type AAAA by responding with the specified IPv6 address.

The system allows only one replied IPv6 address for the public network or each VPN instance. If you execute this command multiple times, the most recent configuration takes effect. You can configure DNS spoofing for both public network and VPN instances.

## Examples

```
# Enable DNS spoofing for the public network and specify IPv6 address 2001::1 for spoofing DNS requests.
```

```
<Sysname> system-view
[Sysname] dns proxy enable
[Sysname] ipv6 dns spoofing 2001::1
```

## Related commands

**dns proxy enable**

## ipv6 host

Use **ipv6 host** to create a host name-to-IPv6 address mapping.

Use **undo ipv6 host** to remove a host name-to-IPv6 address mapping.

## Syntax

```
ipv6 host host-name ipv6-address [ vpn-instance vpn-instance-name ]
undo ipv6 host host-name ipv6-address [ vpn-instance vpn-instance-name ]
```

## Default

No host name-to-IPv6 address mappings exist.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*host-name*: Specifies a host name, a case-insensitive string of 1 to 253 characters. It can include letters, digits, hyphens (-), underscores (\_), and dots (.).

*ipv6-address*: Specifies the IPv6 address of the host.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. To create a host name-to-IPv6 address mapping for the public network, do not specify this option.

## Usage guidelines

The system allows a maximum of 1024 host name-to-IPv6 address mappings for the public network or each VPN instance. You can configure host name-to-IPv6 address mappings for both public network and VPN instances.

For the public network or a VPN instance, each host name maps to only one IPv6 address. If you execute this command multiple times, the most recent configuration takes effect.

Do not use the `ping ipv6` command parameter `-a`, `-c`, `-i`, `-m`, `-q`, `-s`, `-t`, `-tc`, `-v`, or `-vpn-instance` as the host name. For more information about the `ping ipv6` command parameters, see *Network Management and Monitoring Command Reference*.

## Examples

```
# Map IPv6 address 2001::1 to host name aaa for the public network.
<Sysname> system-view
[Sysname] ipv6 host aaa 2001::1
```

## Related commands

`ip host`

# reset dns host

Use `reset dns host` to clear dynamic DNS entries.

## Syntax

```
reset dns host [ ip | ipv6 ] [ vpn-instance vpn-instance-name ]
```

## Views

User view

## Predefined user roles

network-admin

## Parameters

**ip**: Specifies type A queries. A type A query resolves a domain name to the mapped IPv4 address.

**ipv6**: Specifies type AAAA queries. A type AAAA query resolves a domain name to the mapped IPv6 address.

**vpn-instance** *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command clears dynamic DNS entries for the public network.

## Usage guidelines

If you do not specify the `ip` or `ipv6` keyword, the `reset dns host` command clears dynamic DNS entries of all query types.

## Examples

```
# Clear dynamic DNS entries of all query types for the public network.
<Sysname> reset dns host
```

## Related commands

`display dns host`