Cloud Architect

Certification

Arcitura® CERTIFIED Cloud Architect

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Acclaim

Credly

The Cloud Certified Professional (CCP) program from Arcitura is dedicated to excellence in the fields of cloud computing technology, mechanisms, platforms, architecture, security, governance and capacity. A collection of 21 courses establishes a set of 8 vendor-neutral industry certifications with different areas of specialization.

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Arcitura®
CERTIFIED
Cloud Architect

TRAINING & CERTIFICATION

The Cloud Architect track is comprised of CCP Modules 1, 2, 4, 5 and 6, the outlines for which are provided in the upcoming pages. The final course module consists of a series of lab exercises that require participants to apply their knowledge of the preceding courses in order to fulfill project requirements and solve real world problems. Completion of these courses as part of a virtual or on-site workshop results in each participant receiving an official digital Certificate of Completion, as well as a digital Training Badge from Acclaim/Credly.

A Certified Cloud Architect has demonstrated proficiency in the technology architecture that underlies cloud platforms and cloud-based IT resources and solutions, and has mastered the hands-on application of design patterns, principles and practices used to engineer and evolve such environments. Depending on the exam format chosen, attaining the Cloud Architect Certification can require passing a single exam or multiple exams. Those who achieve this certification receive an official digital Certificate of Excellence, as well as a digital Certification Badge from Acclaim/Credly with an account that supports the online verification of certification status.

For more information, visit: www.arcitura.com/ccp/architect

Acclaim | Credly

EXAM C90.CAR

You can take exams anywhere in the world via Pearson VUE testing centers, Pearson VUE online proctoring and Arcitura on-site exam proctoring at your location.

You are provided with three flexible exam format options:

- Complete Exam C90.CAR, a single combined exam for the entire Cloud Architect certification track. Recommended for those who want to only take a single exam that encompasses all course modules within this track.
- Complete the partial version of Exam C90.CAR. Recommended for those who have already obtained a CCP certification and would like to achieve the Cloud Architect Certification without having to be retested on CCP Modules 1 and 2.
- Complete one module-specific exam for each course module in Cloud Architect Certification track. This is recommended for those who want to progress gradually through the track and who would like to be assessed after each course module before proceeding to the next.

Visit www.arcitura.com/ccp/exams for more information. (Note that not all exam formats may be available via all exam delivery options.)

It is recommended that you prepare for the exam(s) by acquiring the Cloud Architect Certification eLearning kit bundle or the printed Cloud Architect Certification study kit bundle or by attending an instructor-led workshop that includes CCP Modules 1, 2, 4, 5 and 6. The current public workshop calendar can be viewed at www.arcitura.com/workshops. To learn more about having a private workshop delivered at your location, visit www.arcitura.com/private.

Fundamental Cloud Computing

MODULE
01

This foundational course provides end-to-end coverage of fundamental cloud computing topics as they pertain to both technology and business considerations. The course content is divided into a series of modular sections, each of which is accompanied by one or more hands-on exercises.

The following primary topics are covered:

- Fundamental Cloud Computing Terminology and Concepts
- Basics of Virtualization
- Specific Characteristics that Define a Cloud
- Understanding Elasticity, Resiliency, On-Demand and Measured Usage
- Benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Cloud Resource Administrator and Cloud Service Owner Roles
- Cloud Service and Cloud Service Consumer Roles
- Understanding the Software as a Service (SaaS) Cloud Delivery Model
- Understanding the Platform as a Service (PaaS) Cloud Delivery Model
- Understanding the Infrastructure as a Service (IaaS) Cloud Delivery Model
- Combining Cloud Delivery Models
- Public Cloud, Private Cloud, Hybrid Cloud and Community Cloud Deployment Models
- Business Cost Metrics and Formulas for Comparing and Calculating Cloud and On-Premise Solution Costs
- Formulas for Calculating and Rating SLA Quality of Service Characteristics

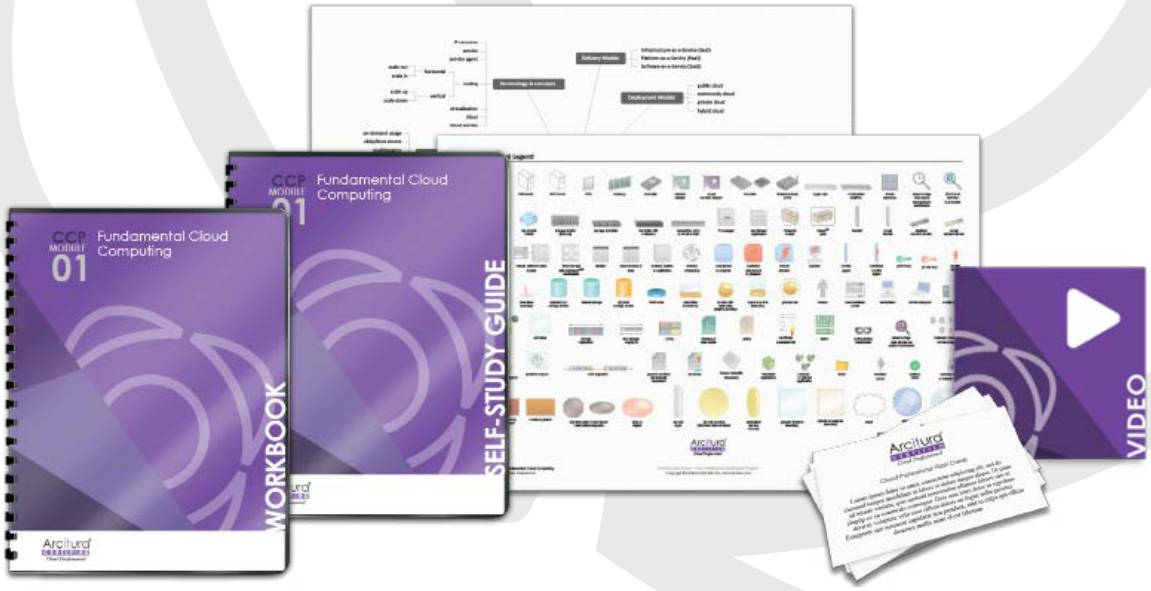
MORE INFO

For curriculum information, visit:
www.arcitura.com/ccp

CONTENTS

This course is available as part of an Arcitura Study Kit in full-color printed and eLearning formats. In addition to the base course materials used during training workshops, additional materials designed for self-study purposes are also included.

- Workbook
- Self-Study Guide
- Symbol Legend Poster
- Mind Map Poster
- Flashcards
- Video Lessons (eLearning only)



eLEARNING

The eLearning kit provides enhanced features for self-study, including custom annotations and commenting, outline-driven navigation, custom bookmarks, multi-document viewing and full-text searching. This environment also enables online and offline access without the need to install any software.

Cloud Technology Concepts

MODULE
02

This course explores a range of the most important and relevant technology-related topics that pertain to contemporary cloud computing platforms. The course content does not get into implementation or programming details, but instead keeps coverage at a conceptual level, focusing on topics that address cloud service architecture, cloud security threats and technologies, virtualization and containerization.

Proven technologies are defined and classified as concrete architectural building blocks called “mechanisms”. The purpose of this tmanner that is accessible to a wide range of IT professionals, as well as to empower participants with an understanding of the fundamental mechanics of a cloud platform, how the different “moving parts” can be combined, and how to address common threats and pitfalls.

The following primary topics are covered:

- Cloud Computing Mechanisms that Establish Architectural Building Blocks
- Virtual Servers, Containers, Ready-Made Environments, Failover Systems and Pay-Per-Use Monitors
- Automated Scaling Listeners, Multi-Device Brokers and Resource Replication
- Understanding How Individual Cloud Computing Mechanisms Support Cloud Characteristics
- An Introduction to Containerization, Container Hosting and Logical Pod Containers
- A Comparison of Containerization and Virtualization
- Cloud Balancing and Cloud Bursting Architectures
- Common Risks, Threats and Vulnerabilities of Cloud-based Services and Cloud-hosted Solutions
- Cloud Security Mechanisms used to Counter Threats and Attacks
- Understanding Cloud-Based Security Groups and Hardened Virtual Server Images
- Cloud Service Implementation Mediums (including Web Services and REST Services)
- Cloud Storage Benefits and Challenges, Cloud Storage Services, Technologies and Approaches
- Non-Relational (NoSQL) Storage Compared to Relational Storage
- Cloud Service Testing Considerations and Testing Types
- Service Grids and Autonomic Computing
- Cloud Computing Industry Standards Organizations

MORE INFO

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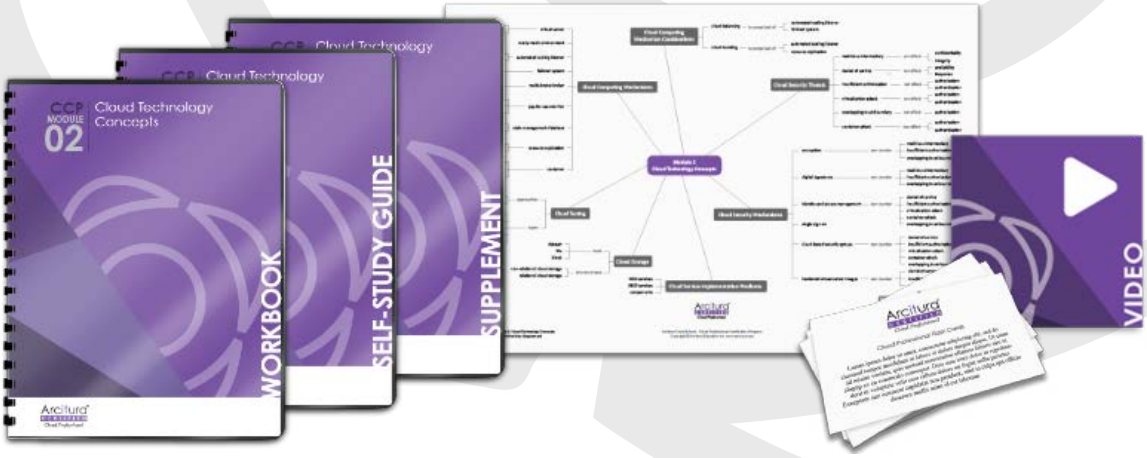
- Workbook
- Self-Study Guide
- Vendor Examples Supplement
- Mind Map Poster
- Flashcards
- Video Lessons (eLearning only)



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Fundamental Cloud Architecture

MODULE
04

This course provides provides a technical drill-down into the inner workings and mechanics of foundational cloud computing platforms. Private and public cloud environments are dissected into concrete, componentized building blocks (referred to as “patterns”) that individually represent platform feature-sets, functions and/or artifacts, and are collectively applied to establish distinct technology architecture layers. Building upon these foundations, Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS) environments are further explored as compound patterns, comprised of unique and shared building blocks.

The course is structured as a guided tour through these architectural layers, describing primary components, highlighting shared components, exploring containerization extensions and explaining how building blocks can be assembled and implemented via cloud computing mechanisms and practices.

The following primary topics are covered:

- Understanding the Technology Architecture of Private Clouds and Public Clouds
- Understanding the Technology Architecture of SaaS, PaaS and ISaaS Environments
- Automated Administration and Centralized Remote Administration
- Container Sidecars and Container Chains
- Self-Provisioning and Platform Provisioning
- Rich Containers and Logical Pod Containers
- Bare-Metal Provisioning and Resource Management
- Single-Node Multi-Containers and Multipath Resource Access
- Usage Monitoring and Broad Access
- Realtime Resource Availability and Pay-as-You-Go
- Shared Resources and Resource Pooling
- Rapid Provisioning and Resource Reservation
- Non-Disruptive Service Relocation and Service State Management
- Workload Distribution and Dynamic Scalability

MORE INFO

For curriculum information, visit:
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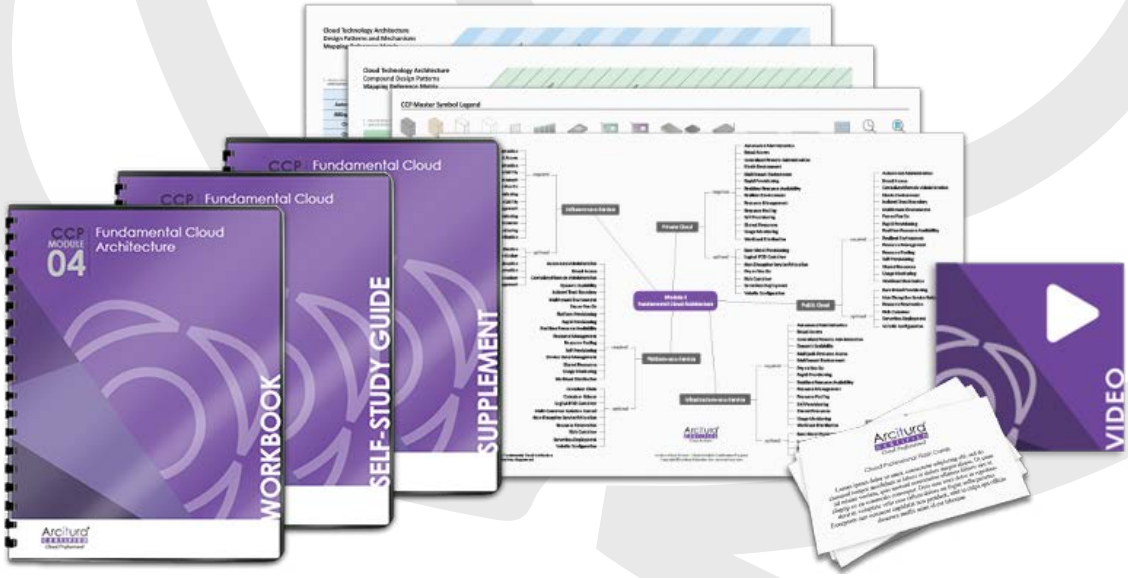
- Workbook
- Self-Study Guide
- Containerization Patterns Supplement
- Symbol Legend Poster
- Mind Map Poster
- Pattern and Mechanism Mapping Posters
- Flashcards
- Video Lessons (eLearning only)



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Advanced Cloud Architecture

MODULE
05

This course builds upon CCP Module 4 to provide a deep dive into elastic, resilient, multitenant and containerized technology architectures, as well as specialized solution architectures, such as cloud bursting and cloud balancing.

Through the study of architectural mechanisms, industry technologies and design patterns, both core and extended components are described that combine to realize elasticity, resiliency, multitenancy and associated containerization extensions as primary characteristics of cloud platforms. By leveraging these native and enhanced scalability and failover-related feature-sets, specialized solution architectures are described to enable bursting between clouds and on-premise and cloud environments, as well as the balancing of runtime loads across clouds for performance and failover purposes.

The course organizes content so that architectural layers are explored sequentially and, where appropriate, in relation to each other. Newly introduced primary components are described and shared components across architectural layers are highlighted.

The following primary topics are covered:

- Understanding the Technology Architecture of Elastic, Resilient, Multitenant and Containerized Environments
- Elastic Resource Capacity and Elastic Network Capacity
- Multi-Container Isolation Control and Volatile Container Configuration
- Serverless Deployment and Elastic Disk Provisioning
- Leader Node Election and Micro Scatter-Gather
- Hypervisor Clustering and Redundant Storage
- Storage Service Gateway and Live Storage Migration
- LUN Storage and LUN Migration
- Dynamic Failure Detection and Recovery and Zero Downtime
- Service Load Balancing and Load Balanced Virtual Server Instances
- Load Balanced Virtual Switches and Persistent Virtual Network Configurations
- Dynamic Data Normalization and Synchronized Operating State
- Intra-Storage Device Vertical Tiering and Cross-Storage Device Vertical Tiering
- Storage Workload Management and Storage Maintenance Window
- Direct I/O Access and Direct LUN Access
- Redundant Physical Connection for Virtual Servers
- Cloud Bursting, including Burst In and Burst Out to Private/ Public Clouds
- Cloud Balancing

MORE INFO

For curriculum information, visit:
www.arcitura.com/ccp

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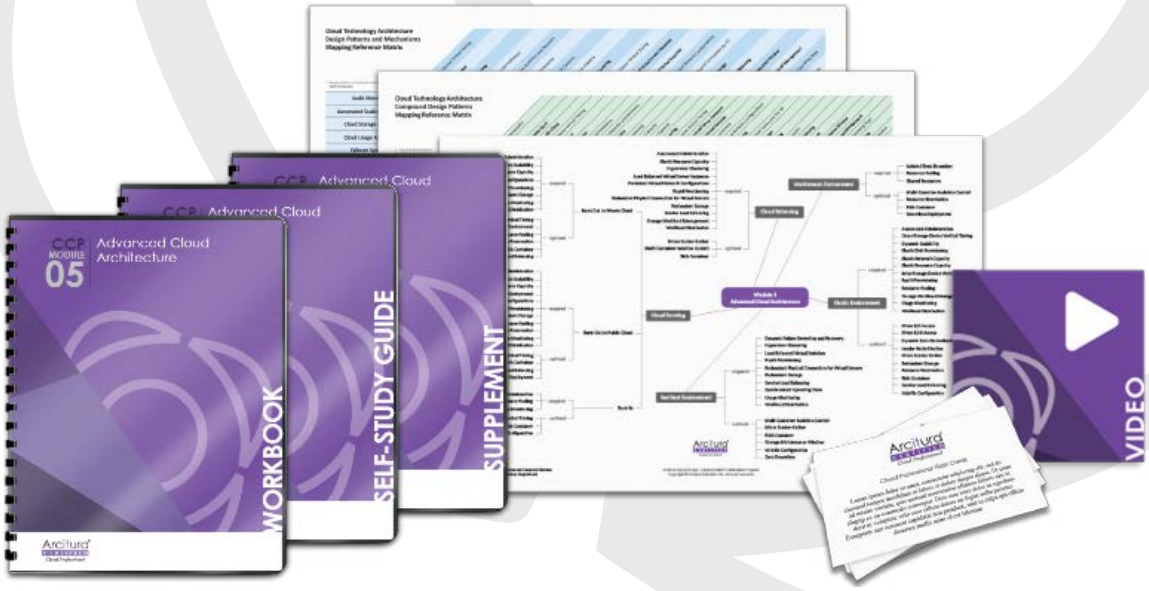
- Workbook
- Self-Study Guide
- Containerization Patterns II Supplement
- Mind Map Poster
- Pattern and Mechanism Mapping Posters
- Flashcards
- Video Lessons (eLearning only)



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Cloud Architecture Lab

MODULE
06

This course module presents participants with a series of exercises and problems that are designed to test their ability to apply their knowledge of topics covered previously in course modules 4 and 5. Completing this lab will help highlight areas that require further attention and will further prove hands-on proficiency in cloud computing design patterns, technology architecture layers, mechanisms, industry technologies and practices as they are applied and combined to solve real-world problems.

As a hands-on lab, this course provides a set of detailed exercises that require participants to solve a number of inter-related problems, with the ultimate goal of evaluating, designing and correcting technology architectures to fulfill specific sets of solution and business automation requirements.

For instructor-led delivery of this lab course, the Certified Cloud Trainer works closely with participants to ensure that all exercises are carried out completely and accurately. Attendees can voluntarily have exercises reviewed and graded as part of the class completion.

For individual completion of this course as part of the Module 6 Study Kit, a number of supplements are provided to help participants carry out exercises with guidance and resource references.

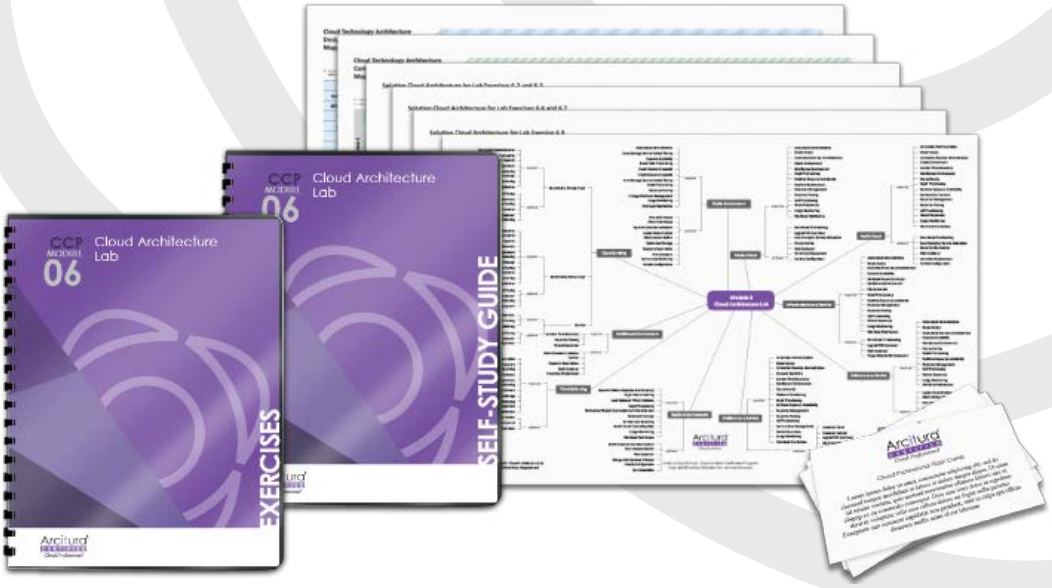
MORE INFO

For curriculum information, visit:
www.arcitura.com/ccp

CONTENTS

This course is available as part of an Arcitura Study Kit in full-color printed and eLearning formats. In addition to the base course materials used during training workshops, additional materials designed for self-study purposes are also included.

- Lab Exercises Booklet
- Self-Study Guide
- Mind Map Poster
- Pattern and Mechanism Mapping Poster
- Lab Exercise Architectural Solution Poster
- Lab Exercise 6.2 and 6.3 Poster
- Lab Exercise 6.6 and 6.7 Poster
- Lab Exercise 6.9 Poster
- Flashcards



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Digital Transformation Certifications

Digital Transformation Professional Academy

Arcitura® CERTIFIED

		Digital Transformation Specialist	Digital Transformation Technology Professional	Digital Transformation Technology Architect	Digital Transformation Data Science Professional	Digital Transformation Data Scientist	Digital Transformation Security Professional	Digital Transformation Security Specialist	Digital Transformation IA Professional	Digital Transformation IA Specialist
MODULE 01	Fundamental Digital Transformation	●	●	●	●	●	●	●	●	●
MODULE 02	Digital Transformation in Practice	●	●	●	●	●	●	●	●	●
MODULE 03	Fundamental Cloud Computing		●	●						
MODULE 04	Fundamental Blockchain		●	●			●	●		
MODULE 05	Fundamental IoT		●	●						
MODULE 06	Cloud Architecture			●						
MODULE 07	Blockchain Architecture			●				●		
MODULE 08	IoT Architecture			●						
MODULE 09	Fundamental Big Data Analysis & Analytics				●	●				
MODULE 10	Fundamental Machine Learning				●	●				
MODULE 11	Fundamental AI				●	●			●	●
MODULE 12	Advanced Big Data Analysis & Analytics					●				
MODULE 13	Advanced Machine Learning					●				
MODULE 14	Advanced AI					●				●
MODULE 15	Fundamental Cybersecurity						●	●		
MODULE 16	Advanced Cybersecurity							●		
MODULE 17	Fundamental RPA								●	●
MODULE 18	Advanced RPA & Intelligent Automation									●

To learn more, visit:
www.arcitura.com/digitaltransformation

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Arcitura® CERTIFIED

CLOUD CERTIFIED PROFESSIONAL (CCP)

CLOUD SCHOOL

	Certified Cloud Professional*	Certified Cloud Technology Professional	Certified Cloud Architect	Certified Cloud Security Specialist	Certified Cloud Governance Specialist	Certified Cloud Storage Specialist	Certified Cloud Virtualization Specialist
MODULE 01 Fundamental Cloud Computing	●	●	●	●	●	●	●
MODULE 02 Cloud Technology Concepts	●	●	●	●	●	●	●
MODULE 03 Cloud Technology Lab		●					
MODULE 04 Fundamental Cloud Architecture			●				
MODULE 05 Advanced Cloud Architecture			●				
MODULE 06 Cloud Architecture Lab			●				
MODULE 07 Fundamental Cloud Security				●			
MODULE 08 Advanced Cloud Security				●			
MODULE 09 Cloud Security Lab				●			
MODULE 10 Fundamental Cloud Governance					●		
MODULE 11 Advanced Cloud Governance					●		
MODULE 12 Cloud Governance Lab					●		
MODULE 13 Fundamental Cloud Storage						●	
MODULE 14 Advanced Cloud Storage						●	
MODULE 15 Cloud Storage Lab						●	
MODULE 16 Fundamental Cloud Virtualization							●
MODULE 17 Advanced Cloud Virtualization							●
MODULE 18 Cloud Virtualization Lab							●

** The Certified Cloud Professional designation is automatically issued when achieving any other CCP certification. It can also be achieved by receiving passing grades on Exams C90.01 + C90.02.*

To learn more, visit:
www.arcitura.com/ccp

Arcitura CERTIFIED

DIGITAL TRANSFORMATION

- MODULE 01 | Fundamental Digital Transformation
- MODULE 02 | Digital Transformation in Practice
- MODULE 03 | Fundamental Cloud Computing
- MODULE 04 | Fundamental Blockchain
- MODULE 05 | Fundamental IoT
- MODULE 06 | Cloud Architecture
- MODULE 07 | Blockchain Architecture
- MODULE 08 | IoT Architecture
- MODULE 09 | Fundamental Big Data Analysis & Analytics
- MODULE 10 | Fundamental Machine Learning
- MODULE 11 | Fundamental AI
- MODULE 12 | Advanced Big Data Analysis & Analytics
- MODULE 13 | Advanced Machine Learning
- MODULE 14 | Advanced AI
- MODULE 15 | Fundamental Cybersecurity
- MODULE 16 | Advanced Cybersecurity
- MODULE 17 | Fundamental RPA
- MODULE 18 | Advanced RPA & Intelligent Automation

Curriculum Mapping

The following diagram highlights the course modules from the Digital Transformation curriculum that correspond to course modules from the CCP program. Completing CCP Modules 1, 2 and 4 automatically advances you in Digital Transformation certification tracks.

MODULE 01 | Fundamental Cloud Computing	***CCP***
MODULE 02 | Cloud Technology Concepts	***CCP***
MODULE 01 | Fundamental Blockchain	***NEXT-GEN***
MODULE 01 | Fundamental IoT	***NEXT-GEN***
MODULE 04 | Cloud Architecture	***CCP***
MODULE 02 | Blockchain Technology & Architecture	***NEXT-GEN***
MODULE 02 | IoT Technology & Architecture	***NEXT-GEN***
MODULE 01 | Fundamental Big Data	***BDSCP***
MODULE 01 | Fundamental Machine Learning	***NEXT-GEN***
MODULE 01 | Fundamental AI	***NEXT-GEN***
MODULE 02 | Big Data Analysis & Technology Concepts	***BDSCP***
MODULE 02 | Advanced Machine Learning	***NEXT-GEN***
MODULE 02 | Advanced AI	***NEXT-GEN***
MODULE 01 | Fundamental Cybersecurity	***NEXT-GEN***
MODULE 02 | Advanced Cybersecurity	***NEXT-GEN***
MODULE 01 | Fundamental RPA	***NEXT-GEN***
MODULE 02 | Advanced RPA & Intelligent Automation	***NEXT-GEN***

NEXT-GEN IT CERTIFICATIONS

NEXT-GEN IT ACADEMY

Arcitura® CERTIFIED

			Certified DevOps Specialist	Certified Blockchain Architect	Certified Machine Learning Specialist	Certified Artificial Intelligence Specialist	Certified IoT Architect	Certified Cybersecurity Specialist	Certified RPA Specialist	Certified Business Technology Professional	Certified Containerization Architect
DevOps	MODULE 01	Fundamental DevOps	●								
	MODULE 02	DevOps in Practice	●								
	MODULE 03	DevOps Lab	●								
Blockchain	MODULE 01	Fundamental Blockchain		●							
	MODULE 02	Blockchain Technology & Architecture		●							
	MODULE 03	Blockchain Technology & Architecture Lab		●							
Machine Learning	MODULE 01	Fundamental Machine Learning			●						
	MODULE 02	Advanced Machine Learning			●						
	MODULE 03	Machine Learning Lab			●						
Artificial Intelligence	MODULE 01	Fundamental Artificial Intelligence				●					
	MODULE 02	Advanced Artificial Intelligence				●					
	MODULE 03	Artificial Intelligence Lab				●					
Internet of Things	MODULE 01	Fundamental IoT					●				
	MODULE 02	IoT Technology & Architecture					●				
	MODULE 03	IoT Technology & Architecture Lab					●				
Cybersecurity	MODULE 01	Fundamental Cybersecurity						●			
	MODULE 02	Advanced Cybersecurity						●			
	MODULE 03	Cybersecurity Lab						●			
RPA	MODULE 01	Fundamental RPA							●		
	MODULE 02	Advanced RPA & Intelligent Automation							●		
	MODULE 03	RPA Lab							●		
Business Technology	MODULE 01	Business Automation Technology Overview								●	
	MODULE 02	Data Science Technology Overview								●	
	MODULE 03	Digital & Security Technology Overview								●	
Containerization	MODULE 01	Fundamental Containerization									●
	MODULE 02	Containerization Technology & Architecture									●
	MODULE 03	Containerization Technology & Architecture Lab									●

To learn more, visit:
www.arcitura.com/nextgen

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Big Data Science Certified Professional (BDSCP)

BIG DATA SCIENCE SCHOOL

	Certified Big Data Professional*	Certified Big Data Science Professional	Certified Big Data Scientist	Certified Big Data Consultant	Certified Big Data Engineer	Certified Big Data Architect	Certified Big Data Governance Specialist
MODULE 01 Fundamental Big Data	●	●	●	●	●	●	●
MODULE 02 Big Data Analysis & Technology Concepts	●	●	●	●	●	●	●
MODULE 03 Big Data Analysis & Technology Lab		●		●			
MODULE 04 Fundamental Big Data Analysis & Science			●	●			
MODULE 05 Advanced Big Data Analysis & Science			●				
MODULE 06 Big Data Analysis & Science Lab			●				
MODULE 07 Fundamental Big Data Engineering				●	●		
MODULE 08 Advanced Big Data Engineering					●		
MODULE 09 Big Data Engineering Lab					●		
MODULE 10 Fundamental Big Data Architecture						●	
MODULE 11 Advanced Big Data Architecture						●	
MODULE 12 Big Data Architecture Lab						●	
MODULE 13 Fundamental Big Data Governance							●
MODULE 14 Advanced Big Data Governance							●
MODULE 15 Big Data Governance Lab							●

** The Certified Big Data Professional designation is automatically issued when achieving any other BDSCP certification. It can also be achieved by receiving passing grades on Exams B90.01 + B90.02.*

To learn more, visit:
www.arcitura.com/bdscp

SOA Certified Professional (SOACP)

SOA SCHOOL

Arcitura® CERTIFIED

		Certified SOA Professional*	Certified SOA Analyst	Certified SOA Architect	Certified Microservice Architect	Certified Service Tech Consultant	Certified Service API Specialist	Certified Service Governance Specialist	Certified Service Security Specialist
MODULE 01	Fundamental SOA, Services & Microservices	●	●	●	●	●	●	●	●
MODULE 02	Service Technology Concepts	○		●	●	●	●		●
MODULE 03	Design & Architecture w/ SOA, Services & Microservices	○	●	●				●	
MODULE 04	Fundamental SOA Analysis & Modeling w/ Services & Microservices		●						
MODULE 05	Advanced SOA Analysis & Modeling w/ Services & Microservices		●						
MODULE 06	SOA Analysis & Modeling Lab w/ Services & Microservices		●						
MODULE 07	Advanced SOA Design & Architecture w/ Services & Microservices			●					
MODULE 08	SOA Design & Architecture Lab w/ Services & Microservices			●					
MODULE 09	Fundamental Microservice Architecture & Containerization				●	●			
MODULE 10	Advanced Microservice Architecture & Containerization				●				
MODULE 11	Microservice Architecture & Containerization Lab				●				
MODULE 12	Fundamental Service API Design & Management					●	●		
MODULE 13	Advanced Service API Design & Management						●		
MODULE 14	Service API Design & Management Lab						●		
MODULE 15	Fundamental Service Governance & Project Delivery							●	
MODULE 16	Advanced Service Governance & Project Delivery							●	
MODULE 17	Service Governance & Project Delivery Lab							●	
MODULE 18	Fundamental Security for Services, Microservices & SOA					●			●
MODULE 19	Advanced Security for Services, Microservices & SOA								●
MODULE 20	Security Lab for Services, Microservices & SOA								●

** The Certified SOA Professional designation is automatically issued when achieving any other SOACP certification. It can also be achieved by receiving passing grades on Exams S90.01B + S90.02B or S90.01B + S90.03B.*

To learn more, visit:
www.arcitura.com/soacp

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