Virtualization, Containers & Networking

Career Transformation Guide (2024 v1)

Careers-Salaries-Certifications-Publications-Forums

Success awaits you

Online Learning Central

Executive Summary

The mission of the **Online Learning Central** is to equip IT professionals worldwide across Cloud, Virtualization, Software Development and Networking disciplines to achieve their career goals by offering them best in-class Training and Certification programs from both vendors and third party training companies. Key vendors include VMware, Citrix, Cisco, Google, Juniper, IBM, Microsoft and beyond. Major training and certification bodies cited herein include Coursera, EDx, FreeCodeCamp, Udacity, Udemy, Ed2go, Edureka, InformIT, Pearson IT, Pluralsight and Simplilearn as well as the Linux Foundation.

The updated **Virtualization, Containers and Networking - Career Transformation Guide** (2024 v1) includes valuable information that enables you to accelerate your career growth and income potential. - Career opportunities, Salaries (demand and growth), Certifications and Training programs, Publications and Portals along with Professional Forums and Communities. The Certification and Training programs are categorized by Virtualization, Containers and Networking. Leading vendors include Cisco, Citrix, Docker, Kubernetes (Cloud Native Computing Foundation), Oracle and IBM-Red Hat.

The Global Knowledge 2021 IT Skills and Salary Report includes three positions from the virtualization, containerization and networking domains among its Top 15 Certification list: Rank #10 - VCP-DVC - VMware Certified Professional - Data Center Virtualization ($132,947), Rank #13 - CCNP Enterprise - Cisco Certified Network Professional - Enterprise ($118,911), and Rank #14 - CCA-V - Citrix Certified Associate - Virtualization ($115,308).

Indeed.com's database currently lists 29, 828 "virtualization" positions across the US. Moreover, ZipRecruiter now reports some 1,028,899+ Software Engineer positions (of all languages and functions) nationwide. Glassdoor reports the average Software Developer in New York City earns on average $104,907 salary at $97,763 and Network Engineer earns $87, 248 across the US.

There are three critical success factors in our career transformation model. First, Get Certified. Professionals with best in-class skill sets combined with industry-leading certifications advance more rapidly than your peers and typically earn 5%-10% above their colleagues. Second, Get Published. Relevant, succinct and insightful articles on best practices in your technical domain or functional discipline enhance your credibility and integrity. And third, Get Connected. Developing and maintaining a robust professional network - locally and globally - bolsters your career persona and positions you as the "go to" subject matter expert (SME-Domain expert) in your field.

Success awaits you. So let's begin!

I - Careers

Below are the most credible and popular sites for software developer and system administrator career opportunities including job openings and long-term career paths.

- Cisco
- Citrix
- Dice
- Docker
- Educba
- Foss
- GlassDoor
- Indeed
- Linux Foundation
- Linux Training Academy
- OpenSource
- Red Hat
- SimplyHired
- VMware
- ZipRecruiter

II - Salaries

Virtualization of operating systems, networks, and databases along with the emergence of containerization translate into high growth and demand for certified IT professionals. And while demand for traditional networking hardware has waned in recent years, Software-Defined Networks continue to expand leading to new career and income opportunities.

While there is a vast array of IT "titles" across these domains the core underlying functional roles remain largely intact:

- Software Architect
- Software Developer
- Software Programmer
- Network Engineer
- DevOps Administrator
- Systems Administrator

The Global Knowledge 2021 IT Skills and Salary Report includes three positions from the virtualization, containerization and networking domains among its Top 15 Certification list:

As of 2022 the three highest ranking “VCN” positions with the highest salaries according to Global Knowledge (since then acquired by Skillsoft) were:

- VCP-DVC - VMware Certified Professional - Data Center Virtualization ($132,947)
- CCNP Enterprise - Cisco Certified Network Professional - Enterprise ($118,911)
- CCA-V - Citrix Certified Associate - Virtualization ($115,308)

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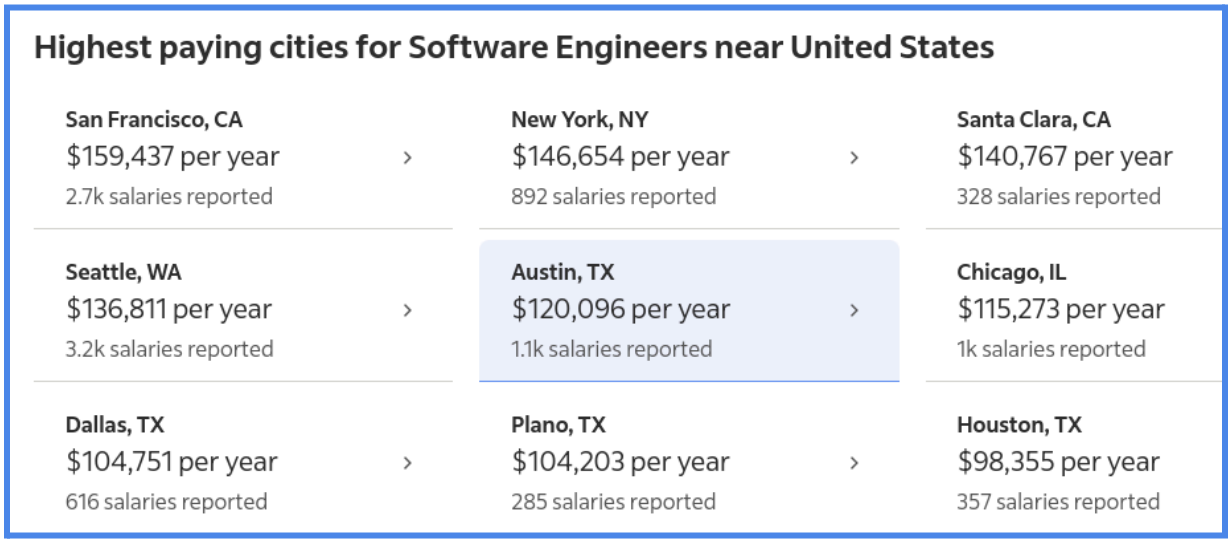
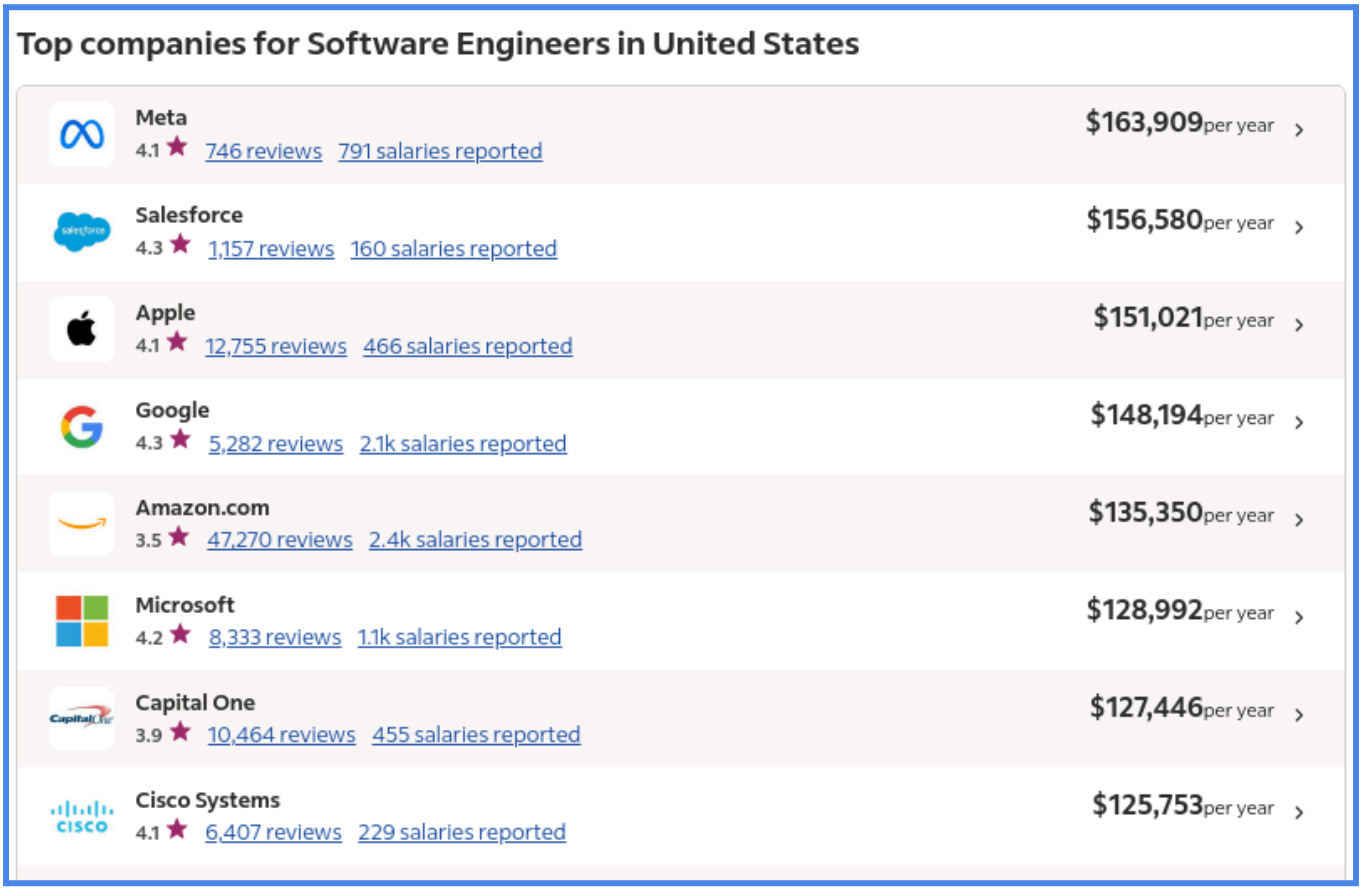
Salary.com estimates average Software Developer salaries in the US at $97,763 USD.

Software Engineer Salaries by Location (2024)



Software Engineer Salaries by Company



(Source: Indeed.com, 2024)

Our baseline assumptions are that salaries in the virtualization, containerization and networking domains vary by Location, Experience Level and Certification. Domestically, New York City and the San Francisco Bay Area (including Silicon Valley) command the highest salaries geographically. Globally, London, Tokyo and Singapore also rank high geographically.

Experience level (e.g. domain expertise - junior, mid or advanced career) also play a major role in salaries plus other forms of compensation including stock options. Finally, our long-held assertion is that an IT professional who holds a well-recognized certification (in terms of both the technical domain and a credible attestation body like Cisco Systems) receives 3%-5% higher salary than their non-certified peers.

Virtualization and containerization are clearly on the upward slope of the market adoption curve. This leads to fundamental conclusions:

1. Continued high demand for well trained and certified "V & C" professionals over the coming 1-2 decade time horizon.
2. The duration of the "V & C" era will largely be dictated by the scope and breadth of applications - from traditional infrastructure applications such as CRM and as well as emerging technologies such as artificial intelligence and machine learning moving to cloud environments.
3. Networking infrastructure - including network security - however crucial to enterprise IT capabilities continues to become more commoditized as are Software Defined Networks (SDNs). Career and income potential remain stable.

Networking hardware, and the IT expertise needed to maintain IT, equate to long-term stable demand for Network Engineers. Network Computing reports that "2023 IT Pay Holds Steady Despite Economic Pressures and AI Boom". According to the NetworkWorld 2021 IT Salary Survey projected, security and cloud computing will outpace growth in the networking field. Nevertheless, the unceasing demand for bandwidth from 5G adoption and beyond are promising signs for networking professionals. Those professionals with industry leading training and certification will be well rewarded.

(Note: Download the complementary **"Skillsoft IT Skills and Salary Report - 2023"** here).

III - Certification & Training

Virtualization

AWS Certified DevOps Engineer (Professional): SDLC Automation; Configuration Management and Infrastructure as Code; Monitoring, Logging; Policies, Standards Automation; Incident, Event Response, High Availability, Fault Tolerance, and Disaster Recovery. The material focuses on teaching the concepts necessary to pass the exam and be competent as a DevOps practitioner on AWS. Learn to perform DevOps tasks on AWS, use SDLC automation to solve DevOps problems on AWS, perform Monitoring tasks on the AWS platform, use IaC (Infrastructure as Code) to deploy new environments, and optimize your score on the AWS DevOps Certification exam for the best outcome. {Inform IT}

Citrix MetaFrame XP: A System Administrator's Guide to Citrix MetaFrame XP: Comprehensive administrator's guide to deploying applications using thin-client technology. It includes coverage of all aspects of planning, installing, administering and troubleshooting a Windows Terminal Services and Citrix MetaFrame solution. Significant focus is put on building enterprise application web portals using Citrix MetaFrame and NFuse technology. This book offers real-world solutions, top ten tips, command and technical article references, lists of technical resources and web sites available, and lots of technical coverage that will help you when you need it the most. Citrix MetaFrame XP is an add-on product available for either Windows NT 4.0 or 2000 Terminal Server, and complements the existing features available in these products. Using Citrix MetaFrame XP, you can publish your applications rather than

have users run them from a Terminal Server desktop. MetaFrame XP also offers better printer management capabilities, a centralized management console and supports non-Windows client connections. {InformIT}

Cloud Virtualization, Containers and APIs: Learn to design Cloud-native systems with the fundamental building blocks of Cloud computing. These building blocks include virtual machines and containers. You will also learn how to build effective Microservices using technologies like Flask and Kubernetes. Finally, you will analyze successful patterns in Operations including: Effective alerts, load testing and Kaizen. This course is ideal for beginners as well as intermediate students interested in applying Cloud computing to data science, machine learning and data engineering. Students should have beginner level Linux and intermediate level Python skills. For your project in this course, you build a containerized Flask application that is continuously deployed to a Cloud platform: Amazon Web Services (AWS), Azure or Google Cloud Platform (GCP). {Duke University}

Microsoft Windows Server Hyper-V: Introduction to the absolute basics of Microsoft Hyper-V virtualization, and each type of virtualization available to you. Next, he guides you through the basics of installing and configuring Hyper-V for your unique environment and your specific requirements for scalability and availability. You'll walk through using key tools such as the Hyper-V Manager and Best Practices Analyzer; enforcing security; and creating virtual machines, virtual hard disks, checkpoints, and virtual switches. 1) Overview of Microsoft Virtualization, 2) Installing Hyper-V, 3) Managing Hyper-V, 4) Configuring Hyper-V Settings, 5) Creating Virtual Hard Disks, 6) Creating Virtual Machines, 7) Working with Checkpoints, 8) Creating Virtual Switches, 9) High Availability, and 10) Moving Virtual Machines. {InformIT}

Open Source Virtualization (LFS462) Open Source Virtualization takes a deep dive into KVM (Kernel-based Virtual Machine) and Xen, the most popular hypervisor virtualization technologies in the open source ecosystem, as well as the deployment and use of containers. Built by experts in the field of virtualization, this course provides the technical background to understand the components required to build and administer a modern virtual IT infrastructure. Skill-based training modules include: 1) Virtualization Overview, 2) KVM Quick-Start, 3) KVM Architecture and Relationship with Linux, 4) Running KVM Using QEMU, 5) libvirt, 6) Hardware Support, 7) Tuning for Performance, 8) KVM

Security, 9) Xen Hypervisor Architecture, 10) Installing and Configuring Xen, 11) Administration of Xen domains, 12) Xen Performance and Tuning, 13) Xen Security, and 14) Working with Linux Containers. {Linux Foundation}

Red Hat Certified Engineer (RHCE) Complete Video Course with Virtual Machines: 13 hours of comprehensive video training–which includes whiteboard concept teaching, live CLI work, screencast teaching, hands-on labs, and practice exam walkthroughs–so you have everything you need to study for and pass the RHCE exam. This new edition of the best-selling *RHCE Complete Video Course* now comes with virtual machines, giving you a reliable environment so you can get the real-world experience you need to fully understand concepts and practice your skills: System Configuration and Management, Configuring Authentication, Configuring iSCSI, System Performance Reporting, System Optimization Basics, Networking and Apache, Configuring Advanced Networking, Managing Linux-Based Firewalls, Configuring Apache Virtual Hosts, Managing Advanced Apache Features, DNS and File Sharing, Configuring a Cache-Only DNS Server, Configuring NFS File Sharing, Managing SMB File Sharing, Setting up an SMTP Server, Managing SSH, Managing Time Services, MariaDB and Shell Scripting Lesson 15: Managing MariaDB, and Shell Scripting. {Pearson IT}

VCP-DCV for vSphere 8.x Certification Guide and Practice Test: The VCP-DCV for vSphere Premium Edition Practice Test, including four full practice exams and enhanced practice test features PDF and EPUB formats of the VCP-DCV for vSphere 8.x Cert Guide from Pearson IT Certification, which are accessible via your PC, tablet, and smartphone. This Premium Edition contains an enhanced version of the Pearson Test Prep practice test software with four full practice exams. In addition, it contains all the chapter-opening assessment questions from the book. This integrated learning package: Allows you to focus on individual topic areas or take complete, timed exams, Includes direct links from each question to detailed tutorials to help you understand the concepts behind the questions, Provides unique sets of exam-realistic practice questions, and Tracks your performance and provides feedback on a module-by-module basis, laying out a complete assessment of your knowledge to help you focus your study where it is needed most. {PearsonIT}

VMware NSX Fundamentals:: NSX product components for security and network virtualization. This video course provides the perspective for network administrators, security practitioners, and virtualization administrators to feel confident in their ability to deploy NSX. VMware NSX Fundamentals LiveLessons contains 14 individual video lessons, for a total of more than 14 hours of instruction. The videos consist of live teaching, screencasts, whiteboard instruction, animations, and more. Instruction throughout offers detailed explanations, tips, and configuration verifications. Software-Defined Data Centers, Networking Fundamentals, NSX Lab, NSX Manager and NSX Control Cluster, Logical Switch Networks, Distributed Logical Routing, Edge Routing and High Availability, Virtual Private Networks, NSX Edge Load Balancer, Distributed Firewalls, Automating the Security Architecture, Additional Edge Services, Multi-vCenter NSX, and Operations. {Pearson IT}

VMware vSphere Virtualization Fundamentals: This program will teach you the fundamentals of virtualization topics as they relate to (create, manage, and control) a VMware vSphere virtual data center. This video begins with coverage of core virtualization concepts and then becomes increasingly specific with regard to vSphere, virtual machines, virtual resources, and the features that allow for management and control of a virtual data center. It starts at a beginner level and gradually builds on the specifics of VMware and vSphere related topics. By the end of the video, the viewer should have an understanding of the basics of vSphere. Lesson 1) Core VMware Virtualization Concepts - Compare Physical Infrastructure with Virtual Infrastructure and Physical Architecture with Virtual Architecture, Real-World Benefits of Using Virtual Machines, Lesson 2) What is vSphere? - Concepts, Networking, Storage, Management, Lesson 3) Understanding Virtual Machines - Files and Concepts, Hardware, Guest OS Installation Options, Deploy Virtual Machines, Lesson 4) Managing Virtual Machines - Hardware, Options and Resource Settings, Lesson 5) Allocating CPU and Memory Resources - Patented Technologies for Memory Efficiency, Best Practices for Virtual Machine CPU and Memory, Using Shares to Establish Priority, Limits and Reservations When Needed and Resource Pools, Lesson 6) Scalability Features in vSphere - vMotion, Storage vMotion, High Availability and Fault Tolerance, Distributed Resource Scheduler, Storage Distributed Resource Scheduler, Performance Monitoring and Tuning, vCenter Performance Charts and vCenter Alarms, Resxtop, Lesson 8) Extending vSphere

Capabilities to the Cloud - Tools for Managing Large or Multiple Virtual Datacenters and Managing a Cloud Environment. Pearson IT}

Containers

Advanced Kubernetes Deployment Strategies and Networking: This course is for learners who possess a foundational understanding of Kubernetes and have some prior experience working with container orchestration. They should have a keen interest in advancing their knowledge and expertise in Kubernetes deployment strategies and networking concepts. This first course focuses on Advanced Kubernetes deployment strategies and networking concepts, providing learners with practical experience in designing and implementing complex Kubernetes deployments. Topics include rolling updates, canary deployments, blue-green deployments, ingress, and network policies. By the end of this course, you will be able to: - Explain the core concepts of Kubernetes deployment strategies - Compare and contrast rolling updates, canary deployments, and blue-green deployments - Analyze the benefits and drawbacks of different deployment strategies - Describe the role of Kubernetes Services and Ingress in cluster networking - Implement a custom Ingress configuration to manage traffic routing - Integrate advanced deployment strategies with Kubernetes networking - Troubleshoot common issues related to deployments and networking - Optimize deployment and networking configurations for performance and resilience. {LearnQuest}

Architecting with Google Kubernetes Engine: Teaches you how to implement solutions using Google Kubernetes Engine, or GKE, including building, scheduling, load balancing, and monitoring workloads, as well as providing for discovery of services, managing role-based access control and security, and providing persistent storage to these applications. {Google Cloud}

Azure App Service - Web Apps: SSL certificates, custom domain names, using Docker containers, authentication, deployment slots, hybrid connections. Web App Basics, Basic Configuration, Advanced Configuration, Deploy Web Apps, Monitoring Web Apps,Troubleshooting Application Errors, Troubleshooting Performance Problems, and Using Advanced Tools. {InformIT}

Building and Managing Microservices with Kubernetes and Istio: The course will then discuss how to automatically implement Microservices using Kubernetes, a procedure that starts with source files in Git, before exploring topics of container images and how to build them efficiently. Lastly, it will also cover how to apply decoupling in Kubernetes for full implementation of automated and orchestrated Microservice environments. Instructor Sander van Vugt uses hands-on-labs to give you a deeper understanding of the topics covered in the course. Skill-based training modules include: 1: Understanding Microservices, 2: Using Git, 3: Containers QuickStart, 4: Understanding Container Orchestration and Service Mesh, 5: Getting Started with Kubernetes & Running the Course Project in Kubernetes Deployments, 6: Creating Container-based Microservices in Kubernetes, 7: Getting Started with Istio Service Mesh, and 8: Managing Microservices with Istio Service Mesh. {InformIT}

Certified Kubernetes Administrator (CKA): Provides assurance that CKAs have the skills, knowledge, and competency to perform the responsibilities of Kubernetes administrators. This certification is for Kubernetes administrators, cloud administrators and other IT professionals who manage Kubernetes instances. CKA was created by The Linux Foundation and the Cloud Native Computing Foundation (CNCF) as a part of their ongoing effort to help develop the Kubernetes ecosystem. The exam is an online, proctored, performance-based test that requires solving multiple tasks from a command line running Kubernetes. A certified K8s administrator has demonstrated the ability to do basic installation as well as configuring and managing production-grade Kubernetes clusters. They will have an understanding of key concepts such as Kubernetes networking, storage, security, maintenance, logging and monitoring, application lifecycle, troubleshooting, API object primitives and the ability to establish basic use-cases for end users. Domains and Competencies include: 1) Storage (10%), 2) Troubleshooting (30%), 3) Workloads & Scheduling (15%), 4) Cluster Architecture, Installation & Configuration (25%), and 5) Services & Networking (20%). The exam is an online, proctored, performance-based test that requires solving multiple tasks from a command line running Kubernetes. Candidates have 2 hours to complete the tasks. {Linux Foundation}

Certified Kubernetes Application Developer (CKAD): This course first provides a full introduction to containers and Kubernetes; it then moves through the process of creating, managing, and storing applications. The title provides labs for working with the API using curl, as well as using NameSpace and managing pods. Learn how to manage deployments, services, ingress, and setting up storage; and

you will get a full walkthrough of key troubleshooting scenarios. The course ends with a sample exam so you can practice before taking the real test. Topics include: 1) Getting Started," explains all you need to know before starting the real CKAD topics: 1) Containers - describing what Kubernetes is, and last, Kubernetes Deployment options and setting up a lab environment are discussed, 2) Kubernetes Essentials," teaches concepts that are extremely important for passing the CKAD exam including the Kubernetes API, 3) Building and Exposing Scalable Applications with ConfigMaps and troubleshooting, and 4) Finally, sample certification exams. {Pearson IT}

Certified Kubernetes Security Specialist (CKS): Provides assurance that a CKS has the skills, knowledge, and competence on a broad range of best practices for securing container-based applications and Kubernetes platforms during build, deployment and runtime. CKA certification is required to sit for this exam.CKS is a performance-based certification exam that tests candidates' knowledge of Kubernetes and cloud security in a simulated, real world environment. Candidates must have taken and passed the Certified Kubernetes Administrator (CKA) exam prior to attempting the CKS exam. CKS may be purchased but not scheduled until CKA certification has been achieved. CKA Certification must be active (non-expired) on the date the CKS exam (including Retakes) is scheduled. Training modules mapped to the certification exam include: 1) Cluster Hardening (15%), 2) System Hardening (15%), 3) Minimize Microservice Vulnerabilities (20%), 4) Supply Chain Security (20%), , and 5) Monitoring, Logging and Runtime Security (20%). This exam is an online, proctored, performance-based test that requires solving multiple tasks from a command line running Kubernetes. Candidates have 2 hours to complete the tasks.

Containers Fundamentals (LFS253): This Containers Fundamentals course will teach you how to do container and image operations with different container runtimes, manage network and storage (volumes) with containers, build and run multi-container applications with Docker, Podman, Docker APIs, etc. Gain high-demand skills in: 1) Virtualization Fundamentals, 2) Virtualization Mechanisms, 3) Container Standards and Runtimes, 4) Image Operations, 5) Container Operations, 6) Building Container Images, 7) Container Networking, 8) Container Storage, and 9) Runtime and Containers Security. {Linux Foundation}

Docker Containers: Install Docker on standard Linux or specialized container operating systems, set-up a private Docker Registry, creating, running, and investigating Docker images and containers, pull and push containers between local systems and Docker Registries, integrate Docker containers with host networking and storage, orchestrate multiple containers into complex applications with Kubernetes, and build a Docker container to simplify application deployment. {InformIT}

Docker Orchestration and Microservices: Designing web apps as microservices, use Docker to containerize your microservices, leverage modern Docker orchestration tools to aid in both developing and deploying your applications, and se Google's container orchestration platform Kubernetes, and interpret the modern DevOps and container orchestration landscape. {InformIT}

Elastic Google Cloud Infrastructure: Scaling and Automation: Learn the comprehensive and flexible infrastructure and platform services provided by Google Cloud. Through a combination of video lectures, demos, and hands-on labs, participants explore and deploy solution elements, including securely interconnecting networks, load balancing, autoscaling, infrastructure automation and managed services. Introduction to the Architecting with Google Compute Engine course series. This course series is defined for cloud solution architects, DevOps engineers, and anyone who's interested in using Google Cloud, to create new solutions or to integrate existing systems, application environments, and infrastructure with a focus on Compute Engine.Interconnecting Networks, Infrastructure Automation, Managed Services. {Google Cloud}

Getting Started with Google Kubernetes Engine: Hands-on labs for you to experience functionalities first-hand. In the first module, you'll be introduced to a range of Google Cloud services and features, with a view to helping you choose the right Google Cloud services to create your own cloud solution. You'll learn about creating a container using Cloud Build, and store a container in the Container Registry. You'll also compare and contrast the features of Kubernetes and Google Kubernetes Engine, also referred to as GKE. In addition to conceptualizing the Kubernetes architecture, you'll deploy a Kubernetes cluster using GKE, deploy Pods to a GKE cluster, and view and manage Kubernetes objects. Acquire high-demand skills in: Continuous Delivery, Kubernetes, Google Cloud Platform, and Jenkins. {Google Cloud}

Introduction to Kubernetes and Cloud Native Technologies (Professional Certification): Develop a good working knowledge of Linux using both the graphical interface and the command line. Get a primer on cloud computing and the use of open source software to maximize development and operations. Gain a fundamental understanding of today's top open source cloud technology options. Set up and access a Kubernetes cluster using Minikube. Learn ways to run applications on the deployed Kubernetes environment and access the deployed applications. 1) Introduction to Linux, 2) Introduction to Cloud Infrastructure Technologies, 3) Introduction to Kubernetes, and 4) Job Outlook - 93% of hiring managers are unable to find enough talent with open source skills, and cloud skills are the most sought after while 77% of employers are increasing their use of cloud, meaning demand for talent will only continue to grow. {Linux Foundation}

Kubernetes for Developers (LFD259): Equips you with expertise in high-velocity open source orchestration tools to deploy, scale, and update containerized applications. This course will teach you how to containerize, host, deploy, and configure an application in a multi-node cluster. This course will teach you how to containerize, host, deploy, and configure an application in a multi-node cluster. Starting with a simple Python script, you will define application resources and use core primitives to build, monitor and troubleshoot scalable applications in Kubernetes. Working with network plugins, security and cloud storage, you will be exposed to many of the features needed to deploy an application in a production environment. The 35 hours of training includes: 1) Kubernetes Architecture, 2) Build, 4) Design, 5) Deployment Configuration, 6) Security, 7) Exposing Applications, and 8) Troubleshooting. {Linux Foundation}

Kubernetes Fundamentals (LFS258): This course will give you a strong operating knowledge of Kubernetes fundamentals, including how to deploy a containerized application and manipulating resources via the API. Training modules address: 1) Basics of Kubernetes, 2) Installation and Configuration, 3) Kubernetes Architecture, 4) APIs and Access, 5) API Objects, 6) Managing State with Deployments, 7) Volumes and Data, 8) Services, 9) Helm, 10) Ingress. 11) Scheduling, 12) Logging and Troubleshooting, 13) Custom Resource Definitions, 14) Security, 15) High Availability, and 16) Final Exam Domain Review. {Linux Foundation}

Modern Container-Based DevOps: Managing Microservices using Kubernetes and Docker: Manage a complete container-based datacenter, use containers in Docker and Kubernetes to run microservices, manage containers, using Docker as well as Podman on RHEL 8 and container images, storage, and networking, implement microservices with container orchestration platforms, work with Kubernetes, and build your own full microservice that runs on Kubernetes. {InformIT}

Red Hat Certified Specialist in Containers and Kubernetes (EX180) and OpenShift Administration (EX280): In almost 9 hours of engaging video training, instructor Sander van Vugt uses deep-dive explanations, whiteboard instruction, and real-world hands-on demos. Each lesson concludes with a hands-on lab, which provides a deeper understanding of all the topics of Red Hat Certified Specialist in Containers and Kubernetes and helps you excel on your EX180 exam. Module 1: Container Fundamentals - Introduction to Containers and Kubernetes, Module 2: OpenShift Fundamentals - Running OpenShift, Module 3: Using OpenShift to automate complex application build - Running Microservices in OpenShift, Module 4: The Red Hat Certified Specialist in Containers and Kubernetes exam (EX180) Sample Exam - EX180 Sample Exam. *Red Hat OpenShift Administration: Red Hat EX280:* Module 1: Managing OpenShift Cluster - Understanding OpenShift Clusters, Module 2: Managing OpenShift Resources - Managing OpenShift Resources, Module 3: Managing OpenShift Authentication and Access - Configuring Authentication, Module 4: Performing Operational Cluster Management Tasks - Managing OpenShift Networking, and Module 5: Red Hat Certified Specialist in OpenShift EX280 Sample Exam. {Pearson IT}

Networking

Ansible for Network Automation: This program will train you on the fundamentals of Ansible, an open-source, extensible configuration management tool that streamlines infrastructure management in modern networking environments. You will also learn about Jinja2, a templating language that expands flexibility in automation tasks. Upon completing this course, you will have an essential understanding of Ansible and its application to network automation, enabling you to effectively automate network tasks and improve network operations. This course is primarily intended for network engineers, systems engineers, network architects, and managers interested in learning the fundamentals of network automation and Ansible. By the end of this course, you will be able to: - Construct Ansible playbooks to configure network devices and retrieve operational state data from network devices. - Build Jinja2 templates and YAML data structures to generate desired state configurations. Proficiency in fundamental network routing & switching technologies, basics of Python programming (3-6 mos exp.), and basic Linux knowledge. {Cisco}

CCNP Data Center Core (DCCOR 350-601): This course guides you from an Introduction to the Data Center technologies such as Layer2 and Layer3 features, Overlay technologies such as OTV and VXLAN, Application Data Center Infrastructure, Compute with network and Storage management, Hyperflex, Security and Programmability and Automation. The key topics covered in this course will enable the viewers to understand and implement the key data center technologies covering network, Software Defined Data Center using Cisco ACI, Storage and Compute and finally automating the services in the Data Center environment. The topics covered in the CCNP Data Center Core Technologies are the foundational topics for designing and implementing a Next Generation Data Center using Cisco hardware and Software. Learn how to Implement Layer 2, Layer 3 and Overlay technologies on Cisco NX-OS, Understanding Cloud services and deployment models, Application Centric Infrastructure, Compute and Storage on Cisco UCS and Cisco MDS respectively, Apply Automation tools and programmability to automate Cisco Data Center networks, and Harden Cisco Data Center environment. {PearsonIT}

Cisco Certified Network Associate (CCNA 200-301): Level up your career in IT with this video-based online training course (including 300+ interactive labs) designed to help you master foundational networking skills and succeed on the CCNA 200-301 exam. Key topics: Common network components, architectures, and designs, Network cabling, IPv4 address structure, assignment, verification, and name resolution, Types of IPv6 communication, Binary numbering, Basic and advanced subnetting, IPv6 address format and communication, IPv6 addressing, Ethernet switching fundamentals, Neighbor discovery, Virtual LANs (VLANs), Trunking, Spanning Tree Protocol (STP), and EtherChannel, Routing fundamentals, Static routing and OSPFv2 routing, First Hop Redundancy Protocols, Wireless network fundamentals, Wireless LAN installation and configuration, Network Address Translation (NAT), Network Time Protocol (NTP), Dynamic Host Configuration Protocol (DHCP), Network management protocols, Quality of Service (QoS), Network security threats and defense, Access Control Lists (ACLs), Layer 2 security features, Software Defined Networking (SDN), and Configuration management. {Pearson IT}

CCNA Data Center (DCICN 200-150 and DCICT 200-155): CCNA Data Center Library: DCICN 200-150 and DCICT 200-155 is a unique video product that is fully updated and provides a solid understanding of the key areas of knowledge required to pass BOTH CCNA Data Center exams: 200-150 and 200-155. This product walks the customer through each topic of the exam blueprint. CCNA Data Center Library: DCICN 200-150 and DCICT 200-155 two full video courses, with 8 modules, 29 lessons and over 16 hours of instruction that details every objective in the DCICN and DCICT exam. The videos consist of audio instruction, video screen casts and demos. Instruction throughout offers detailed explanations, tips, and configuration verifications. Key topics: Basic Data Center Networking Concepts, Data Center Physical Infrastructure, Advanced Data Center Networking Concepts, Layer 3 Routing Using Nexus, Data Center Storage Unified Computing, DC Networking, DCI, Cloud, Orchestration, and ACI. {Cisco Press}

Cisco CCIE Routing and Switching v5.0 Exam (Preparation): This course requires no previous knowledge, but it is for an advanced-level networking certification. General Outline Comparing v4 to v5, Topics Added to v5 Written and/or Lab Exams, Topics Moved from v4 Lab to v5, Written Exam and

Topics Removed from v5 exams, Version 5 Exam Format and Timing, (TSHOOT, DIAG, Config), Version 5 Exam Scoring (TSHOOT, DIAG, Config), and Equipment/Topology Concepts for v5 Exams. {Pearson IT}

Cisco CCNA Cloud CLDADM 210-455: Key areas of knowledge required to pass the 210-455 Introducing Cisco Cloud Administration exam. This product walks the customer through each topic of the exam blueprint. Customers will gain knowledge of Cloud administration technologies, including Cloud fundamentals, Cloud technologies, Cloud administration and operations, Cloud monitoring and reporting, and Cloud troubleshooting. {Cisco Press}

Cisco CCNA Data Center DCICN (200-150): Provides a solid understanding of the key areas of knowledge required to pass the 200-150 DCICN exam. This product walks through each topic of the exam blueprint, so viewers can gain knowledge of networking concepts for the Data Center environment based on Nexus-OS LAN and SAN technologies. These videos will also provide fundamental information on understanding how a Data Center network works. The course will also detail virtualization configuration in the network, addressing schemes, configuration skills, and troubleshooting methods. Data Center Networking Concepts, Data Center Physical Infrastructure, Advanced Data Center Networking Concepts, Layer 3 Routing Using Nexus, and Data Center Storage..{Cisco Press}

Cisco CCNP Enterprise Advanced Routing ENARSI 300-410: Preparation for the Cisco ENARSI exam, including Layer 3 routing, VPN technologies, infrastructure security, and infrastructure services. This unique product gives you the knowledge and skills you need to deploy and troubleshoot advanced routing technologies and services. It combines video instruction with live CLI configuration and troubleshooting demonstrations and provides you with hands-on lab activities. Practicing the lessons that you have learned with hands-on labs helps reinforce the concepts that are being taught. This course includes instructor-developed Cisco Modeling Labs (CML) topology files that correlate with the lab exercises that they demonstrate. EIGRP, EIGRPv6, OSPF, OSPFv3, BGP, Route Manipulation and Advanced Routing Concepts, Route Redistribution, MPLS, Infrastructure Security, and Infrastructure Services. {Pearson IT}

Cisco Wi-Fi Fundamentals LiveLessons: A CCNA Wireless and CWNA Primer: Seven hours of personal, visual instruction from wireless expert and instructor Jerome Henry. The tutorial contains a series of short modules that demonstrates the concepts and mechanics behind RF, Wi-Fi networks, and 802.11 frame exchanges. Wi-Fi Fundamentals LiveLessons contains 8 individual lessons, subdivided into 48 sub lessons, for a total of more than six hours of instruction. The videos consist of audio instruction and animations. Each video presents detailed objectives and video captures. Audio instruction throughout offers detailed explanations and tips. Specialized Wi-Fi Devices, 802.11n Channel Aggregation and Blocks, and Distributing and Managing the Keys. {Cisco Press}

Introduction to JUNOS OS: Provides foundational knowledge required to work with the Junos operating system and to configure Junos devices. The course then delves into foundational routing knowledge and configuration examples including general routing concepts, routing policy, and firewall filters. Students will gain experience in configuring and monitoring the Junos OS and monitoring basic device operations. {Juniper Networks}

Introduction to Software Defined Networking (SDN): Introduction to the OpenFlow-based version of SDN, providing the fundamental knowledge to effectively communicate with vendors who are selling products labeled as SDN. What Is SDN?, Defining SDN, Highlighting SDN Benefits, Comparing SDN with Other Forms of Virtualization, Understanding an SDN Architecture, Understanding How an OpenFlow based SDN Works, Examining OpenFlow Based SDN Standards, Highlighting SDN Shortfalls, Interfacing with the Rest of the Network, Exploring SDN Topologies and Operations, and Getting Started with SDN. {InformIT}

Juniper Networks Junos Platform Automation and DevOps: This specialization demonstrates the basics of Junos OS DevOps automation Tools, protocols and technologies. This specialization covers basic DevOps principles, Junos APIs, and the Network Configuration Protocol (NETCONF). It focuses on using Python, Junos PyEZ, Ansible, and the Junos Representational State Transfer (REST) API to automate Junos platforms. Extensible Markup Language (XML), JavaScript Object Notation (JSON), and YAML Ain't Markup Language (YAML) are introduced as data formats that facilitate Junos automation. {Juniper Networks}

Networking and Security Architecture with VMware NSX: NSX Architecture Components - components that make up VMware NSX. These components are the foundation for understanding how VMware NSX is deployed into a data center, Security Solutions with VMware NSX - provides a defensive in depth solution. The content compares traditional security solutions with the in-kernel firewall provided by VMware NSX. In addition, this module covers application behavior monitoring and the ecosystem of partners that integrate with VMware NSX to provide a comprehensive security solution, Application Continuity Solutions - using VMware NSX to create highly available data center designs and stretched clusters and disaster recovery designs using VMware NSX. In addition, this module takes a look at how VMware Cloud on Amazon Web Services allows public cloud solutions to be managed the same way an on-prem data center is managed, Operations - evolution of people, process and tooling along with process automation with VMware NSX using common cloud management platforms like OpenStack and vRealize Automation. In addition the content describes the need for new tooling that provides converged and correlated data of new data center technologies. Finally, the module explains the importance of a growth mindset and the evolution of IT organizations away from rigid, well-defined silos to a more collaborative, cross-functional workforce. {vmWare}

Software Defined Networking (SDN) Access Security: Discover how Software Defined Networking (SDN) can handle security and privacy issues for modern enterprise and data center networks. You will learn about SDN Access Security. We will begin with the core security and privacy issues relevant to conventional IP networking, and explain how SDN can handle security and privacy issues for modern enterprise and data center networks. The course has been designed with a practical, hands-on approach to help learners obtain a better understanding of new threat vectors for SDN Architecture. We will also explore recent developments in industry-specific Zero-Trust networking. Articulate the security challenges in traditional networking and explore various use cases of security in modern enterprise and data center networks, Explore Software Defined Networking security challenges, Understand security as a service using SDN and NFV, Gain an understanding of concepts such as zero-trust security and encrypted traffic analytics, and Explore a case study on Industry 4.0 or Smart Factory security. {edX}

Note: Visit Cisco Certifications - the comprehensive portal for all Cisco CCNA, CCNP, CCIE, DCICN certification and training programs - Entry, Associate, Professional and Expert levels.

IV - Portals & Vendors

- Cisco Certifications
- Cisco Networking Dev Center
- Cloud Native Computing Foundation
- Containers at Google
- Educba
- Enterprise Storage Forum
- Global Computer Container Technology Market (Verified Market Reports)
- Microsoft Azure Containers
- NetworkWorld
- Network Computing
- Open Networking Foundation - Continuous Certification Program
- Red Hat OpenShift
- Software Defined Networking (Open Networking Foundation)
- SolarWinds Virtualization Manager
- Strongdm (SDN)
- Top 10 Best Container Software (2022)
- VMware SDN

V - Professional Forums & Communities

- AWS Cloud (Twitter - 1.9m members)
- Citrix Webinars
- Cloud Computing, Data Centre & Virtualization (LinkedIn - 670k members)
- Docker (Twitter - 458k members)
- Docker Community Forums
- IEEE Computer Society (Computer Communications Community)
- Kubernetes
- Kubernetes (Twitter - 258k members)
- Kubernetes (Reddit - 76k members)
- Virtualization (Reddit - 19k members)
- Virtualization Forum (SpiceWorks)

Career Transformation Guides (2022-2024)

- Artificial Intelligence-Machine Learning-Deep Learning
- Blockchain, Ethereum & Web 3
- Cloud Computing
- Cybersecurity & InfoSec
- Cryptocurrency & Digital Assets
- Data Science
- Finance, Accounting & Banking
- JavaScript Full Stack Development
- Linux & Open Source
- Python, R, TensorFlow & PyTorch
- Software Development
- Virtualization, Containerization & Networking

Genesys Ventures - Online Properties

- Artificial Intelligence Academy
- Blockchain VIPs
- Cryptocurrency, Blockchain & FinTech Academy
- Cybersecurity Certification Center
- Financial Certification Academy
- Online Learning Central