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Cloud Fundamentals

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Cloud Solutions Architect

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Cloud Business Professional

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RUN IT.

Empower yourself to run the whole cloud by becoming an Intel® Certified Pro. With expert-led, self-paced, cloud-agnostic learning, Intel® Cloud.U goes beyond standard cloud training to give you the real-world competency and confidence you need to deploy, manage, and optimize across multiple cloud providers and infrastructure types.

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Find the Intel Cloud.U curriculum in this course catalog that best meets your needs and matches your interests, complete the training, and then take a proctored exam to earn recognition as an Intel® Certified Pro.

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CLOUD FUNDAMENTALS

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Cloud
Fundamentals

Cloud Fundamentals provides a solid foundation in cloud computing. Learn to design, recommend, leverage, and implement workloads and solutions in the private, public, or hybrid cloud and at the edge.

This curriculum is designed for IT solutions and technology professionals or managers, developers, and business professionals interested in the cloud industry.

LEARNING OBJECTIVES

- Build knowledge of cloud service providers' offerings and learn to identify and recommend cloud instances for specific solutions.

- Prepare to describe cloud computing benefits, cost modeling, solution scalability, and business agility from public and private cloud to the edge.

- Understand the unique value and benefits that Intel brings to the cloud.

- Learn how to deploy and manage solutions optimally in the cloud—including AI, orchestration, networking, and media workloads.

- Broaden knowledge of cloud security, data protection, network security, identity, access management, and compliance.

RECOMMENDED EXPERIENCE

Knowledge of, and experience with, IT hardware and software technologies and deployment.

CURRICULUM

10
courses

15
hours to complete
(estimated)

1
hands-on lab

Upon completion of the Cloud Fundamentals coursework, take the proctored exam to achieve recognition as an Intel® Certified Pro.

CLOUD FUNDAMENTALS

Course 1
CLOUD ESSENTIALS

Cloud Essentials includes cloud migration, cloud architecture, ecosystem, and mainstream cloud computing definitions. Principles of cloud consumption, abstraction of workloads, big data, and AI are covered, along with the most-used cloud services.

Course 2
CLOUD SERVICES

Building on Cloud Essentials, the Cloud Services course includes core services and principles for cloud, scaling cloud workloads, networking in the cloud and virtual private clouds, data security, IAM, and the shared security model. It concludes with cloud migration, including business rationale, examples, and the "6 Rs" of cloud migration.

Course 3
CLOUD TECHNOLOGIES

Cloud Technologies covers pro topics, including cloud orchestration objectives and the orchestration marketplace, software-defined networking, and software-defined storage components and challenges. It closes with a review of the benefits delivered by virtualization and container deployment and use.

Course 4
DATA PLATFORM

The Data Platform course covers data trends and terms, a pro dive into SQL and NoSQL databases, data storage, data processing and analytics, and security topics that include risk assessment, security frameworks, models, and deployment scenarios.

CLOUD FUNDAMENTALS

Course 5
CLOUD USAGE

The Cloud Usage course examines the enterprise cloud ecosystem, building on knowledge of cloud deployments gained in previous Cloud Fundamentals courses. Learn about application architecture and development, workload placement, enterprise personas, and the business considerations that are often critical to enterprise cloud decisions.

Course 6
CLOUD HYPERSCALERS

Cloud hyperscalers are the companies that provide computing capabilities, databases, storage, software, and services at massive scale. Learners will become familiar with cloud hyperscaler offerings and who the hyperscalers are. Additionally, this course shares an overview of the hyperscalers, their offerings, and how to integrate cloud workloads with data center deployments.

Course 7
AI IN THE CLOUD

AI in the cloud is growing rapidly. In this course, learners will become familiar with AI portfolios and deployment considerations for AI workloads with the hyperscalers and finish with a review of CSPs' current AI portfolio offerings.

Course 8
CLOUD NETWORKING

In the Cloud Networking course, learners will be introduced to the critical role of networks, focusing on network topologies, protocols, architecture security, as well as edge, content delivery networks (CDNs), secure access service edge (SASE), and universal customer premises equipment (uCPE). This course also covers network function virtualization (NFV), the use of IaaS for networking, and high-performance networking challenges and solutions. The course closes with lessons on open source networking projects and the industry evolution to cloud native.

CLOUD FUNDAMENTALS

Course 9
EDGE TO CLOUD

Edge to Cloud is a critical topic in the cloud discussion. Beginning with definitions of multiple edge types, the course will consider market trends, opportunities, challenges and considerations, and edge-to-cloud use cases. We will also review silicon- and hardware-based technologies, software and open source, and the partner ecosystem.

Course 10
OVERVIEW OF MEDIA WORKLOADS

In Overview of Media Workloads, we start with the industry background for media use cases. Learners will become familiar with video basics, including codecs, quality, use of containers, and video preprocessing. We finish with media workflow, which includes media pipeline, production, video compression, preparation, and streaming. Learners will optimize a video workload in an interactive, hands-on lab.

 Includes Cloud Media Stack hands-on lab.

CLOUD TECHNICAL PROFESSIONAL

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Cloud Technical Professional

Cloud Technical Professional courses provide the technical knowledge, skills, and expertise needed to design, implement, and manage cloud-based solutions that are scalable, secure, and cost-effective.

This curriculum is designed for technology-focused professionals with some hands-on experience in cloud solutions deployment or operations in a technical capacity.

LEARNING OBJECTIVES

- Gain an understanding of and hands-on experience with cloud platforms, yielding practical skills that are applicable to real-world situations such as workload solutions, containerization and container orchestration, security in and of the cloud.

- Obtain certification that attests to your knowledge of multiple cloud service providers including Amazon Web Services (AWS), Azure, and Google Cloud Platform (GCP).

- Accelerate your career advancement in the growing cloud technology field, where expertise is in high demand.

- Expand opportunities to work in a variety of distinct roles, including IT, finance, healthcare, and marketing.

- Understand the unique value and benefits that Intel brings to the cloud.

RECOMMENDED EXPERIENCE

- Functional experience and knowledge of cloud technologies and deployments.

- Intel® Certified Pro in Cloud Fundamentals or equivalent practical experience or certification.

CURRICULUM

6
courses

30
hours to complete (estimated)

2
hands-on labs

Upon completion of the Cloud Technical Professional coursework, take the proctored exam to achieve recognition as an Intel® Certified Pro.

CLOUD TECHNICAL PROFESSIONAL

Course 1
ESSENTIALS OF SYSTEM INFORMATION

Misconfiguration of cloud solutions can cost customers availability, time, and money. In this course, learners will benefit from lessons on system configuration and common challenges, when and how to leverage workload telemetry with the correct tools, and how to ensure that an organization's cloud presence has the appropriate internal support.

Course 2
DATA CENTER WORKLOAD SOLUTIONS

This course provides technical pros an advanced understanding of hybrid cloud design and implementation/deployment of cloud solutions. Learners will explore how Splunk can augment a cloud deployment and how to deploy a POC with benchmarking enabled, to deliver high-performant SQL instances with lower TCO.

Course 3
SECURITY IN CLOUD COMPUTING

Data and workload security is a critical element of running solutions in the cloud. Remaining aligned with data sovereignty, encryption, regulation, and technologies are key components of security in the cloud. This course covers encryption and Intel® security enhancements in cloud hardware, workloads, and data security and includes a review of Intel® technologies including storage encryption, network security, and confidential computing.

Course 4
ADVANCED NETWORKING

Learners will benefit from the technical review of critical networking functions and solutions in the cloud. Firewall, SDN, security brokers, Network as a Service (NaaS), and other cloud networking services will be covered in this course.

CLOUD TECHNICAL PROFESSIONAL

Course 5

CONTAINER SOLUTIONS

Containers are a powerful tool for workload deployment. Learners will cover the interfaces and functions commonly used in the cloud (NFD and CNI to name just two). Additionally, the content is enhanced by hands-on labs that provide learners direct experience with the actual tools.

Includes Node Feature Discovery and Topology Manager hands-on labs.

Course 6

EDGE TO CLOUD

Edge workloads are growing rapidly and have become increasingly important. These workloads have different and unique attributes due to device placement (closer to the customer/workload) and connections back to the cloud. This course will cover the security of workloads and data from the edge back to the cloud, connectivity capabilities to consider, information, and suggestions on how to optimize edge-to-cloud solutions for performance.

CLOUD BUSINESS PROFESSIONAL

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Cloud Business
Professional

Cloud Business Professional provides a professional-level understanding and certification opportunity for new and augmented business skills, with best practices for workload placement, service offerings, and FinOps.

This curriculum is designed for business professionals with active involvement in cloud solutions implementation or operations.

LEARNING OBJECTIVES

- Learn to optimize cloud workload placement and cloud deployment strategies across public and private cloud and at the edge.

- Understand cross-organizational cloud strategies to optimize workload placement, pricing, and total cost and to drive FinOps.

- Learn to plan and budget for cloud instances, reservations, account groupings, and cost centers to accommodate cloud workloads and business units.

- Explore Intel® technologies and tools that can maximize and support business needs, values, and requirements of cloud computing adoption.

RECOMMENDED EXPERIENCE

- Familiarity with mainstream cloud instances and workloads, and budget planning and management.

- FinOps background is a plus, including instance optimization, networking, and workload billing aggregation and reconciliation.

- Intel® Certified Pro in Cloud Fundamentals or equivalent practical experience.

CURRICULUM

3
courses

10
hours to complete
(estimated)

Upon completion of the Cloud Business Professional coursework, take the proctored exam to achieve recognition as an Intel® Certified Pro.

CLOUD BUSINESS PROFESSIONAL

Course 1
ENTERPRISE BUSINESS REQUIREMENTS

Optimizing workloads requires a deep understanding of Enterprise Business Requirements. This course provides detailed information to help cloud professionals design resilient, scalable cloud solutions that achieve business objectives cost-effectively.

Course 2
BUSINESS CASE FOR WORKLOADS

Learn to develop a Business Case for Workloads grounded in a cloud strategy for deployment and optimizations. In this course we review drivers for establishing a workload strategy, how to measure success with cloud-native workloads, and how Intel delivers business value and solves business workload needs across CSPs.

Course 3
FINOPS AND PRICING

Step through FinOps and Pricing topics, which focus on the business logic and goals related to computing in the cloud. Topics include TCO models, accounting structures aligned to workloads, and cloud consumption billing and tools that contribute to cost management strategies and practices. We also cover multitenant cost and billing strategies and introduce tools for cloud cost optimization.

CLOUD SOLUTIONS ARCHITECT

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Cloud Solutions
Architect

Build on your cloud experience and expertise. The Cloud Solutions Architect curriculum and exam offer expert-level knowledge of cloud instance details, topics, and solutions.

This curriculum is designed for cloud solutions architects with at least two years of practical experience implementing solutions in the cloud. Participants typically have titles such as Solutions Architect, Designer, Developer, Engineer, or similar.

LEARNING OBJECTIVES

- Improve knowledge and skills related to cloud technologies and solutions architecture to design, implement, and optimize cloud solutions.

- Enhance understanding of current industry trends that influence the cloud solutions marketplace and its technology ecosystem.

- Gain advanced knowledge and hands-on training in a wide variety of workloads, including container orchestration, AI, instance tuning, and the cloud-based CI/CD pipeline.

- Earn industry-recognized certification and credentials based on a proctored exam.

RECOMMENDED EXPERIENCE

- At least two years of hands-on experience designing and deploying cloud solutions at scale.

- Competency in cloud applications, including cloud security, CSP solutions, TOGAF, cloud to edge, and CI/CD.

- Professional-level certification from a cloud service provider (CSP) or other training program.

CURRICULUM

11
courses

45
hours to complete
(estimated)

13
hands-on labs

Upon completion of the Cloud Solutions Architect coursework, take the proctored exam to achieve recognition as an Intel® Certified Pro.

CLOUD SOLUTIONS ARCHITECT

Course 1
CLOUD WORKLOAD SOLUTIONS

Covers critical aspects of workload placement and optimization strategies, some of the most critical workloads in business, best practices for architecting and optimizing, and the role Intel plays in empowering your workloads running in the public cloud to be more successful. The course includes self-paced demos and interactive, hands-on workshops.

Includes Granulate hands-on lab.

Course 2
SECURITY SOLUTIONS AND CONFIGURATION

The Security Solutions and Configuration course will explore important topics related to cloud security implementations. This course includes an overview of confidential computing and a review of cryptographic acceleration, Intel® QuickAssist Technology (Intel® QAT), and microcode updates. We will also explore security technology vendors and their alignment with Intel's contributions, followed by a global view of cloud and security regulations and trends.

Includes SGX Confidential Computing and WordPress TLS load testing hands-on labs.

Course 3
INTEL® TELEMETRY AND CLOUD MONITORING

The Intel Telemetry and Cloud Monitoring course is specifically targeted at cloud solutions architects who want a deeper understanding of telemetry and monitoring. Students will learn about telemetry use cases, including power, microservices, monitoring, data pipelines, and other advanced telemetry uses.

Includes Observability with Microservices and Telemetry and Performance PerfSpect hands-on labs.

Course 4
CLOUD STORAGE

The Cloud Storage course provides a deep understanding of the importance and options related to data storage in the cloud. Learn about the history and evolution of storage, matching storage solutions to specific workloads, and enhancing storage services through architecture and optimizations across cloud providers.

Includes MinIO hands-on lab.

CLOUD SOLUTIONS ARCHITECT

Course 5
CONTAINERS

The Containers course provides advanced knowledge and recommendations to optimize the choice and use of container-based workloads across multiple instances, markets, and pipelines in the private and public cloud. Course materials include guidance on the optimization of container implementations, building a holistic container strategy, and tuning the container's performance and costs. Interactive labs provide hands-on experience in leveraging OpenVINO™ on Amazon Web Services and implementing confidential computing with Intel® Software Guard Extensions (Intel® SGX) on Microsoft Azure.

Includes OpenVINO™ on Amazon Web Services Lamda and Gramine attestation SGX with Kubernetes hands-on labs.

Course 6
AI IN THE CLOUD

The AI in the Cloud course is designed for cloud solutions architects who seek a deeper understanding of AI workloads in the cloud. AI topics include AI pipelines, benchmarking AI performance, instance selection for AI workloads, and federated learning.

Includes Running AI End-to-End Optimization, Habana Gaudi on Amazon Web Services, and Distributed AI in the Cloud hands-on labs.

Course 7
CLOUD NETWORKING AND EDGE

The Cloud Networking and Edge course will follow the discussion of continued workload growth and variety and take a deeper look at the workloads and data deployed at the enterprise edge. These workloads connect dispersed corporate resources and edge processing and usually require analysis and changes to traditional networking and security configurations. Cloud Networking and Edge topics include SD-WAN, SSE, foundational technologies, and performance optimizations.

CLOUD SOLUTIONS ARCHITECT

Course 8
INTEL® SOFTWARE TUNING AND OPTIMIZATION

The Intel Software Tuning and Optimization course is specifically targeted at cloud solutions architects who want to understand and deliver workload performance optimizations. The course includes lessons, demos, and hands-on labs that familiarize learners with performance methods, tools, and workloads optimized for the cloud.

Includes PerfSpect Training: Telemetry Based on Linux Perf and Profile Your Production Workload in the Cloud—Intel® VTune™ Profiler hands-on labs.

Course 9
MULTICLOUD AND HYBRID CLOUD MANAGEMENT

The Multicloud and Hybrid Cloud Management course covers the importance of multicloud for customers and for the ecosystem. Learn how to model and deliver solutions with improved total cost of ownership (TCO) through preferred workload placements. The course covers CSP, OEM, and ISV strategies with multicloud, as well as optimization tools, information, and containerization strategies for multicloud scenarios.

Course 10
WORKLOAD ANALYSIS FOR MIGRATION OR REPATRIATION

Workload Analysis and Migration are important for organizations with a hybrid cloud environment that includes public cloud, private cloud, and on-premises data center. This course helps learners understand workload analysis and trade-offs so that each workload can be placed optimally. This course identifies the important factors to consider during analysis and planning.

Course 11
CLOUD SOLUTION DEVELOPMENT – DEVOPS

The Cloud Solution Development – DevOps course was designed to connect the application development and deployment processes with the cloud-enabled tools and resources that support continuous integration and continuous development (CI/CD). Learn to use CSP tools, build and release pipelines, instance requirements, and methodologies to automate the ongoing improvement and deployment of workloads on-premises or in the cloud.

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