

# Configuring an HCP S Series Node in the DNS

For an HCP S Series Node to be accessible by domain name, the S Series Node must be configured in the DNS. This chapter:

- Describes the requirements for S Series Node zone definitions
- Contains instructions for configuring forward lookup zones for an S Series Node in both Windows and Unix
- Explains how to verify the S Series Node DNS configuration

## About zone definitions for an S Series Node

To configure an S Series Node in the DNS, you can take either of these actions:

- Create a forward lookup zone for the S Series Node and add host entries to that zone. In this case, the name of the zone would be something like *s-node-1.example.com*.
- Add host entries for the S Series Node to an existing forward lookup zone. In this case, the name of the zone would be something like *example.com*.

In either case, the zone must be configured as a primary zone.

Each host entry for an S Series Node associates the IP address of a server module on one of the S Series Node networks with one of the three S Series Node interfaces or with a wildcard (\*) that represents any of the interfaces.

The hostnames that correspond to the S Series Node interfaces are:

- For the Management Console: admin
- For the management API: mapi
- For the HS3 protocol: hs3

If the zone for the S Series Node has entries for both the wildcard hostname and one or more of the specific interface hostnames:

- The interface-specific host entries are used for access to the applicable interfaces
- The wildcard host entry is used for access to the interfaces for which no interface-specific entry exists

Normally, a wildcard host is associated with the virtual IP addresses for the server modules on the access network. If that network is using IPv6, the host can be associated with only the primary virtual IPv6 addresses or with both the primary and secondary virtual IPv6 addresses.

If the access network is disabled for the Management Console and you want to allow access to the Console by domain name, the zone must have entries specifically for the admin host. These entries must specify the IP addresses for the server modules on the management network.

Similarly, if the access network is disabled for the management API and you want to allow the use of this API with a domain name, the zone must have entries specifically for the mapi host. These entries must specify the IP addresses for the server modules on the management network.




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**Note:** HCP and S Series Nodes always communicate over the access network. If the access network is disabled for the management API, HCP systems cannot use the S Series Node.

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## Configuring a forward lookup zone in Windows

To configure a forward lookup zone in Windows, you first create the zone. Then you add host entries to the zone.

The instructions below explain how to create a forward lookup zone specifically for an S Series Node. You don't need to do that if you're planning to add the host entries to an existing zone.

You can use either the GUI or a command line to configure zones in Windows. The instructions here are for the Windows 2008 GUI. The procedures for Windows 2003 and Windows 2012 are basically the same.

### Creating a forward lookup zone

To create a forward lookup zone for an S Series Node:

1. Open the DNS manager:
  - a. In the Windows Control Panel, click on **Administrative Tools**. (If you don't see **Administrative Tools**, change the view to small icons.)
  - b. In the **Administrative Tools** window, double-click on **DNS**.

The left side of the **DNS Manager** window shows the hierarchy of zones currently defined in the DNS.

2. In the left side of the **DNS Manager** window, right-click on **Forward Lookup Zones** under the higher-level zone within which you want to create the zone for the S Series Node. Then select **New Zone**.

The **New Zone Wizard** window opens.

3. In the **New Zone Wizard** window, click on **Next**.
4. On the **Zone Type** page:
  - Select **Primary zone**.
  - If the customer is using Active Directory, select **Store the zone in Active Directory**. Otherwise, deselect this option.

Then click on **Next**.

5. If the **Active Directory Zone Replication Scope** page appears, select the applicable option for the customer's Active Directory configuration. Then click on **Next**.
6. In the **Zone name** field on the **Zone Name** page, type the name of the S Series Node domain (for example, *s-node-1.example.com*). Then click on **Next**.
7. If the **Zone File** page appears, click on **Next** to accept default file name.
8. On the **Dynamic Update** page, select **Do not allow dynamic updates**. Then click on **Next**.
9. On the **Completing the New Zone Wizard** page, click on **Finish**.

#### **Adding host entries to a forward lookup zone**

To add host entries to a forward lookup zone:

1. In the left side of the **DNS Manager** window, select the applicable forward lookup zone. Then right-click on the zone and select **New Host (A or AAAA)**.
2. In the **New Host** window:
  - In the **Name** field, type the hostname for the entry (for example, *\** or *admin* if you're using a forward lookup zone created specifically for the S Series Node or *\*.s-node-1* or *admin.s-node-1* if you're using a different forward lookup zone).
  - In the **IP address** field, type the IP address for the entry.

- If you want to add the IP address to a reverse lookup zone that already exists, select **Create associated pointer (PTR) record**.

Then click on **Add Host**.

3. In response to the confirming message, click on **OK**.

If you selected **Create associated pointer (PTR) record** and the reverse lookup zone does not exist, the host entry is added to the forward lookup zone but not to a reverse lookup zone.

4. Take either of these actions:

- To add another host entry, repeat steps 2 and 3.
- If you're done adding host entries, click on **Done**.

## Configuring a forward lookup zone in Unix

With BIND in Unix, zones are defined in the `/etc/named.conf` file on the DNS servers. In this file, the statement that defines the forward lookup zone to be used for an S Series Node must include:

- A domain name. If the zone is specifically for an S Series Node, the domain name would look something like *s-node-1.example.com*. If you're using an existing domain, the domain name would look something like *example.com*.
- The zone type (master).
- The name of the file containing the A records for the zone. The A records specify the host entries for the zone.

Each A record for an S Series Node associates an S Series Node interface or the wildcard (\*) with the IP address of one of the S Series Node server modules on one of the S Series Node networks.

Each fully qualified domain name that can be used for access to an S Series Node is the concatenation of the hostname in an A record with the specified domain name. So, for example, if the domain name is *s-node-1.example.com*, the hostname for the Management Console would be *admin* by itself. If the domain name is *example.com*, the hostname for the Management Console would be *admin.s-node-1*.

- A specification not to allow dynamic updates of the A records.

Here's a sample zone statement that defines a forward lookup zone specifically for the S Series Node with domain name *s-node-1.example.com*:

```
zone "s-node-1.example.com" {  
    type master;  
    file "/var/named/data/s-node-1.example.com";  
    allow-update {none;};  
};
```

Here are sample contents for the file named in the zone statement above; in this file, the admin, mapi, and hs3 hosts are all associated with the virtual IP addresses of the server modules on the access network:

```
$TTL 900  
@ IN SOA dnsserver.example.com. dns-admin.example.com. (  
    1412260762 ; serial  
    10800      ; refresh (3 hours)  
    15        ; retry   (15 seconds)  
    304800    ; expire  (1 week)  
    10800     ; minttl  (3 hours)  
    )  
; Name Servers  
@ IN NS dnsserver.example.com.  
;Zone Data  
  
admin IN A 10.0.0.3  
admin IN A 10.0.0.4  
mapi IN A 10.0.0.3  
mapi IN A 10.0.0.4  
hs3 IN A 10.0.0.3  
hs3 IN A 10.0.0.4
```

If the forward lookup zone were not specifically for the S Series Node, the A records in the file would look something like this:

```
admin.s-node-1 IN A 10.0.0.3  
admin.s-node-1 IN A 10.0.0.4  
mapi.s-node-1 IN A 10.0.0.3  
mapi.s-node-1 IN A 10.0.0.4  
hs3.s-node-1 IN A 10.0.0.3  
hs3.s-node-1 IN A 10.0.0.4
```

## Verifying the DNS configuration

You can verify that an S Series Node primary zone is working properly from either a Windows command-prompt window or a Unix shell. In both cases, you can use either the **dig** or **nslookup** command, depending on which is available. The syntax for this is:

```
(dig|nslookup) (admin|mapi|hs3|*) .node-domain-name
```

The response to this command should be a list of the server module IP addresses specified for the requested interface in the S Series Node forward lookup zone.

Here's an example of the command and response in Windows:

```
C:\>nslookup admin.s-node-1.example.com
Server:  dnserver.example.com
Address:  10.0.201.55

Name:     admin.s-node-1.example.com
Addresses: 10.0.0.3
           10.0.0.4
```

If you don't see the expected IP addresses, the zone is not defined correctly.

