

## Certified Allied Telesis Technician (CAT) – AT-CAT

**Duration:** 3 day, Classroom based, Instructor led

**Language:** English

### Certification Requirements:

- Attendees will be required to pass a written or web-based exam at the completion of the course. The title of CAI/RS Certified Allied Telesis Installer (CAI) will be awarded to all attendees that receive a passing score on the exam

### Introduction:

- The CAT course will teach the attendees how configure Allied Telesis Layer 2 switches, and Layer 3 switches and routers for most common networking applications. The course is designed to give the participants the theory behind configuration tasks and the opportunity to try the configurations and to understand how to debug existing networks.

### Prerequisites:

- BNT - Basic computer knowledge, fundamental networking concepts  
Or
- A thorough understanding of the IP protocol and how to configure IP addresses on a windows PC

### Intended Audience:

- Course is geared towards technical personnel that need configure Allied Telesis Routers and Switches for most common networking applications

### Scheduling:

- To schedule a class or to get more information, please contact your regional training centers:
  - [Training\\_APAC@alliedTelesis.com](mailto:Training_APAC@alliedTelesis.com)
  - [Training\\_Europe@alliedTelesis.com](mailto:Training_Europe@alliedTelesis.com)
  - [Training\\_NA@alliedTelesis.com](mailto:Training_NA@alliedTelesis.com)

### Objectives:

- At the completion of the course attendees will be able to:
  - describe the differences between layer 2 switches layer 3 switches and routers
  - identify key criteria for deploying layer 3 switches and routers in basic networking design
  - understand the operation and utilization of VLANs
  - understand the concepts and implementation of Spanning Tree Protocol
  - understand and use the different configuration methods available for Allied Telesis hardware

### Outline:

- **Hardware Architecture**
  - **The hardware architecture section will introduce the products by type and identify key differences between the platforms**
    - Routers
    - Asynchronous & Ethernet Ports

- PICs
- Synchronous Serial Cables
- Encryption & Compression Coprocessors
- Network Service Module
- L3 Switches
- AT-8900 Series
- AT-9900 Series
- AT-x900 Series
- AT-9800 Series
- SwitchBlade
- **Operations**
  - **The operations section will introduce the command line interface based on Allied Ware and how it is used to configure devices**
    - Connecting & Logging In
    - Access Levels
    - Router Boot Commands
    - Command Line
    - Help File
    - Memory Architecture
    - Switches
    - Built-In Editor
    - System Commands
    - Device Upgrade
    - Telnet & WEB GUI
    - SNMP – Activation
    - AlliedWare
- **VLAN**
  - **The VLAN section introduces the concept of VLANs and where best to deploy them. It also includes the configuration of VLANs using Allied Ware.**
    - What is a VLAN?
    - Benefits of VLANs
    - Types of Links
    - VLAN: IEEE 802.1Q
    - Ethernet Frame Types
    - Switches
    - Joining VLANs
    - Private VLANs
- **Switching**
  - **The switching section introduces the concept of switch operation including the use of forwarding database and switch decision making**
    - Overview
    - Uses of Switches
    - Switch Ports
    - Forwarding Techniques
    - Ethernet Frame Types
    - Layer 2 Switching
    - Enabling/Disabling/Resetting/Viewing Ports

- Autonegotiation
- Port Mirroring
- Port Security
- Layer 2 Filtering
  
- **Power over Ethernet**
  - **Power over Ethernet provides a mechanism for providing power to remote devices over the network. This section explains the configuration of this service.**
    - What is PoE?
    - PoE Standards
    - IEEE 802.3af
    - PoE Process
    - Advantages of PoE
    - PoE Devices
    - How PoE works
    - PoE Power Budget
    - Allied Telesis PoE Implementation
  
- **Link Aggregation**
  - **Link aggregation introduces the concept of multiple physical links being used to provide a single higher speed link, whether configured manually or automatically**
    - Link Aggregation
    - Port Trunking
    - Hashing Algorithm
    - Hashing Criteria
    - What is LACP?
    - How LACP Works
    - The Protocol Exchange
    - Configuring LACP
    - Monitoring LACP
    - Debugging LACP
  
- **Spanning Tree Protocol**
  - **Spanning Tree protocol is an automated recovery and protection protocol that provides for automated recovery through resilient links, this section introduces the concepts behind spanning tree and the configuration options**
    - Introduction
    - What is a Spanning Tree Protocol?
    - Spanning-Tree Algorithm
    - Port States
    - Root Bridge Election
    - VLANs and STP
    - Port Memberships
    - STP Activities
    - Troubleshooting
    - Configuration Examples

- **IP Filtering**
  - **The IP filtering section introduces the use of IP filters. It demonstrates the need for and how to configure filters using Allied Ware**
    - What are IP filters?
    - How IP filters work
    - Modifying IP filters
    - Netbios packet filtering
    - Troubleshooting
  
- **RIP**
  - **The RIP section introduces the use of the Routing Information Protocol in Allied routers. It demonstrates the need for and how to configure RIP using Allied Ware**
    - RIP
    - RIP Database
    - RIP Algorithm
    - RIP packet format
    - RIP commands
    - RIP Timers
    - RIP Updates
    - RIP and Split Horizon
    - RIP and Poison Reverse
  
- **DHCP**
  - **This section introduces Dynamic Host Configuration Protocol and how it is implemented in a network**
    - DHCP Standard
    - DHCP Packet Format
    - DHCP Server
    - VLANs and DHCP
    - DHCP Server Troubleshooting
    - DHCP Client
    - DHCP Client Troubleshooting
  
- **NTP**
  - **This section introduces the use of the Network Time Protocol . It demonstrates how to configure NTP using Allied Ware**
    - NTP
    - NTP packet format
    - NTP Client
    - NTP Server
  
- **AlliedWare Plus**
  - This section introduces the AlliedWare Plus command line. This section will provide comparison between AlliedWare and AlliedWare Plus for the purpose of logging on and providing configuration commands
    - AlliedWare Plus Overview
    - System Start-up
    - Command Line

- User level access
- Operation Mode
- Entering Commands
- Command Conventions
- Device Upgrade
- Ethernet Configuration
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**Schedule:**

**Day 1**

- Course Introduction
- Hardware Architecture
- Operations
- VLANs

**Day 2**

- Switching
- Power over Ethernet
- Link Aggregation
- STP and RSTP
- IP Filtering

**Day 3**

- RIP
- DHCP
- NTP
- AlliedWare Plus
- Debugging