

Cisco Certified Network Associate (CCNA 200-301)

6-Week Practical Training Programme

3 classes per week · 60–90 minutes per class · 18 classes total

21–27 instruction hours + 5–7 hours per week lab practice

Live online · taught in English · open worldwide

A build-it-yourself route through the CCNA 200-301 blueprint. Every class is spent in a running topology — you type the configuration, break it, and fix it. The programme finishes with exam technique and the freelancing and interview work that turns the certificate into paid work.

WEEK 1			
Build the Lab and Learn the Ground			
Stand up a working multi-device network and become fluent in the IOS command line.			
CLASS	TOPIC	TOOLS USED	WHAT YOU BUILD
1	Build your CCNA lab Install and compare the three free options, then build the topology every later class runs on: routers, switches, PCs and servers.	Cisco Packet Tracer, Cisco CML free tier, GNS3, EVE-NG	→ A 2-router, 2-switch, 4-host topology where every device pings every other.
2	IPv4 addressing and subnetting Binary, masks, VLSM and the mental shortcuts that let you subnet without a calculator — the single most-tested skill on the exam.	Subnetting drills, ipcalc, Packet Tracer addressing	→ Carve one /24 into five VLSM subnets for a given brief and address the whole lab from it.
3	The IOS CLI, interfaces and cabling User/privileged/config modes, interface addressing, show commands, saving configuration, and password recovery when you lock yourself out.	Cisco IOS CLI, console/SSH, show run, copy run start	→ Configure hostnames, IPs and SSH on every device, save it, then recover a router you locked yourself out of.

WEEK 2

Switching and VLANs

Segment a flat network properly and keep the switching loops out of it.

CLASS	TOPIC	TOOLS USED	WHAT YOU BUILD
4	VLANs and access ports Why one broadcast domain is a problem, how VLANs fix it, and what actually happens to a frame as it crosses a switch.	Cisco IOS, show vlan brief, show mac address-table	→ Split one switch into three VLANs and prove hosts in different VLANs cannot reach each other.
5	Trunking, 802.1Q and native VLAN Carrying many VLANs down one link, DTP, allowed-VLAN lists, and the native-VLAN mismatch that silently breaks traffic.	switchport mode trunk, 802.1Q, show interfaces trunk, Wireshark	→ Trunk two switches, capture a tagged frame in Wireshark and read the VLAN ID out of it.
6	Spanning Tree and EtherChannel Rapid PVST+, root bridge election, PortFast and BPDU Guard, then bundling links with LACP.	RSTP, spanning-tree portfast/bpduguard, LACP, show etherchannel	→ Cause a switching loop on purpose, watch RSTP block the port, then bundle two links into one EtherChannel.

WEEK 3

Routing

Move traffic between networks — by hand, dynamically, and between VLANs.

CLASS	TOPIC	TOOLS USED	WHAT YOU BUILD
7	Static and default routing The routing table, longest-prefix match, administrative distance, next-hop vs exit-interface, and floating static routes.	ip route, show ip route, traceroute, ping	→ Route three networks statically, then add a floating static backup and fail the primary link to watch it take over.
8	OSPFv2 single-area Neighbours, hello/dead timers, router IDs, network types, passive interfaces, and the cost metric.	router ospf, show ip ospf neighbor, show ip protocols, debug ip ospf adj	→ Bring up OSPF across three routers and watch the adjacency form, then break it with a timer mismatch and diagnose it.
9	Inter-VLAN routing and first-hop redundancy Router-on-a-stick, Layer 3 switch SVIs, and HSRP so a dead gateway does not take the office offline.	subinterfaces, SVIs, ip routing, HSRP, show standby	→ Route between VLANs on a Layer 3 switch, then fail the active HSRP gateway while a ping runs and count the lost packets.

WEEK 4

IP Services and IPv6

The services every real network runs on, plus addressing that is no longer optional.

CLASS	TOPIC	TOOLS USED	WHAT YOU BUILD
10	DHCP, DNS and NAT/PAT Pools, exclusions, relay (ip helper-address), and how one public address serves a whole office.	ip dhcp pool, ip helper-address, NAT/PAT, show ip nat translations	→ Hand out addresses by DHCP across a router, then PAT the whole LAN behind one public IP and read the translation table.
11	IPv6 addressing and routing Address types, EUI-64, SLAAC, link-local, and running dual-stack alongside IPv4.	ipv6 unicast-routing, SLAAC, show ipv6 interface brief, ping ipv6	→ Dual-stack the lab so every host reaches every other over both IPv4 and IPv6.
12	Access control lists Standard vs extended, wildcard masks, direction and placement, and the implicit deny that catches everyone out.	access-list, ip access-group, show access-lists, named ACLs	→ Write an extended ACL that permits web and DNS but blocks everything else, and prove each rule with a test.

WEEK 5

Security, Wireless and Automation

Harden the kit, run a wireless network, and stop configuring devices one at a time.

CLASS	TOPIC	TOOLS USED	WHAT YOU BUILD
13	Device hardening and Layer 2 security AAA basics, SSH-only management, port security, DHCP snooping and dynamic ARP inspection.	switchport port-security, ip dhcp snooping, ARP inspection, SSH, Syslog, NTP	→ Lock a switch port to one MAC and trigger the violation, then block a rogue DHCP server with snooping.
14	Wireless networking WLAN architecture, autonomous vs controller-based APs, SSIDs, WPA2/WPA3, and configuring a WLC.	Wireless LAN Controller (Packet Tracer), WPA2/WPA3, RF basics	→ Build a WLAN on a controller, join a client to it and place its traffic in the right VLAN.
15	Automation and programmability Why the CLI is not the future: REST APIs, JSON, controller-based networking, and configuring devices from a script.	Python, REST APIs, JSON, Postman, Ansible, Cisco DNA Center concepts	→ Pull device data over a REST API and push the same config to three routers from one Python script.

Troubleshooting, Exam and Getting Paid

Prove you can fix a network you did not build, pass the exam, and turn the skill into work.

CLASS	TOPIC	TOOLS USED	WHAT YOU BUILD
16	Full build and timed troubleshooting An unseen broken topology on the clock: a structured method that finds the fault instead of guessing at it.	Everything from weeks 1–5, show/debug, traceroute	→ Repair a network with five deliberate faults in it and write down the method you used for each.
17	CCNA 200-301 exam preparation Blueprint coverage check, question types, sim and simlet technique, time management, booking and what exam day looks like.	Mock exam bank, Cisco blueprint, Pearson VUE booking walkthrough	→ Sit a full timed mock exam and leave with a written plan for the domains you dropped marks in.
18	Job-ready skills and freelancing CV and LinkedIn written around the labs you built, interview drills on the questions that are actually asked, and where network work is sold.	LinkedIn, CV template, Fiverr, Upwork, interview question bank	→ A published portfolio of your lab topologies, a finished CV, and a live freelance profile with your first gig listed.

What you leave with. A lab you can rebuild from scratch, eighteen documented configurations, a network design portfolio, a mock-exam score with a gap plan, a CV and LinkedIn profile written around real work, and a live freelance profile. The certificate is the paperwork; this is the evidence.

Freelancing and career support. Network design and documentation, Packet Tracer and GNS3 lab building, device configuration and small-office setup are all sold on Fiverr and Upwork, and the last class covers pricing, scoping and client handover for each. Interview preparation, CV review and LinkedIn positioning are included, and the TechBiz Academy internship track is open to students who complete the programme.

Requirements. A computer with 8 GB RAM or more and roughly 40 GB free disk space, plus a stable internet connection. Cisco Packet Tracer is free with a Networking Academy account and is enough for every class; GNS3 and the Cisco CML free tier are shown as alternatives. No physical Cisco hardware is needed and there is no additional software cost.

Exam. The programme targets Cisco exam 200-301 (CCNA). The exam fee is paid to Cisco through Pearson VUE and is not included in the course fee. Class 17 covers booking, exam-day process and a full timed mock exam under real conditions.