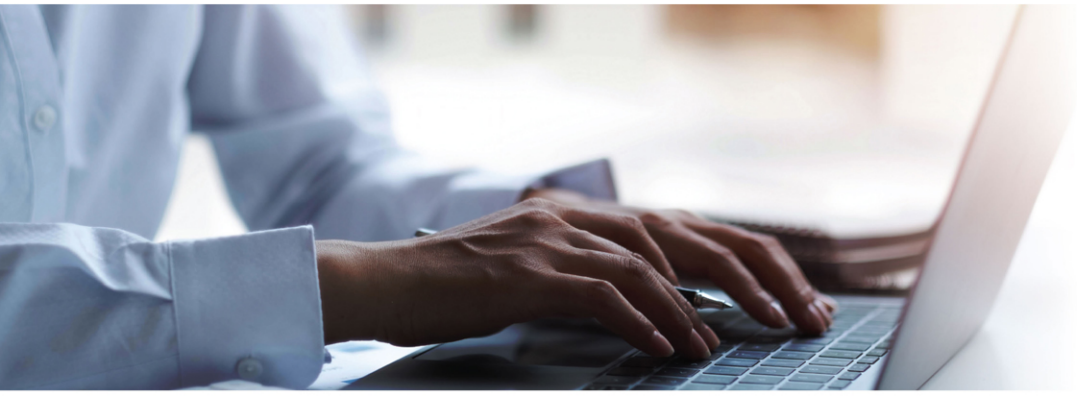
PEARSON IT CERTIFICATION



Practice Tests

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Advance your IT career with hands-on learning

Red Hat RHCSA 9 (EX200)

SANDER VAN VUGT

Red Hat RHCSA™ 9 Cert Guide

EX200

Sander van Vugt

End-of-Chapter Lab

For exercises in later chapters in this book, it is recommended to have a test environment in which at least two servers are present. To do the exercises in this lab, make sure that you have a second server installed.

Lab 8.1

1. If you didn't do so earlier, set up the first server to use the FQDN **server1.example.com**. Set up the second server to use **server2.example.com**.
2. On server1.example.com, use **nmtui** and configure your primary network card to automatically get an IP address through DHCP. Also set a fixed IP address to **192.168.4.210**. On server2, set the fixed IP address to **192.168.4.220**.
3. Make sure that from server1 you can ping server2, and vice versa.
4. To allow you to access servers on the Internet, make sure that your local DHCP server provides the default router and DNS servers.

The following topics are covered in this chapter:

- Managing Software Packages with **dnf**
- Using **dnf**
- Managing Package Modules
- Managing Software Packages with **rpm**

The following RHCSA exam objective is covered in this chapter:

- Install and update software packages from Red Hat Network, a remote repository, or from the local file system

Managing Software

Managing software packages is an important task for an administrator of Red Hat Enterprise Linux. In this chapter, you learn how to manage software packages from the command line by using the **dnf** utility. You also learn which role repositories play in software management with **dnf**. Next, we cover working with Package Modules, a solution that makes it possible to work with the specific version packages that you need in your environment. In the last part of this chapter, you learn how to manage software with the **rpm** command, which is useful to query new and installed software packages.

"Do I Know This Already?" Quiz

The "Do I Know This Already?" quiz enables you to assess whether you should read this entire chapter thoroughly or jump to the "Exam Preparation Tasks" section. If you are in doubt about your answers to these questions or your own assessment of your knowledge of the topics, read the entire chapter. Table 9-1 lists the major headings in this chapter and their corresponding "Do I Know This Already?" quiz questions. You can find the answers in Appendix A, "Answers to the 'Do I Know This Already?' Quizzes and Review Questions."

Table 9-1 "Do I Know This Already?" Section-to-Question Mapping

Foundation Topics Section	Questions
Managing Software Packages with **dnf**	1–4
Using **dnf**	5
Managing Package Modules	6–7
Managing Software Packages with **rpm**	8–10

1. Which of the following is *not* a mandatory component in a .repo file that is used to indicate which repositories should be used?
   a. [label]
   b. name=
   c. baseurl=
   d. gpgcheck=

2. Which installation source is used on RHEL if a server is not registered with Red Hat?
   a. The installation medium is used.
   b. No installation source is used.
   c. The base Red Hat repository is used, without updates.
   d. You have full access to Red Hat repositories, but the software you are using is not supported.

3. Which of the following should be used in the .repo file to refer to a repository that is in the directory /repo on the local file system?
   a. file=/repo
   b. baseurl=file://repo
   c. baseurl=file:///repo
   d. file=http:///repo

4. Which of the following is true about GPG-based repository security?
   a. If packages in the repository have been signed, you need to import the GPG key while installing packages from the repository for the first time.
   b. GPG package signing is mandatory.
   c. GPG package signatures prevent packages in a repository from being changed.
   d. GPG package signing is recommended on Internet repositories but not required on local repositories that are for internal use only.

5. Which command enables you to search the package that contains the file semanage?
   a. **dnf search seinfo**
   b. **dnf search all seinfo**
   c. **dnf provides seinfo**
   d. **dnf whatprovides */seinfo**

6. Which **dnf** module component allows you to work with different versions side by side?
   a. Application profile
   b. Application stream
   c. Module version
   d. RPM group

7. Which of the following commands allows you to install the devel profile of the PHP 8.1 application stream?
   a. **dnf module install php:8.1 devel**
   b. **dnf module install php:8.1 --devel**
   c. **dnf module install php:8.1/devel**
   d. **dnf module install php:8.1@devel**

8. Which command should you use to install an RPM file that has been downloaded to your computer?
   a. **dnf install**
   b. **dnf localinstall**
   c. **rpm -ivh**
   d. **rpm -Uvh**

9. Which command enables you to find the RPM package a specific file belongs to?
   a. **rpm -ql /my/file**
   b. **rpm -qlf /my/file**
   c. **rpm -qf /my/file**
   d. **rom -qa /my/file**

10. Which command enables you to analyze whether there are scripts in an RPM package file that you have just downloaded?
    a. **rpm -qs packagename.rpm**
    b. **rpm -qps packagename.rpm**
    c. **rpm -qp --scripts packagename.rpm**
    d. **rpm -q --scripts packagename.rpm**

Foundation Topics

Managing Software Packages with dnf

The default utility used to manage software ***packages*** on Red Hat Enterprise Linux is **dnf**. ***dnf*** is designed to work with repositories, which are online depots of available software packages. In this section, you learn how to create and manage repositories and how to manage software packages based on the contents of the repositories.

Understanding the Role of Repositories

Software on Red Hat Enterprise Linux is provided in the ***Red Hat Package Manager (RPM)*** format. This is a specific format used to archive the package and provide package metadata as well.

When you are working with software in RHEL, ***repositories*** play a key role. Working with repositories makes it easy to keep your server current: The maintainer of the repository publishes updated packages in the repository, and the result is that whenever you use the **dnf** command to install software, the most recent version of the software is automatically used.

Another major benefit of working with **dnf** is the way that package dependencies are dealt with. On Linux (as on most other modern operating systems), software packages have dependencies. This means that to be able to use one package, other packages may have to be present as well. Without using repositories, that would mean that these packages have to be installed manually.

The repository system takes care of resolving dependencies automatically. If a package is going to be installed, it contains information about the required dependencies. The **dnf** command then looks in the repositories configured on this system to fetch the dependencies automatically. If all goes well, the installer just sees a short list of the dependencies that will be installed as a ***dependency*** to install the package. If you are using RHEL with the repositories that are provided for registered installations of RHEL, there is no reason why this procedure should not work, and the attempts to install software will usually succeed.

While installing RHEL 9, it asks you to register with the Red Hat Customer Portal, which provides different repositories. After registering, you can install software packages that are verified by Red Hat automatically. If you choose to install RHEL without registration, it cannot get in touch with the Red Hat repositories, and you end up with no repositories at all. In that case, you have to be able to configure a repository client to specify yourself which repository you want to use.