

NETWORK SECURITY

CHAPTER 1 : SECURING NETWORKS

INTRODUCTION

Welcome to the Network Security course. This course provides an introduction to the core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of enterprise data.

These course materials will assist you in developing the skills necessary to do the following:

- Describe the security threats facing modern network infrastructures.
- Secure Cisco devices.
- Secure the network infrastructure.
- Implement AAA on Cisco routers using a local router database and external AAA servers.
- Mitigate threats to Cisco routers and networks using access control lists (ACLs).
- Implement secure network design, management, and reporting.
- Implement the Cisco IOS firewall feature set.
- Mitigate common Layer 2 attacks.
- Implement a site-to-site VPN.
- Implement a remote access VPN.

STUDENT RESOURCES

There are many tools and resources that are available to you that will help you in your journey as you develop your network security skills and prepare for job opportunities.

Packet Tracer

Packet Tracer simulates the internal workings of a network and is used in this course. Download and install the latest version of Packet Tracer here: [Packet Tracer Resources](#).

If you are new to Packet Tracer, take this FREE, short, online course now: [Introduction to Packet Tracer Course](#).

You can use your smartphone, tablet, or computer to access your course; however, Packet Tracer activities, as well as some other activities, quizzes, and exams are best experienced using a computer.

Join Our Communities

Connect with and get help from other Networking Academy students from around the world with our [Cisco Networking Academy Facebook page](#).

Network with your peers at our [Cisco Networking Academy LinkedIn page](#).

Get a Job!

Access [Career Resources](#) specifically tailored to help NetAcad students to be successful in the workplace.

Find great job opportunities with Cisco and Cisco partners. Register now with [Talent Bridge](#).

Getting industry certification is a guarantee to employers that you have the technical skills to do the job. Check out our [Certifications and Vouchers](#) page.

More Courses

Choose a course, practice what you learn, and become an IT professional. Check out our [Course Catalog](#)

ETHICAL HACKING STATEMENT

The Cisco Networking Academy Program is focused on creating the global problem solvers needed to build, scale, secure, and defend the networks that are used in our businesses and daily lives. The need for well-trained network security specialists continues to grow at an exponential rate. Training to become a network security specialist requires in-depth understanding and exposure to how network attacks occur, as well as how they are detected and prevented. These skills will naturally also include learning about the techniques that threat actors use to circumvent computer and network security.

Unauthorized access to data, computer, and network systems is a crime in many jurisdictions and often is accompanied by severe consequences, regardless of the perpetrator's motivations. It is the learner's responsibility, as the user of this material, to be cognizant of and compliant with computer use laws.

INCLUSIVE LANGUAGE

Cisco Networking Academy's purpose is to power an inclusive future for all. With our purpose at the heart of everything we do, you can count on Cisco to be bold, brave and deliberate about our role and the actions we will take in support of social justice.

We are proud to join the technology community in evolving the language we use. Rethinking the words we use is just one of the ways to reduce barriers to equity and respect. As a matter of policy, Cisco Networking Academy content should be free of offensive or suggestive language, graphics, and scenarios. We are changing terms, as noted below, to more appropriate alternatives.

Term/Phrase	Replacements
master/slave	primary/secondary OR primary/subordinate OR control/data (for clustering)
whitelist/blacklist	permit (list)/block (list) OR allow (list)/block (list)

You may still see industry terms such as "black hat" in the course curriculum. Our team is working to modify these terms, as well.

CURRENT STATE OF AFFAIRS