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# TPNA SOHO Training Course Detailed Introduction

## TPNA \_ Basic Network Introduction

### Object

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

### Entry Requirements

- Interested in network devices (for Home) and hope to learn involved technologies

### Objectives

After completing this training course, you should be able to:

- Know the basic network knowledge about WAN (wide area network), LAN (local area network) and WLAN (wireless local area network)
- Know the OSI and TCP/IP network models
- Know the basic concepts and related protocols of network data link layer
- Know the basic concepts and related protocols of network internet layer
- Know the basic concepts and related protocols of network transport layer
- Know the basic concepts and related protocols of network application layer

### Contents

This training course includes the following contents:

- Network intro including WAN (wide area network), LAN (local area network) and WLAN (wireless local area network)
- OSI and TCP/IP network models
- Basic concepts and related protocols of network data link layer
- Basic concepts and related protocols of network internet layer
- Basic concepts and related protocols of network transport layer

- Basic concepts and related protocols of network application layer

**Duration**

2 hours

**TPNA \_ Basic Wireless Introduction****Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

**Entry Requirements**

- Interested in network devices (for Home) and hope to learn involved technologies

**Objectives**

After completing this training course, you should be able to:

- Know the basic concepts of wireless communication
- Know the related technologies of wireless communication
- Know the transmission process of wireless communication
- Know the basic concepts and related technologies of WLAN (wireless local area network)

**Contents**

This training course includes the following contents:

- Basic concepts of wireless communication
- Related technologies of wireless communication
- Transmission process of wireless communication
- Basic concepts and related technologies of WLAN (wireless local area network)

**Duration**

2 hours

**TPNA \_ Wireless Router****Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

**Entry Requirements**

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

**Objectives**

After completing this training course, you should be able to:

- Know the market demands of wireless routers
- Know the typical application scenarios of wireless routers
- Know IEEE 802.11 Wireless LAN standards (WLAN) including 802.11n & 802.11ac standards
- Know the configuration methods of TP-LINK wireless routers
- Know the advanced functions of TP-LINK wireless routers
- Know TP-LINK wireless routers
- Know Q/A & Troubleshooting about TP-LINK wireless routers

**Contents**

This training course includes the following contents:

- Market demands of wireless routers

- Typical application scenarios of wireless routers
- IEEE 802.11 Wireless LAN standards (WLAN) including 802.11n and 802.11ac
- Configuration methods of TP-LINK wireless routers
- Advanced functions of TP-LINK wireless routers
- TP-LINK wireless routers intro
- Q/A & Troubleshooting about TP-LINK wireless routers

#### **Duration**

2 hours

### **TPNA \_ Wireless Adapter**

#### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

#### **Entry Requirements**

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

#### **Objectives**

After completing this training course, you should be able to:

- Know the typical application scenarios of wireless adapters
- Know TP-LINK wireless adapters
- Know TP-LINK 11AC wireless adapters
- Know the installation & configuration methods of TP-LINK wireless adapters

- Know the advanced functions of TP-LINK wireless adapters
- Know Q /A about TP-LINK wireless adapters

## **Contents**

This training course includes the following contents:

- Typical application scenarios of wireless adapters
- TP-LINK wireless adapters intro
- TP-LINK 11AC wireless adapters intro
- Installation & configuration methods of TP-LINK wireless adapters
- Advanced functions of TP-LINK wireless adapters
- Q /A about TP-LINK wireless adapters

## **Duration**

2 hours

## **TPNA \_ AP & RE**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

## **Entry Requirements**

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

## **Objectives**

After completing this training course, you should be able to:

- Know the user demands of AP/RE products
- Know the typical application scenarios of AP/RE products
- Know AP/RE products involved technologies including Wireless Distributed System, Smart DHCP and Domain Name Login etc.
- Know the configuration methods of TP-LINK AP/RE products
- Know the advanced functions of TP-LINK AP/RE products
- Know TP-LINK AP/RE products
- Know Q/A & Troubleshooting about TP-LINK AP/RE products

## **Contents**

This training course includes the following contents:

- User demands of AP/RE products
- Typical application scenarios of AP/RE products
- AP/RE products involved technologies including Wireless Distributed System, Smart DHCP and Domain Name Login etc.
- Configuration methods of TP-LINK AP/RE products
- Advanced functions of TP-LINK AP/RE products
- TP-LINK AP/RE products intro
- Q/A & Troubleshooting about TP-LINK AP/RE products

## **Duration**

2 hours

## **TPNA \_ PLC**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners



- Technical Support Engineers & Sales of TP-LINK subsidiaries

### **Entry Requirements**

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

### **Objectives**

After completing this training course, you should be able to:

- Know the user demands of PLC products
- Know the typical application scenarios of PLC products
- Know PLC products involved technologies including HomePlug AV1 and HomePlug AV2
- Know the configuration methods of TP-LINK PLC products
- Know the advanced functions of TP-LINK PLC products
- Know TP-LINK PLC products
- Know Q/A & Troubleshooting about TP-LINK PLC products

### **Contents**

This training course includes the following contents:

- User demands of PLC products
- Typical application scenarios of PLC products
- PLC products involved technologies including HomePlug AV1 and HomePlug AV2
- Configuration methods of TP-LINK PLC products
- Advanced functions of TP-LINK PLC products
- TP-LINK PLC products intro
- Q/A & Troubleshooting about TP-LINK PLC products

### **Duration**

2 hours

### Object

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

### Entry Requirements

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

### Objectives

After completing this training course, you should be able to:

- Know the market demands and typical application scenarios of xDSL products
- Know the xDSL involved technologies, standards and development history
- Know TP-LINK xDSL products
- know Q&A and Troubleshooting about TP-LINK xDSL products

### Contents

This training course includes the following contents:

- Market demands and typical application scenarios of xDSL products
- xDSL involved technologies, standards and development history
- TP-LINK xDSL products intro
- Q&A and Troubleshooting about TP-LINK xDSL products

### Duration

2 hours

## **TPNA \_ 3G & LTE**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

### **Entry Requirements**

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

### **Objectives**

After completing this training course, you should be able to:

- Know the market demands of 3G/4G products
- Know the typical application scenarios of 3G/4G products
- Know 3G/4G involved technologies and development history
- Know TP-LINK 3G/4G products
- Know how to configure and use TP-LINK 3G/4G products
- Know different functions of TP-LINK 3G/4G products
- Know Q/A & Troubleshooting about TP-LINK 3G/4G products

### **Contents**

This training course includes the following contents:

- Market demands of 3G/4G products
- Typical application scenarios of 3G/4G products

- 3G/4G involved technologies and development history
- TP-LINK 3G/4G products intro
- Configuration methods of TP-LINK 3G/4G products
- Different functions of TP-LINK 3G/4G products
- Q/A & Troubleshooting about TP-LINK 3G/4G products

### **Duration**

2 hours

## **TPNA \_ GPON**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

### **Entry Requirements**

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

### **Objectives**

After completing this training course, you should be able to:

- Know the basic concepts and advantages of GPON
- Know the GPON Network Architecture
- Know the technical features of GPON
- Know TP-LINK GPON products
- Know Q/A & Troubleshooting about TP-LINK GPON products

## **Contents**

This training course includes the following contents:

- Basic concepts and advantages of GPON
- GPON Network Architecture
- Technical features of GPON
- TP-LINK GPON products intro
- Q/A & Troubleshooting about TP-LINK GPON products

## **Duration**

2 hours

## **TPNA \_ Cable**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

### **Entry Requirements**

- Interested in SOHO network devices and have basic network and wireless knowledge
- It's recommended to complete the training courses (TPNA Basic Network Introduction & TPNA Basic Wireless Introduction) first

### **Objectives**

After completing this training course, you should be able to:

- Know the basic concepts of cable access
- Know the related technologies and standards of cable access

- Know TP-LINK cable products
- Know the installation & configuration methods of TP-LINK cable products
- Know the outstanding function features of TP-LINK cable products
- Know the Troubleshooting about TP-LINK cable products

## **Contents**

This training course includes the following contents:

- Basic concepts of cable access
- Related technologies and standards of cable access
- TP-LINK cable products intro
- Installation & configuration methods of TP-LINK cable products
- Outstanding function features of TP-LINK cable products
- Troubleshooting about TP-LINK cable products

## **Duration**

2 hours

# **TPNA SMB Training Course Detailed Introduction**

## **TPNA \_ SMB Basic**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

### **Entry Requirements**

- Having basic network knowledge
- Having basic wireless RF (radio frequency) communication knowledge

## **Objectives**

After completing this training course, you should be able to:

- Know the basic knowledge about network and wireless RF (radio frequency) communication
- Know the OSI and TCP/IP network models
- Know the different LAN (local area network) standards (especially Ethernet standard among them)
- Know the different network device components including CPU, memory, twisted pair cable, fiber, fiber connector, optical module, power supply, fan and rack etc.
- Know the common network devices including layer 2 switches, layer 3 switches and routers
- know the common network problem debugging methods
- Know the basic concepts about wireless RF (radio frequency) communication including wavelength, frequency, amplitude, phase, reflection, scattering, refraction, attenuation, gain, multipath, power, SNR, receiving sensitivity, free-space path loss, link margin etc.
- Know the basic concepts about antenna including antenna gain, radiation pattern, beam width, polarization, antenna types, Fresnel zone and earth curvature etc.

## **Contents**

This training course includes the following contents:

- Network development history and related basic concepts
- OSI and TCP/IP network models
- LAN (local area network) technologies
- Ethernet technology
- Different network device components intro including CPU, memory, twisted pair cable, fiber, fiber connector, optical module, power supply, fan and rack etc.
- Common network devices intro including layer 2 switches, layer 3 switches and routers
- Common network problem debugging methods

- Basic concepts about wireless RF (radio frequency) communication including wavelength, frequency, amplitude, phase, reflection, scattering, refraction, attenuation, gain, multipath, power, SNR , receiving sensitivity, free-space path loss, link margin etc.
- Basic concepts about antenna including antenna gain, radiation pattern, beam width, polarization, antenna types, Fresnel zone and earth curvature etc.

### **Duration**

2 hours

## **TPNA \_ SMB Switch**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

### **Entry Requirements**

- Having basic network and wireless RF (radio frequency) communication knowledge
- It's recommended to complete the training course (TPNA SMB Basic) first

### **Objectives**

After completing this training course, you should be able to:

- Know the market demands of switches and the common classifications of switches
- Know TP-LINK switch product line and TP-LINK switch name rules
- Know the physical features of TP-LINK Switches
- Know the layer 2 basic software features of TP-LINK Switches
- Know the layer 2 advanced software features of TP-LINK Switches
- Know the layer 3 software features of TP-LINK Switches
- Know the competitive comparison between TP-LINK Switches and other companies' switches



- Know the typical scenarios of TP-LINK Switches

## **Contents**

This training course includes the following contents:

- Market demands of switches and common classifications of switches
- Overview of TP-LINK Switches and TP-LINK switch name rules
- Physical features of TP-LINK Switches
- Layer 2 basic software features of TP-LINK Switches
- Layer 2 advanced software features of TP-LINK Switches
- Layer 3 software features of TP-LINK Switches
- Competitive comparison between TP-LINK Switches and other companies' switches
- Typical scenarios of TP-LINK Switches

## **Duration**

4 hours

## **TPNA \_ SMB Router**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

## **Entry Requirements**

- Having basic network and wireless RF (radio frequency) communication knowledge
- It's recommended to complete the training course (TPNA SMB Basic) first

## **Objectives**

After completing this training course, you should be able to:

- Know the SMB (small & medium-sized business) network demands
- Know the advantages & highlights of TP-LINK SMB Routers compared with SOHO Routers
- Know the software function features of TP-LINK SMB Routers
- Know the typical application scenarios of TP-LINK SMB router's main functions
- Know the basic troubleshooting methods of TP-LINK SMB Routers

## **Contents**

This training course includes the following contents:

- SMB (small & medium-sized business) network demands including demands like high performance, high stability, load balance, firewall and VPN etc.
- TP-LINK SMB routers intro
- Different software functions of TP-LINK SMB routers
- Q/A (Questions/Answers) about TP-LINK SMB routers
- Troubleshooting about TP-LINK SMB routers

## **Duration**

2 hours

## **TPNA \_ Business Wi-Fi Outdoor**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

## **Entry Requirements**

- Having basic network and wireless RF (radio frequency) communication knowledge

- It's recommended to complete the training course (TPNA SMB Basic) first

## **Objectives**

After completing this training course, you should be able to:

- Know the market demands of business outdoor Wi-Fi and the typical outdoor Wi-Fi scenarios
- Know the challenges of Outdoor Wi-Fi Deployment caused by Environment and the corresponding solutions
- Know the challenges of Outdoor Wi-Fi Deployment caused by long distance and the corresponding solutions
- Know the hardware features of TP-LINK Pharos Outdoor Wi-Fi solution
- Know the software features of TP-LINK Pharos Outdoor Wi-Fi solution
- Know the typical application scenarios of TP-LINK Pharos Outdoor Wi-Fi Solution
- Know the competitive comparison between TP-LINK Pharos Series Products and other companies' outdoor products

## **Contents**

This training course includes the following contents:

- Market demands of business outdoor Wi-Fi and typical outdoor Wi-Fi scenarios
- Challenges of Outdoor Wi-Fi Deployment (Environment) and corresponding solutions
- Challenges of Outdoor Wi-Fi Deployment (long distance) and corresponding solutions
- TP-LINK Pharos Outdoor Wi-Fi solution (Hardware)
- TP-LINK Pharos Outdoor Wi-Fi solution (Software)
- TP-LINK Pharos Outdoor Wi-Fi Solution (Scenarios)
- Competitive comparison between TP-LINK Pharos Series Products and other companies' outdoor products

## **Duration**

2 hours

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers & Sales of TP-LINK subsidiaries

## **Entry Requirements**

- Having basic network and wireless RF (radio frequency) communication knowledge
- It's recommended to complete the training course (TPNA SMB Basic) first

## **Objectives**

After completing this training course, you should be able to:

- Know the market demands of business indoor Wi-Fi and the related deployment challenges
- Know TP-LINK EAP series, including appearances, installation methods, power supply methods and hardware design etc.
- Know different EAP Centralized Management Solutions (especially Cluster & Software Controller solutions among them)
- Know the software features of TP-LINK EAP Controller
- Know the advanced functions of TP-LINK EAP Series
- Know the competitive comparison between TP-LINK EAP series and other companies' EAP products

## **Contents**

This training course includes the following contents:

- Market demands of business indoor Wi-Fi and related deployment challenges
- TP-LINK EAP Series Intro
- Different EAP Centralized Management Solutions
- TP-LINK EAP Controller Software Intro
- Advanced Functions of TP-LINK EAP Series

- Competitive comparison between TP-LINK EAP series and other companies' EAP products

**Duration**

2 hours

## **TPNP SMB Business Wi-Fi Training Course Detailed Introduction**

### **TPNP \_ Business Wi-Fi Outdoor**

**Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

**Entry Requirements**

- Having abundant network and wireless RF(radio frequency) communication knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

**Objectives**

After completing this training course, you should be able to:

- Know the preliminary investigation of business outdoor Wi-Fi deployment including necessity & feasibility analysis, field test and solution plan
- Know the actual outdoor Wi-Fi deployment including location selection, installation, channel optimization, antenna alignment and throughput test
- Know the post trouble shooting of outdoor Wi-Fi deployment including solving problems like wireless connection drops frequently, wireless speed is low or outdoor AP crashes frequently

**Contents**

This training course includes the following contents:

- Preliminary investigation of business outdoor Wi-Fi deployment including necessity & feasibility analysis, field test and solution plan
- Actual outdoor Wi-Fi deployment including location selection, installation, channel optimization, antenna alignment and throughput test
- Post trouble shooting of outdoor Wi-Fi deployment including solving problems like wireless connection drops frequently, wireless speed is low or outdoor AP crashes frequently

#### **Duration**

2 hours

### **TPNP \_ Business Wi-Fi Indoor**

#### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

#### **Entry Requirements**

- Having abundant network and wireless RF(radio frequency) communication knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

#### **Objectives**

After completing this training course, you should be able to:

- Know the common scenarios and solutions of business indoor Wi-Fi
- Know the deployment (installation) methods of TP-LINK EAP products
- Know the deployment (optimization) methods of TP-LINK EAP products
- Know the deployment & installation methods of TP-LINK EAP Controller
- Know the highlights of TP-LINK EAP Controller including Multi-sites, WLAN Group, Band Steering.

- Know the different configuration methods of 5 captive portal authentication types

## **Contents**

This training course includes the following contents:

- Common scenarios and solutions of business indoor Wi-Fi
- Deployment (installation) methods of TP-LINK EAP products
- Deployment (optimization) methods of TP-LINK EAP products
- Deployment & installation methods of TP-LINK EAP Controller
- Highlights of TP-LINK EAP Controller including Multi-sites, WLAN Group, Band Steering
- Different configuration methods of 5 captive portal authentication types

## **Duration**

2 hours

# **TPNP SMB Routing & Switching Training Course Detailed Introduction**

## **TPNP \_ Switching \_ Stack**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

## **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

## Objectives

After completing this training course, you should be able to:

- Know the background and advantages of stack
- Know the basic concepts of stack
- Know the process of stack formation, stack management and stack maintenance
- Know the behaviors of stack's high reliability
- Know the configuration methods of stack on TP-LINK Switches

## Contents

This training course includes the following contents:

- Background and advantages of stack
- Basic concepts of stack
- Stack formation, stack management and stack maintenance explanation
- Stack's high reliability explanation
- Experiments: how to configure stack function on TP-LINK Switches

## Duration

2 hours

## TPNP \_ Switching \_ LAG

## Object

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

## Entry Requirements

- Having abundant network knowledge



- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

## **Objectives**

After completing this training course, you should be able to:

- Know the basic usage of LAG
- Know the basic concepts of LAG
- Know the features, working mechanism and principle of static LAG
- Know the features, working mechanism and principle of dynamic LAG
- Know the configuration methods of LAG on TP-LINK Switches
- Complete dynamic LAG (LACP protocol) analysis based on LACP protocol data packets

## **Contents**

This training course includes the following contents:

- Basic usage of LAG
- Basic concepts of LAG
- Static LAG explanation
- Dynamic LAG explanation
- Experiment: how to configure LAG(static LAG & dynamic LAG) functions on TP-LINK Switches

## **Duration**

2 hours

## **TPNP \_ Switching \_ VLAN**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

## **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

## **Objectives**

After completing this training course, you should be able to:

- Know the background of VLAN
- Know the basic concepts of VLAN
- Know the working mechanism and principle of 802.1Q VLAN
- Know the configuration methods of 802.1Q VLAN on TP-LINK Switches
- Know the working mechanism and principle of MAC VLAN
- Know the configuration methods of MAC VLAN on TP-LINK Switches
- Know the working mechanism and principle of Protocol VLAN
- Know the configuration methods of Protocol VLAN on TP-LINK Switches
- Know the working mechanism and principle of GVRP
- Know the configuration methods of GVRP on TP-LINK Switches
- Know the working mechanism and principle of VLAN VPN
- Know the configuration methods of VLAN VPN on TP-LINK Switches

## **Contents**

This training course includes the following contents:

- Background of VLAN
- Basic concepts of VLAN
- 802.1Q VLAN explanation
- Experiment: how to configure 802.1Q VLAN function on TP-LINK Switches
- MAC VLAN explanation
- Experiment: how to configure MAC VLAN function on TP-LINK Switches

- Protocol VLAN explanation
- Experiment: how to configure Protocol VLAN function on TP-LINK Switches
- GVRP explanation
- Experiment: how to configure GVRP function on TP-LINK Switches
- VLAN VPN explanation
- Experiment: how to configure VLAN VPN function on TP-LINK Switches

### **Duration**

4 hours

## **TPNP \_ Switching \_ STP**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

### **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

### **Objectives**

After completing this training course, you should be able to:

- Know the background of STP
- Know the basic concepts, working mechanism and principle of STP
- Know the basic concepts, working mechanism and principle of RSTP
- Know the basic concepts, working mechanism and principle of MSTP
- Know the configuration methods of STP(STP, RSTP, MSTP) on TP-LINK Switches

- Complete STP/ RSTP/ MSTP protocol analysis based on STP protocol data packets

## **Contents**

This training course includes the following contents:

- Background of STP
- STP explanation
- RSTP explanation
- MSTP explanation
- Experiment: how to configure STP(STP, RSTP & MSTP) functions on TP-LINK Switches

## **Duration**

4 hours

## **TPNP \_ Switching \_ IGMP Snooping**

### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

### **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

### **Objectives**

After completing this training course, you should be able to:

- Know the basic multicast application
- Know IGMP protocol

- Know the working mechanism and principle of IGMP Snooping
- Know the working mechanism and principle of Multicast VLAN
- Know the working mechanism and principle of IGMP Proxy
- Know the configuration methods of IGMP Snooping & Multicast VLAN on TP-LINK Switches
- Complete IGMP & IGMP Snooping analysis based on IGMP protocol data packets
- Know the differences between IGMP Snooping and IGMP Proxy

## **Contents**

This training course includes the following contents:

- Basic multicast application
- IGMP explanation
- IGMP Snooping explanation
- Multicast VLAN explanation
- IGMP Proxy explanation
- Experiment: how to configure IGMP Snooping & Multicast VLAN function on TP-LINK Switches
- Comparison between IGMP Snooping and IGMP Proxy

## **Duration**

2 hours

## **TPNP \_ Switching \_ Network Security**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

## **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

## **Objectives**

After completing this training course, you should be able to:

- Know the common network attacks and corresponding protection methods
- Know the AAA model
- Know the 802.1X authentication model
- Know the configuration methods of 802.1X authentication on TP-LINK Switches
- Complete 802.1x authentication analysis based on 802.1x related data packets

## **Contents**

This training course includes the following contents:

- Common network attacks and corresponding protection methods
- AAA model explanation
- 802.1X authentication model explanation
- Experiment: how to configure 802.1X authentication function on TP-LINK Switches
- Data packets analysis: 802.1X authentication analysis based on 802.1X related data packets

## **Duration**

2 hours

## **TPNP \_ Switching \_ SNMP**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

## **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

## **Objectives**

After completing this training course, you should be able to:

- Know the basic concepts of SNMP
- Know the working mechanism and principle of SNMP v1
- Know the working mechanism and principle of SNMP v2c and SNMP v3
- Know different kinds of SNMP management software
- Know the configuration methods of SNMP(SNMP v1, SNMP v3) on TP-LINK Switches
- Complete SNMP protocol analysis based on SNMP data packets

## **Contents**

This training course includes the following contents:

- Basic concepts of SNMP
- SNMP v1 explanation
- SNMP v2c & SNMP v3 explanation
- Different kinds of SNMP management software intro
- Experiment: how to configure SNMP(SNMP v1 & SNMP v3) functions on TP-LINK Switches

## **Duration**

2 hours

## **TPNP \_ Switching \_ QoS**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

### **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

### **Objectives**

After completing this training course, you should be able to:

- Know the basic concepts of QoS
- Know different types of QoS
- Know the working mechanism of QoS DiffServ Model
- Know the working mechanism of QoS DiffServ Model

### **Contents**

This training course includes the following contents:

- QoS Background
- QoS Types
- QoS DiffServ Model
- QoS DiffServ Experiment
- Voice VLAN
- Voice VLAN Experiment

### **Duration**

2 hours



## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

## **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

## **Objectives**

After completing this training course, you should be able to:

- Know the basic concepts of ACL
- Know the working mechanism of ACL
- Know different kinds of ACL rules
- Know the configuration steps of ACL in TP-Link Switches
- Know the application scenario of IP-MAC-VID-Port Binding
- Know the configuration methods of IP-MAC-VID-Port Binding

## **Contents**

This training course includes the following contents:

- ACL
- ACL Experiment
- IP-MAC-VID-Port Binding
- IP-MAC-VID-Port Experiment

## **Duration**

2 hours

**Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

**Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

**Objectives**

After completing this training course, you should be able to:

- Know the basic concepts of Access Security
- Know the working mechanism and configuration of Access Control
- Know the working mechanism and configuration of HTTP/HTTPS(SSL)
- Know the working mechanism and configuration of SSH

**Contents**

This training course includes the following contents:

- Access Security Overview
- Access Control Intro
- Access Control Experiment
- HTTP / HTTPS (SSL) Intro
- HTTP / HTTPS (SSL) Experiment
- SSH Intro
- SSH Experiment

**Duration**

2 hours

### Object

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

### Entry Requirements

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

### Objectives

After completing this training course, you should be able to:

- Know the basic concepts of LLDP and LLDP-MED
- Know the working mechanism of LLDP and LLDP-MED
- Know the configuration steps of LLDP TP-Link Switches
- Know the meaning of LLDP-MED data packets
- Know the application scenario of LLDP and LLDP-MED
- Know the configuration methods of LLDP-MED when working with VoIP phone

### Contents

This training course includes the following contents:

- LLDP Basic Concepts
- LLDP Experiment
- LLDP-MED Basic Concepts
- LLDP-MED Experiment
- LLDP-MED Data Packets Analysis

**Duration**

2 hours

**TPNP \_ Switching \_ Port****Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

**Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

**Objectives**

After completing this training course, you should be able to:

- Know the basic concepts and working mechanism of switch port
- Know the working mechanism and configuration of Port Config
- Know the working mechanism and configuration of Port Mirror
- Know the working mechanism and configuration of Port Security
- Know the working mechanism and configuration of Port Isolation
- Know the working mechanism and configuration of Loopback Detection

**Contents**

This training course includes the following contents:

- Switch Port & Working Mechanism
- Port Config Intro and Experiment
- Port Mirror Intro and Experiment

- Port Security Intro and Experiment
- Port Isolation Intro and Experiment
- Loopback Detection Intro and Experiment

#### **Duration**

2 hours

### **TPNP \_ Routing \_ Unicast Routing**

#### **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

#### **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

#### **Objectives**

After completing this training course, you should be able to:

- Know the basic concepts about routing table
- Know the routing forwarding process of data packets
- Know the configuration methods and usage of static routing (default routing)
- Know the working mechanism and principle of unicast routing protocol RIP
- Know the working mechanism and principle of unicast routing protocol OSPF
- Know the configuration methods of relevant routing functions (static routing, RIP, OSPF) on TP-LINK Switches.
- Complete routing protocol analysis based on routing protocol data packets

## Contents

This training course includes the following contents:

- Basic concepts about routing table
- Routing forwarding process of data packets
- Static routing(default routing) explanation
- Dynamic routing protocol RIP explanation
- Experiment: how to configure RIP function on TP-LINK Switches
- Dynamic routing protocol OSPF explanation
- Experiment: how to configure OSPF function on TP-LINK Switches

## Duration

4 hours

## TPNP \_ Routing \_ Multicast Routing

### Object

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

### Entry Requirements

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

### Objectives

After completing this training course, you should be able to:

- Know the background and basic concepts of IP multicast
- Know the working mechanism and principle of multicast routing protocol PIM-DM

- Know the working mechanism and principle of multicast routing protocol PIM-SM
- Know the configuration methods of multicast routing functions (PIM-DM & PIM-SM) on TP-LINK Switches.
- Know the differences between PIM-DM and PIM-SM
- Complete multicast routing protocol analysis based on multicast routing protocol data packets

## **Contents**

This training course includes the following contents:

- IP multicast background and related basic concepts
- Multicast routing protocol PIM-DM explanation
- Experiment: how to configure PIM-DM function on TP-LINK Switches
- Multicast routing protocol PIM-SM explanation
- Experiment: how to configure PIM-SM function on TP-LINK Switches
- Comparison between PIM-DM and PIM-SM

## **Duration**

4 hours

## **TPNP \_ Routing \_ VRRP**

## **Object**

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners
- Technical Support Engineers of TP-LINK subsidiaries

## **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

## Objectives

After completing this training course, you should be able to:

- Know the background and advantages of VRRP
- Know the basic concepts of VRRP
- Know the working mechanism and principle of VRRP
- Know how to achieve uplink monitoring function of VRRP
- Know how to achieve load balance function of VRRP
- Know the configuration methods of VRRP on TP-LINK Switches
- Complete VRRP protocol analysis based on VRRP protocol data packets

## Contents

This training course includes the following contents:

- Background and advantages of VRRP
- Basic concepts of VRRP
- VRRP's working process explanation
- VRRP's uplink monitoring function explanation
- VRRP's load balance function explanation
- Experiment: how to configure VRRP function on TP-LINK Switches

## Duration

2 hours

## TPNP \_ Routing \_ DHCP

## Object

- Technical Engineers of TP-LINK agents
- Technical Engineers of TP-LINK partners



- Technical Support Engineers of TP-LINK subsidiaries

### **Entry Requirements**

- Having abundant network knowledge
- It's required to pass TPNA SMB certification Examination and get TPNA SMB certificate first

### **Objectives**

After completing this training course, you should be able to:

- Know the background and advantages of DHCP
- Know the basic concepts of DHCP
- Know the application scenario of DHCP server and DHCP relay
- Know the configuration methods of DHCP server and DHCP relay in TP-Link switches
- Know how to assign IP addresses to the hosts in different subnets.

### **Contents**

This training course includes the following contents:

- DHCP Background
- DHCP Basic Concepts
- DHCP Server
- DHCP Server Experiment
- DHCP Relay
- DHCP Relay Experiment

### **Duration**

2 hours