

# GNS3 CCENT Lab Breakdown

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Number of Exercises: 1

Approximate Lab Time: 1.5 - 2 Hours

Level of difficulty: 7

Diagram(s) Used:

CCENT.net

Primary Objectives:

- 1) Basic setup of all Cisco routers
- 2) Configure all Cisco routers for SSH support
- 3) Configure IP connectivity and RIP routing support for Cisco network
- 4) Configure SDM support on all routers

Secondary Objectives:

- 1) None

Before You Begin:

<go here>

## Exercise 1: Network Office Configuration

### Primary Objectives:

1. **Basic Setup.** On each router in your network, configure the following:
  - A) Accurate hostname (RouterX)
  - B) Domain name of gns3labs.com
  - C) Enable secret password as **cisco**
  - D) Console, aux, and vty lines to use a password of **cisco**
  - E) Console and vty ports with the correct command to prevent terminal messages from interrupting your typing
  - F) The following logon banner on all routers:

```
*****  
  
Unauthorized access prohibited  
  
*****
```
  - G) Encrypt all clear-text passwords on the router
  
2. **SSH Setup.** Configure each router in your network to only allow SSH access. Use the following SSH settings:
  - A) Username / Password: netadmin / cisco
  - B) Domain name: gns3labs.com
  - C) Crypto key: RSA, 1024-bit
  - D) SSH version: 2
  - E) Allowed protocols: telnet & ssh
  
3. **IP Configuration.** Configure each interfaces shown in the GNS3 lab diagram, with the correct IP address. In addition, perform the following tasks:
  - A) Encapsulation on all WAN interfaces should be PPP
  - B) Add two additional loopback interfaces to each router with the following criteria:
    1. Loopback 1: IP address: 172.16.X0.1/24 (where X is router number)
    2. Loopback 2: IP address: 172.16.X1.1/24 (where X is router number)

4. **RIP / Static Routing.** Configure each of the routers (except Router3) in the network to use the RIP routing protocol with the following configuration:

C) RIP Configuration:

1. RIP Version: 2
2. RIP runs on ALL interfaces (including loopbacks)

D) Static Routes:

1. Configure static routes on R0, R1, and R2 allowing these routers to reach the network behind R3
2. Configure a default route on R3 pointing to 172.16.1.9 (R1)

E) Router "hosts"

1. Disable IP routing on HostA, HostB, and HostC (**no ip routing**)
2. Configure these "hosts" with an accurate default gateway (**ip default-gateway**)

F) Testing

1. Test connectivity by pinging or telnetting to any interface in your network from HostA, HostB, or HostC

5. **SDM Configuration.** Enable support for the SDM graphic interface by adding the following configuration:

A) Enable the HTTP and HTTPS web services on the router

B) Configure HTTP authentication to use the local user database

C) Configure the VTY lines of your router to allow privilege level 15 authentication