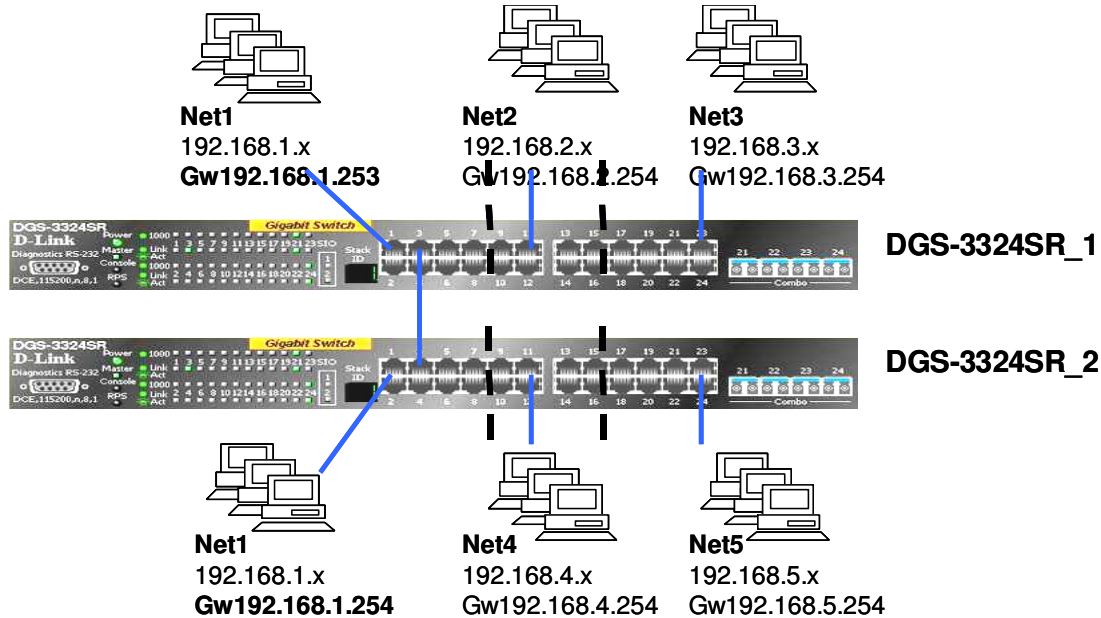# How do I setup a Layer 3 network with Static Routes on my DGS-3324SR/ DGS-3324SRi/DXS-3350SR/DXS-3326GSR?

Warning:
The example configuration below was created from a factory default configuration on the DGS-3324SR/DGS-3324SRi/DXS-3350SR/DXS-3326GSR switches. We recommend saving your current configuration if necessary.

Scenario:
This configuration example shows a Layer 3 configuration on two DGS-3324SR switches. It can also apply to the DGS-3324SRi, DXS-3350SR, and DXS-3326GSR switches as well. Each switch has different subnets. Now, in order to allow the subnets on the switches to communicate with each other, Static Routes need to be configured in both devices so that:

1) Networks at DGS-3324SR_1 (ie, Net2, Net3) can ping Networks at DGS-3324SR_2 (Net4, Net5)
2) Networks at DGS-3324SR_2 (ie, Net4, Net5) can ping Networks at DGS-3324SR_1 (Net2, Net3)

The principle is that the packets with the destination to the "remote network" will be based on the static route entries in the switch to route the packet to the "remote Switch", and then to the "remote network." This configuration example is based on firmware version 4.10b15.

Switch CLI Configuration:

Step 1 Connect to the DGS-3324SR_1 switch using the console connection with your preferred Terminal emulation software.

Step 2 Once connected to the CLI, login at the username and password prompt (The default is username is <blank> and password is <blank>).

Step 3 At the prompt, enter the following command:

```
reset system
```

Enter 'y' when prompted to confirm the factory reset. The switch will now reboot with the factory default settings.

Step 4 Login to the switch again.

Step 5 In the DGS-3324SR_1 switch CLI, enter the following commands to create the switch VLANs and related IP interfaces for Net1, Net2 and Net3 on the DGS-3324SR_1 switch.

```
config vlan default delete 1:1-1:24
create vlan v101 tag 101
config vlan v101 add untagged 1:1-1:8
create ipif net1 192.168.1.253/24 v101 state enabled

create vlan v102 tag 102
config vlan v102 add untagged 1:9-1:16
create ipif net2 192.168.2.254/24 v102 state enabled

create vlan v103 tag 103
config vlan v103 add untagged 1:17-1:24
create ipif net3 192.168.3.254/24 v103 state enabled
save
```

Step 6 Enter the following commands on the DGS-3324SR_1 switch to add the Static Route entries for the 192.168.4.0/24 and 192.168.5.0/24 subnets.

```
create iproute 192.168.4.0/24 192.168.1.254
create iproute 192.168.5.0/24 192.168.1.254
save
```

Step 7 Repeat **Step 1** to **Step 4** for the DGS-3324SR_2 switch.

Step 8 Once logged into the DGS-3324SR_2 switch CLI, enter the following commands to create the switch VLANs and related IP interfaces for Net1, Net4 and Net5 on the DGS-3324SR_2 switch.

```
config vlan default delete 1:1-1:24
create vlan v101 tag 101
config vlan v101 add untagged 1:1-1:8
create ipif net1 192.168.1.254/24 v101 state enabled

create vlan v104 tag 104
config vlan v104 add untagged 1:9-1:16
create ipif net4 192.168.4.254/24 v104 state enabled

create vlan v105 tag 105
config vlan v105 add untagged 1:17-1:24
create ipif net5 192.168.5.254/24 v105 state enabled
save
```

Step 9 Enter the following commands on the DGS-3324SR_2 switch to add the Static Route entries for the 192.168.2.0/24 and 192.168.3.0/24 subnets.

```
create iproute 192.168.2.0/24 192.168.1.253
create iproute 192.168.3.0/24 192.168.1.253

show iproute
save
```

Testing the Configuration:

1. Perform a ping test from a Net2 PC to a Net5 PC at the remote switch.
2. Perform a ping test from a Net3 PC to a Net4 PC at the remote switch.

Verify Configuration:

Below is a list of commands that can be used to verify the configuration and are useful for diagnostics:

```
show iproute
```

Below are the screen outputs for the above commands in this example. For more related CLI commands please refer to the CLI reference manual for your switch model.

```
DGS-3324SR:4#show iproute
Command: show iproute


Routing Table

IP Address/Netmask  Gateway          Interface    Cost      Protocol
------------------  ---------------  ------------  --------  --------
192.168.1.0/24      0.0.0.0          net1         1         Local
192.168.2.0/24      0.0.0.0          net2         1         Local
192.168.4.0/24      192.168.1.254    net1         1         Static
192.168.5.0/24      192.168.1.254    net1         1         Static

Total Entries : 4
```