





FULL STACK NETWORK ENGINEER

BASIC TRAINING

The Full Stack Network Engineer Basic Training Program is designed to jumpstart and accelerate your IT Career with a hands-on approach to technical education with career mentorship. Through this program, students will understand what it takes to become a network or systems engineer and learn the skills needed to be effective in the workforce across the full stack of networking technologies.

WEEK	1	2	3	4	5	6
Course Work	Full Stack Network Associate Course			Cisco Certified Network Associate (CCNA) 200-301		
Description	Plan out your path in Network Engineering, and learn the skills needed to become job-ready! To begin, you will dissect the IT Industry, learn the available career options and build your career plan. You will then be guided through the most important foundational concepts and technical skills necessary to get started with full-stack networking. Get ready to skyrocket through the IT Industry and become a rockstar engineer!			The Cisco Certified Network Associate (CCNA) certification is one of the strongest associate level IT certifications in the world and proves your ability to install, configure, operate and troubleshoot enterprise networks and Cisco IOS. CCNA certified professionals understand the most core and fundamental technologies related to network engineering, and are versed in the configuration and installation of Cisco routers and switches in a broad range of IT environments. In this course students are presented with a series of premium instructional videos and hands-on labs that teach all the knowledge and skills needed to pass the 200-301 CCNA exam, obtain your CCNA certification, and get on your path to becoming a rockstar engineer!		
What You'll Learn	<p>GETTING STARTED IN YOUR IT CAREER You will begin with gaining insights into becoming a Network Engineer and understanding your career path options, and then you will move into understading the overarching IT architectures that every engineer needs to know!</p>			<p>NETWORK FUNDAMENTALS RELATED TO CISCO NETWORKING You will learn all of the foundational network concepts found on the CCNA exam. In this section we will review network components such as routers, switches, firewalls, access-points, endpoints, servers and controllers. We will also cover topologies here as well as physical cabling and important protocols such as TCP and UDP. To wrap up and complete the network fundamentals module we will discuss operating systems and also the fundamentals of virtualization!</p>		
	<p>IT & NETWORK ESSENTIALS You will dive into the most fundamental and foundational technical concepts to understand information technology and networking systems. We will cover networking basics, The OSI Model, Ethernet and VLANs, TCP & UDP, Topolgies, cabling systems, network devies, IP addressing, subnetting, and routing and switching!</p>			<p>NETWORK ADDRESSING & MODELS In this section we will thoroughly break down layer 2 and layer 3 addressing with MAC, IPv4 (addressing & subnetting), and IPv6. We will also look at addressing from the aspect of the Transport layer, how all of this network communication fits into a standard reference model and where we get these terms called layers.</p>		
	<p>IP ADDRESSING & SUBNETTING Here we will deconstruct the worlds of IP Addressing and subnetting providing you with the easiest method for subnetting both Class C and Class B default networks. After full understanding IPv4 we will also introduce you to the world of IPv6!</p>			<p>NETWORK ACCESS In this section we begin our dive into Cisco IOS configurations with LAN technologies such as VLANs, Trunking, layer 2 discovery protocols, port aggregation with EtherChannel/LACP, and Spanning-Tree Protocol. We will also look at Cisco Wireless Architectures, WLAN infrastructure, Wireless LAN Controllers, and WLAN setup and configuration to wrap up the LAN technologies that provide our clients with access to the network!</p>		
	<p>ETHERNET, LANS, & SWITCHING You will learn all about switching and making sure you understand core switching knoweldge with Ethernet, Spanning-Tree, VLANs, cabling, and power. In this module you will also learn how to make your own cables for Ethernet!</p>			<p>IP CONNECTIVITY In this module we will move into configuring our routers and learn all about the core routing related concepts such as routing tables, static routing and routing protocols. We will configure routers to route dynamically within the autonomous system with Open Shortest Path First version 2 (OPSFv2) and learn how we an create routing redundancy in the LAN with first hop redundancy.</p>		
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	<p>FULL STACK NETWORKING CONCEPTS Building upon everything learned thus far, now you will dive into network security, wireless networking, voice over IP and virtualization to give a perspective on the knowledge of a Full Stack Network Engineer!</p>			<p>SECURITY FUNDAMENTALS With the exponential growth of networked devices and internet connectivity, security has become an essential part of all IT infrastructures as all modern computer systems are networked and connected. Any connected system can be hacked, so all network engineers must understand key security concepts and industry standard security implementations. In this module you will learn all about these topics and also how to create secure networked connectivity with site to site VPNs and enhance security on the LAN with technologies such as DHCP snooping, ARP inspection, and port security.</p>		
	<p>REAL WORLD NETWORK ENGINEERING Expand your knowledge into the real-world architectures as presented by Cisco Systems. In this module you will also expand into thinking like an engineer and get a very thorough over view of many different software tools used by real-world engineers!</p>			<p>AUTOMATION AND PROGRAMMABILITY In this module you will learn about automated networking and device management using controller-based systems such as Cisco DNA center. In addion, we will dive into the internal network device architectures that can be conrolled with controller-based and software-defined networking. We will also discuss REST-based API (CRUD, HTTP vers, and data encoding) as it pertains to network automation and programmability as well as configuration management mechnisms such as Puppet, Chef, and Asible.</p>		
	<p>FULL STACK NETWORK ASSOCIATE Build labs and practice your configuration skills with Full Stack Networking. Build out common networking designs and deploy fundamental topolobies using Cisco IOS. Gain all the practice on real-world skills that you need before performing your Skills Qualification Check and obtaining your Full Stack Network Associate-Basic Certification!</p>			<p>EXAM PREPARATION You will learn how to prepare for the CCNA certification exam. We will supply testing information to help you focus on your studies, a practice exam, and information on how to get your exam scheduled. It's time to knock out that exam and become CCNA certified.</p>		
	<p>FSNA CERTIFICATION: LEVEL UP! Get ready to become certified! In this module you will perform your FSNA certification skills check and learn what it takes to level up further and get started in your tehcnical career!</p>					
Tools You'll Use	Cisco IOS Command Line, Cisco Packet Tracer, terminal emulators, packet sniffer, port scanner, Windows and Mac command line tools, route tracing, looking glass sites, virtualization software, password managers, note takers, text editors, screen cap tools, text comparators, TFTP and FTP server/client and syslog servers			Cisco IOS Command Line and Cisco Packet Tracer. Practice-Labs for addtional lab simiulation, and an Exam-Prep tool for simulating exam questions and answers to get you ready for your exam!		
Live Coaching	Weekly coaching for self paced programs, 10 hours of live weekly instruction for part-time programs, and 20 hours of live weekly instruction for full-time programs. During training students also work with our Career Services team for professional career coaching, technical and behavioural practice interviews, and professional career maps and guidance check-ins.					
Certiifiacion earned						

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	Live Coaching	Weekly coaching for self paced programs, 10 hours of live weekly instruction for part-time programs, and 20 hours of live weekly instruction for full-time programs. During training students also work with our Career Services team for professional career coaching, technical and behavioural practice interviews, and professional career maps and guidance check-ins.											
	Certiifiacion earned	