MOHESR Huawei training program:

The collaboration between the Ministry of Higher Education and Scientific Research and Huawei Egypt, aims to build a more inclusive and capable workforce to Enhance their professional development and career advancement opportunities and expand skills set and stay up-to-date with the latest trends and technologies.

These programs are offered to calibers who are interested in investing in their professional growth and contribute to the success of higher education institutions

You can apply now for the training program for ICT staff in IT sector in higher education institutions in the following areas:

1.Big Data

2- AI

3.Cloud Computing

4.Datacom

5- Security

6.Access Network

7- 5G

Important notes:

- Pre- assessment exam will be held to applicants to evaluate their knowledge with the basic principles of networks, operating systems and databases
- Applicants must provide proof of work in one of the institutions affiliated to the Ministry of Higher Education and Scientific Research
- Participants should select One field of training fields.

وزارة التعليم العالي والبحث العلمي
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH
الحوكمة الذكية

HUAWEI

Enterprise Training Proposal

وزارة التعليم العالي والبحث العلمي
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH
الحوكمة الذكية

HUAWEI

Contents

1 Training Programs

Training Courses	Level	Course Duration	Training Location	Total Trainees	Class Quantity
1.Big Data Certification Training					
HCIA-Big Data Training	Ⅱ	5		12	1
2.AI Certification Training					
HCIA-AI Training	Ⅱ	5		12	1
3.Cloud Computing Certification Training					
HCIA-Cloud Computing Training	Ⅱ	5		16	1
4.Datacom Certification Training					
HCIA-Datacom Training	Ⅱ	10		12	1
5.Routing and Switching Certification Training					
HCIA-Routing&Switching Training	Ⅱ	10		12	1
6.Security Certification Training					
HCIA-Security Training	Ⅱ	10		12	1
7.Access Network Certification Training					
HCIA-Access Training	Ⅱ	5		12	1
8.5G Certification Training					
HCIA-5G Training	Ⅱ	4		12	1

Notes:

Ⅰ: Basic Course Ⅱ: Intermediate Course Ⅲ: Advanced Course Ⅳ: Expert Course

2 Training Programs Description

2.1 Big Data Certification Training

2.1.1 HCIA-Big Data Training

Training Path

1	HCIA-Big Data Training	
	Lecture,Practice	5.0 days

Target Audience

Big data practitioners

Big data related industry practitioners

Prerequisites

- Have basic knowledge of Linux
- With IT project experience
- Have Hadoop basics

Objectives

On completion of this program, the participants will be able to:

- Master the principles of big data components
- Master the usage of big data components

Training Contents

HCIA-Big Data Training

- MapReduce - Distributed Off-line Batch Processing and Yarn - Resource Negotiator
  - Introduction to MapReduce and YARN
  - Functions and Architectures of MapReduce and YARN
  - Resource Management and Task Scheduling of YARN
  - Enhanced Features
- HBase - Distributed NoSQL Database
  - Introduction to HBase
  - Functions and Architecture of HBase
  - Key Processes of HBase
  - Huawei Enhanced Features of HBase

- HDFS - Hadoop Distributed File System
  - HDFS Overview and Application Scenarios
  - Position of HDFS in FusionInsight HD
  - HDFS System Architecture
  - Key Features
- Streaming - Distributed Stream Computing Engine
  - Introduction to Streaming
  - System Architecture
  - Key Features
  - Introduction to StreamCQL
- Kafka - Distributed Message Subscription System
  - Introduction to Kafka
  - Architecture and Functions of Kafka
  - Key Processes of Kafka
- Zookeeper - Cluster Distributed Coordination Service
  - Introduction to ZooKeeper
  - Position of ZooKeeper in FusionInsight
  - System Architecture
  - Key Features
  - Relationship with Other Components
- Big Data Industry and Technological Trends
  - Big Data Era
  - Big Data Application Scope
  - Opportunities and Challenges in the Big Data Era
  - Huawei Big Data Solution
- FusionInsight HD Solution Overview
  - FusionInsight Overview
  - FusionInsight Features
  - Success Cases of FusionInsight
- Flume - Massive Logs Aggregation
  - Flume Overview and Architecture
  - Key Characteristics of Flume
  - Flume Applications
- Hive - Distributed Data Warehouse
  - Introduction to Hive

- Hive Functions and Architecture
- Basic Hive Operations

- Spark2x - In-memory Distributed Computing Engine
  - Spark Overview
  - Spark Principles and Architecture
  - Spark Integration in FusionInsight HD
- Loader - Data Transformation
  - Introduction to Loader
  - Loader Job Management
- Flink – Stream Processing and Batch Processing Platform
  - Flink Overview
  - Technical Principles and Architecture of Flink
  - Flink Integration in FusionInsight HD

Duration

5 working days

Class Size

Max 12

2.2 AI Certification Training

2.2.1 HCIA-AI Training

Training Path

1	AI Overview	
	Lecture	0.5 day

2	Machine Learning Overview	
	Lecture,Practice	1.23 days

3	Deep Learning Overview	
	Lecture,Practice	1.5 days

4	Mainstream Development Frameworks for AI	
	Lecture,Practice	0.57 day

5	Huawei AI Development Framework

	MindSpore	
	Lecture	0.2 day

6	Huawei AI Computing Platform Atlas	
	Lecture	0.33 day

7	Huawei Open AI Platform for Smart Devices	
	Lecture	0.17 day

8	HUAWEI CLOUD Enterprise Intelligence Application Platform	
	Lecture	0.5 day

Target Audience

Those who hope to become AI engineers

Those who hope to obtain an HCIA-AI certificate

Those who hope to know how to use, manage, and maintain Huawei AI products and AI cloud services

Prerequisites

- Be familiar with basic operations on Linux operating systems.
- Possess the basic knowledge of advanced mathematics, and have studied the pre-curriculum of Mathematics
- Familiar with python language, have studied the pre-course of "Python Basics"
-

Objectives

On completion of this program, the participants will be able to:

- Understand the overview of AI.
- To solve the tasks of different types, understand the whole process from data acquisition and processing, model building to result output and evaluation
- Basic understanding of TensorFlow 2.1.0, Pytorch framework, can realize simple application
- Basic understanding of TensorFlow 2.1.0, Pytorch, MindSpore framework, can realize simple application
- Basic understanding of MindSpore framework, can realize simple application

- Understand HUAWEI Ascend series products
- Master the basic functions of the Atlas development board
- Understand HUAWEI HiAI
- Understand HUAWEI EI

Training Contents

AI Overview

- AI Overview
- Technical Fields and Application Fields of AI
- Huawei's AI Development Strategy
- AI Disputes
- Future Prospects of AI

Machine Learning Overview

- Machine Learning Definition
- Machine Learning Types
- Machine Learning Process
- Other Key Machine Learning Methods
- Common Machine Learning Algorithms
- Case Study

Deep Learning Overview

- Deep Learning Summary
- Training Rules
- Activation Function

- Regularization
- Optimizer
- Types of Neural Network
- Common Problems

Mainstream Development Frameworks for AI

- Mainstream Development Frameworks
- TensorFlow 2.x Basics
- Common Modules of TensorFlow 2.x
- Basic Steps of Deep Learning Development

Huawei AI Development Framework MindSpore

- MindSpore Development Framework
- MindSpore Development and Application

Huawei AI Computing Platform Atlas

- Overview of AI Chips
- Hardware Architecture of Ascend Chips
- Software Architecture of Ascend Chips
- Huawei Atlas AI Computing Platform
- Industry Applications of Atlas

Huawei Open AI Platform for Smart Devices

- AI Industry Ecosystem
- Huawei HiAI Platform
- Developing Apps Based on Huawei HiAI Platform

HUAWEI CLOUD Enterprise Intelligence Application Platform

- Overview of HUAWEI CLOUD EI
- ModelArts
- HUAWEI CLOUD EI Solutions

Duration

5 working days

Class Size

Max 12

2.3 Cloud Computing Certification Training

2.3.1 HCIA-Cloud Computing Training

Training Path

1	HCIA-Cloud Computing Training V4.0	
	Lecture,Practice,Demo	5.0 days

Target Audience

Those who hope to become Cloud Computing engineers

Those who hope to obtain HCIA-Cloud certificate

Operators and Maintainers

Administrators

Planners and designers

Prerequisites

- Be familiar with basic knowledge of IT.

- Be familiar with basic knowledge of server and PC OS.
- Be familiar with basic knowledge of storage.
- Be familiar with basic knowledge of Linux
-

Objectives

On completion of this program, the participants will be able to:

- Describe what cloud computing is.
- Describe the history of cloud computing.
- List a few use cases of cloud computing.
- Describe the characteristics of cloud computing
- Be able to describe what virtualization is.
- Understand the differences between virtualization and cloud computing.
- Understand KVM technology.
- Understand Huawei's FusionSphere virtualization solution.

Training Contents

HCIA-Cloud Computing Training V4.0

- A Brief Introduction to Cloud computing
  - Cloud Computing Is Already Here
  - Cloud Computing Advantages
  - Cloud Computing Definition
  - Origin and Development of Cloud Computing
  - Cloud Computing Models
- Introduction to Compute Virtualization
  - Introduction to Virtualization
  - Introduction to KVM
  - Introduction to FusionCompute
- Network Basics for Cloud Computing
  - Network Architecture for Virtualization
  - Physical Network for Virtualization
  - Virtual Network for Virtualization
  - Network Features of Huawei Virtualization Product
- Storage Virtualization Basics
  - Storage Architecture for Virtualization
  - Physical Disk Types and Related Techniques
  - Centralized Storage vs. Distributed Storage

- Virtualized Storage vs. Non-Virtualized Storage
- Introduction to VM Disks
- Storage Features of Huawei's Virtualization Product

- Introduction to Virtualization Features
  - Introduction to Cluster Features
  - Introduction to Virtualization Features
  - Introduction to the Features of Huawei’s Virtualization Product
- Cloud Computing Trends
  - Fields Related to Cloud Computing
  - Cloud Computing Technologies
  - Cloud Computing Trends
  - Other Emerging Technologies

Duration

5 working days

Class Size

Max 16

2.4 Datacom Certification Training

2.4.1 HCIA-Datacom Training

Training Path

1	Data Communication and Network Basics	
	Lecture,Practice	1.0 day

2	Constructing an Interconnected IP Network	
	Lecture,Practice	1.5 days

3	Constructing an Ethernet Switching Network	
	Lecture,Practice	2.0 days

4	Network Security and Network Access Basics	
	Lecture,Practice	0.5 day

5	Network Services and Applications	
	Lecture,Practice	0.5 day

6	WLAN Basics	
	Lecture,Practice	1.0 day

7	WAN Basics	
	Lecture	0.5 day

8	Network Management and O&M	
	Lecture	0.5 day

9	IPv6 Basics	
	Lecture,Practice	0.5 day

10	Comprehensive Case Practice of Campus Network	
	Lecture,Practice	1.0 day

11	SDN and Automation Basics	
	Lecture,Practice	1.0 day

Target Audience

Who wants to become datacom engineers

Who wants to obtain the HCIA-Datacom certification

Prerequisites

- Be familiar with PC operations.
- Basic understanding of IT technologies and network knowledge
-

Objectives

On completion of this program, the participants will be able to:

- Understand the definition of data communication and the capability model of data communication engineers.
- Understand the network reference model and the entire data communication process.
- Be familiar with the VRP system and be able to perform basic operations.

- Understand IPv4 address protocol and related concepts
- Understand the forwarding principles of Layer 3 devices such as routers and Layer 3 switches.
- Understand the concept of routing and use static route or OSPF to build a Layer 3 network.
- Understand basic Ethernet concepts and describe the functions and working principles of Layer 2 switching devices.
- Be familiar with common Ethernet protocols, such as VLAN, spanning tree, link aggregation and stacking.
- Configure ACLs and AAA to provide basic security solutions for the network.
- Be familiar with the NAT protocol and master the NAT configuration in different scenarios.
- Master the configuration of common services on enterprise networks, such as DHCP, FTP and Telnet.
- Understand basic WLAN concepts and complete basic configurations of small or medium-sized WLAN networks.
- Understand basic WAN concepts and WAN solutions such as MPLS and SR.
- Have general knowledge of basic concepts of enterprise network management.
- Be familiar with traditional network management and SDN-based network management solutions.
- Have a good command of IPv6 protocols and be able to build small-scale IPv6 networks.
- Have a good command of the campus network construction process. Be able to independently construct small-sized campus networks.
- Understand the basic concepts of SDN and programming automation and master the basics of Python.

Training Contents

Data Communication and Network Basics

- Data Communication Network Basics
  - Basic Concepts of Data Communication
  - Data Transfer Process
  - Network Devices and Basic Functions
  - Network Type and Topology Type
  - Network Engineering
  - Network Engineers
- Network Reference Model
  - What is Data and Data Transfer
  - Common Standard Protocols

- Layered Model Concept
- Application Layer and Related Protocols
- Transport Layer and Related Protocols
- Network Layer and Related Protocols
- Data-link Layer and Related Protocols
- Physical Layer and Related Protocols
- Data Transfer, Encapsulation and Decapsulation

- Huawei VRP Basics
  - Common Network Devices
  - VRP Basics
  - CLI Command Views
  - Basic Commands and Function Keys of the CLI

Constructing an Interconnected IP Network

- Network Layer Protocol and IP Addressing
  - Network Layer Protocol
  - Concept, Classification, and Special IP Addresses of IPv4
  - IP Network and IP Subnet Calculation
  - IP Network Address Planning
- IP Routing Basics
  - Basic Working Principles of Routers
  - Routing Table Concepts
  - Routing and Forwarding Features
  - Static Route Configuration
- OSPF Basics
  - Basic Features of OSPF
  - OSPF Application Scenarios
  - Working Principle of OSPF
  - Basic OSPF configurations

Constructing an Ethernet Switching Network

- Ethernet Switching Basics
  - Basic Concepts of Ethernet
  - Concept of MAC Address
  - Working Process and Principles of Layer 2 Switches
  - Composition and Formation of a MAC Address Table
- VLAN Principles and Configuration

- Background of VLAN
- Basic Concepts and Principles of VLAN
- VLAN Data Communication Process on a Layer 2 Network
- Basic VLAN Configuration

- Spanning Tree Protocol
  - Background of STP
  - Basic Concepts and Working Principles of STP
  - Basic Concepts of RSTP and Improvements Compared with STP
  - Basic STP Configuration
  - Other Layer 2 Loop Elimination Technologies
- Ethernet Link Aggregation and Switch Stacking
  - Basic Concepts of Link Aggregation
  - Working Principles of Manual Link Aggregation
  - Working Principles and Features of Link Aggregation in LACP Mode
  - Basic Concepts of iStack and CSS
- Implements Communication Between VLANs
  - Working Principles of Sub-interfaces
  - Working Mechanism of Layer 3 Switches
  - Sub-interface Configuration
  - VLANIF Configuration

Network Security and Network Access Basics

- ACL Principles and Configuration
  - Basic Principles and Functions of ACLs
  - Basic Structure and Matching Order of ACL Rules
  - Usage of Wildcard mask
  - Basic ACL Configuration
- AAA Principles and Configuration
  - Basic Principles and Application Scenarios of AAA
  - Basic Configuration of the Local AAA
- NAT Basics
  - Background of NAT
  - NAT Classification and Technical Principles
  - NAT Configuration in Different Scenarios

Network Services and Applications

- Network Services and Applications

- Principles of TFTP, FTP, DHCP, and HTTP
- Configuration of FTP and DHCP

WLAN Basics

- WLAN Overview
  - Basic Concepts of WLAN and History of 802.11 Protocol suite
  - WLAN devices
  - WLAN Networking Mode
  - WLAN Working Process
  - Basic WLAN Configuration

WAN Basics

- WAN Technology Basics
  - Basic WAN Concepts
  - Common WAN Technologies
  - Working Principles of PPP and PPPoE
  - Configuring PPP and PPPoE
  - Basic Concepts of MPLS/SR

Network Management and O&M

- Network Management and O&M
  - Basic Concepts of the NMS and O&M
  - Common NMS and O&M Methods and Tools
  - Working Principle of SNMP
  - SDN-based NMS and O&M Solution

IPv6 Basics

- IPv6 Basics
  - Comparison Between IPv6 and IPv4
  - Basic Concepts of IPv6
  - Format and Principle of the IPv6 Packet Header
  - IPv6 Address Format and Address Type
  - IPv6 Address Configuration Method and Procedure
  - Static and Dynamic IPv6 Address Configuration
  - IPv6 Static Route Configuration

Comprehensive Case Practice of Campus Network

- Typical Networking Architecture and Cases
  - Campus Network Architecture
  - Campus Network Lifecycle

- Campus Network Construction Cases
- Campus Network Construction Practice

SDN and Automation Basics

- SDN and NFV Basics
  - Basic SDN Concepts
  - Huawei SDN Products and Solutions
  - Basic NFV Concepts
  - Huawei NFV Products and Solutions

Duration

10 working days

Class Size

Max 12

2.5 Security Certification Training

2.5.1 HCIA-Security Training

Training Path

1	Security information and security overview	
	Lecture,Practice	2.0 days
2	Security Operation and Analysis	
	Lecture,Case study	2.0 days
3	Network Security Basis	
	Lecture,Practice	3.0 days
4	Operation System and Host Security	
	Lecture	1.0 day
5	Application of Encryption and Decryption	
	Lecture,Practice	2.0 days

Target Audience

Cyber security junior engineer who hopes to have information security capabilities

Prerequisites

- Basic knowledge of TCP/IP
- Basic knowledge of Routing and Switching

Objectives

On completion of this program, the participants will be able to:

- Understand the basic concepts of information security
- Understand information security common specifications
- Configure network devicesKnow some common security attacks
- Understand the basic process of security operation and maintenance
- Understanding of safety analysis methods and evidence collection methods
- Understand basic firewall technology and configuration
- Understand NAT technology
- Understand firewall dual-system hot back principles
- Know basic network instructions
- Know the basic component of operating system
- Understanding the common risks and defense methods of operating systems
- Understand encryption principles
- Understand encryption application and practice the related configurations

Training Contents

Security information and security overview

- Basic Network Concepts
  - TCP/IP Architecture
  - Common Network Protocols
- Information Security Standards and Specifications
  - Information Security Standards and Specifications
  - ISO 27001 ISMS
  - Graded Protection of Information Security
  - Other Standards
- Common Network Devices
  - Basic Network Devices
  - Initial Device Login
- Threat Defense and Information Security Development Trends
  - Security Threat Defense
  - Information Security Awareness
  - Information Security Development Trends

- Common Information Security Threats
  - Current Situation of Information Security Threats
  - Threats to Network Security
  - Threats to Application Security
  - Threats to Data Transmission and Device Security
- Basic Concepts of Information Security
  - Information and Information Security
  - Information Security Risks and Management

Security Operation and Analysis

- Cyber Security Emergency Response
  - Background of Cyber Security Emergency Response
  - Overview of Cyber Security Emergency Response
  - Process of Cyber Security Emergency Response
- Introduction to Security Operations
  - Concept of Security Operations
  - Basic Requirements for Security Operations
  - Content of Security Operations
- Data Monitoring and Analysis
  - Proactive Analysis
  - Passive Collection
  - Data Analysis
- Digital Forensics
  - Cyber crime
  - Overview of Digital Forensics
  - Digital Forensic Process
- Case Workshop
  - Discussion on Information Security Deployment Procedure
  - Discussion on Cyber Security Cases

Network Security Basis

- Firewall User Management
  - User Authentication and AAA Technical Principles
  - User Authentication Management and Application
- Overview of Intrusion Prevention
  - Intrusion Overview
  - Intrusion Prevention System Overview

- Network Antivirus Overview
- Introduction to Firewalls
  - Firewall Overview
  - Principle of Firewall Forwarding
  - Firewall Security Policies and Application
  - ASPF
- Dual-System Hot Standby
  - Technical Principles of Dual-System Hot Standby
  - Basic Networking and Configuration of Dual-System Hot Standby
- Network Address Translation
  - NAT Principle
  - Source NAT
  - Server Mapping
  - Application Scenarios

Operation System and Host Security

- Host Firewalls and Antivirus Software
  - Windows Firewalls
  - Linux Firewalls
  - Antivirus Software
- Operating System Overview
  - Operating System 101
  - Windows Operating System
  - Linux Operating System
- Common Server Types and Threats
  - Server Overview
  - Common Server Software
  - Server Security Threats
  - Vulnerabilities and Patches

Application of Encryption and Decryption

- Public Key Infrastructure (PKI) Certificate System
  - Digital Certificate
  - PKI System Structure
  - PKI Implementation
- Application of Cryptographic Technologies
  - Application of Cryptography

- VPN Overview
- VPN Configuration

- Encryption and Decryption Mechanisms
  - Encryption Technology Development
  - Encryption and Decryption Mechanisms
  - Common Encryption and Decryption Algorithms

Duration

10 working days

Class Size

Max 12

2.6 Access Network Certification Training

2.6.1 HCIA-Access Training

Training Path

1	HCIA-Access Training	
	Lecture,Practice	5.0 days

Target Audience

Those who wish to become a access network associate.

Those who hope to obtain HCIA certification.

Prerequisites

- Those who have obtained the same level technical certificate in the industry, and hope to obtain Huawei certificate.

Objectives

On completion of this program, the participants will be able to:

- Outline the functions of TCP/IP, routing and VLAN forwarding process, can apply TCPIP working principles to data forwarding
- Outline GPON typical application scenarios, key GPON components, upstream and downstream technology
- Outline the key performance parameters on distance, bandwidth, optical launched power, received sensitive power, attenuation, etc.
- Outline the function and structure of cabinet, frames, boards and cables
- Perform GPON FTTH/B/C HSI and VoIP service configuration, maintenance and verification
- Master the PPP/PPPoE, DHCP, SIP protocols

- Master the basics of NMS

Training Contents

HCIA-Access Training

- GPON Principles
  - GPON Network Architecture
  - GPON Protocol Analysis
  - Key GPON Technologies
  - Management and Service Provisioning Modes of the GPON System
  - GPON Networking Protection
  - Access Network Technology Evolution
- GPON OLT Basic Operations
  - Device Connection
  - Introduction to Command Line Features
  - Basic System Operations
  - Management Environment Configuration
- ODN Link Detection Guide
  - ODN and ODN Product Description
  - Introduction to the ODN Link Detection Tool and Parameters
  - ODN Engineering Construction Detection
  - ODN Service Provisioning and O&M Detection
- Route Basics
  - Routing Protocols Basic
  - Static-route Introduction
  - VLAN Routing
- DHCP Principles
  - Outline basic DHCP principles
  - Outline DHCP networking application
- NMS Basics
  - Introduction to the SNMP Protocol
  - iManager U2000 System Overview
  - eSight Overview
  - eSight Installation and Uninstallation
  - eSight Deployment Mode
- Ethernet Overview
  - Ethernet Technology Development

- Working Principles of the Ethernet

- Access Network Overview
  - Concepts of the Access Network
  - Last-mile Solution
  - Typical Scenarios and Technologies of Traditional Access
  - Advantages and Typical Application Scenarios of PON
- xDSL Principles and Applications
  - xDSL Technology Overview
  - ADSL/ADSL2+ Technical Principles
  - Introduction to the VDSL/VDSL2 Technology
  - Introduction to the Ultra-Broadband Technology
- PPP and PPPoE Protocols
  - Outline the basic principles of the PPP protocol
  - Outline the process of exchanging LCP and NCP protocol data packets
  - Outline the basic principles of the PPPoE protocol
- FTTx System Overview
  - FTTx Network Overview
  - Introduction to hardware structure and module functions of FTTx network devices
  - Describe the application scenarios of the FTTx network
- VLAN Technology Principle
  - The cause of VLAN
  - The division method of VLAN
  - Configuration and implementation of VLAN
- VoIP Principles
  - Outline the networking structure of the NGN
  - Outline the functions of the SIP protocol
  - Outline the message interaction process of the SIP protocol
- GPON Broadband Service Provisioning and Configurations
  - Outline VLAN principles and applica
  - Outline the GPON broadband service process
  - Perform broadband service configuration and maintenance
- GPON Voice Service Provisioning and Configurations
  - Introduction to the SIP protocol
  - Perform Voice service configuration

- Perform Voice service maintenance

- TCP/IP Basics
  - Functions of TCP/IP layers
  - Functions and formats of IP addresses
  - Functions of IP routes
  - VLAN definition
  - VLAN division mode
  - Benefits of dividing a VLAN
- HCIA-Access Lab Guide
  - FTTx xPON Basic Operations
  - FTTx xPON Basic Configurations
  - FTTx GPON BIAS Configuration
  - FTTx GPON xDSL BIAS Configuration
  - FTTx SIP Voice Service Configuration
  - eSight PON Basic Operations
- FTTx GPON Terminal Operations and Maintenance
  - Terminal Profile Types
  - Process of Adding an ONT
  - Example for Adding Various ONTs
  - ONT Maintenance and Query

Duration

5 working days

Class Size

Max 12

2.7 5G Certification Training

2.7.1 HCIA-5G Training

Training Path

1	5G Network and Service Basis	
	Lecture,Case study	2.0 days

2	5G Industry Applications and Solutions	
	Lecture,Case study	2.0 days

Target Audience

People who want to become 5G engineers in the industry

Employees who want to obtain the HCIA-5G V1.0 certification

Personnel who want to understand 5G technology application and business innovation

Prerequisites

- Understand basic communication concepts.

Objectives

On completion of this program, the participants will be able to:

- Understand the concept of 5G and the motivation for 5G development
- Master 5G service scenarios and capability requirements
- Understand 5G protocol standardization and current progress
- Understand 5G industry chains and ecosystems
- Master 5G network architecture and key technologies
- Understand typical 5G industry applications
- Understand typical 5G industry application scenarios
- Understand backgrounds, requirements, and pain points for typical 5G applications
- Master E2E solutions of typical 5G industry applications
- Understand typical use cases of industry applications

Training Contents

5G Network and Service Basis

- 5G Network Capabilities and Key Technologies
  - 5G network capabilities and architecture
  - 5G key technology introduction
  - Comparison between 4G and 5G
- 5G Basics, Development, and Evolution
  - Basic concepts
  - Why 5G?
  - 5G application scenarios
  - 5G standard organization and progress
  - 5G network architecture and evolution
  - 5G bandwidth and global spectrum planning
  - 5G key technical specifications
  - 5G industry chain and ecosystem
  - 5G global commercial use plans

- Definition and Characteristics of Heterogeneous Computing

- 5G Service Applications
  - 5G business value and development
  - 5G business applications and cases

5G Industry Applications and Solutions

- Smart Education solutions
  - Typical service scenarios and requirements for Smart Education
  - Smart Education solutions
  - Smart Education application cases
- Smart Healthcare solutions
  - Challenges and requirements for the medical system
  - Smart Healthcare applications and solutions
  - Smart Healthcare cases
- Smart Grid Solution
  - Introduction to Power Grid industry
  - Requirement Analysis
  - Smart Grid Solution
  - Smart Grid Use Cases
- IoV solutions
  - IoV concept and applications
  - Industry trends and progress
  - IoV solutions
  - IoV cases

Duration

4 working days

Class Size

Max 12