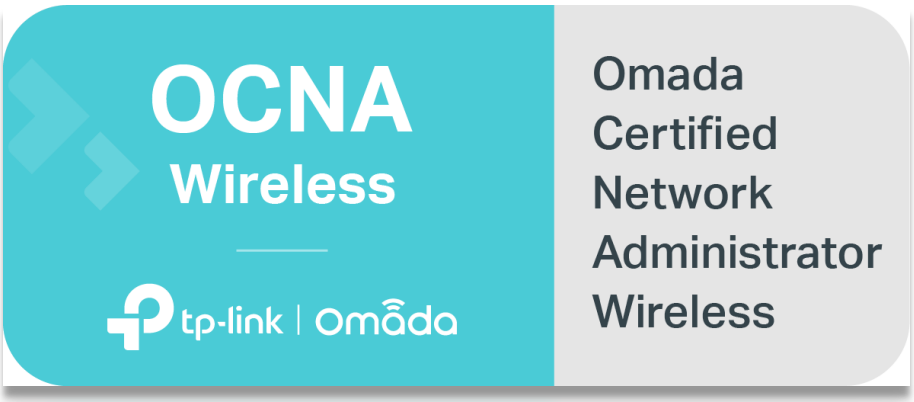
# Omada Certified Network Administrator Wireless

## Training Outline



# Training Outline

| Title | Content |
|---|---|
| **Chapter 1:**<br>Omada SDN Solution Introduction | • Omada SDN Solution Overview<br>• Omada Devices<br>  ○ AP (Wi-Fi 7/6/5 APs)<br>  ○ Switch (PoE, L2+ Managed, Smart Switch)<br>  ○ Router (10G, 2.5G, 1G)<br>• Omada Controller<br>  ○ Omada Hardware Controller - OC200<br>  ○ Omada Hardware Controller - OC300<br>• Accessories<br>  ○ PoE Adapters<br>  ○ Media Converters<br>  ○ SFP/SFP+ Modules |
| **Chapter 2:**<br>Device Discovery, Adopting & Management | • Omada Device Management Method<br>  ○ Standalone mode<br>  ○ Controller mode<br>• Omada SDN Controller Management<br>  ○ Omada Management Protocol<br>  ○ L2 Management<br>  ○ L3 Management |
| | ※ Lab 1 – Omada App Standalone management<br>※ Lab 2 – OC200 Initialization & Cloud Management<br>※ Lab 3 – Local Adoption (OC200 adopt AP & SW)<br>※ Lab 4 – Remote Adoption via Discovery Utility |
| **Chapter 3:**<br>Basic Network Settings and Monitoring | • Omada Controller Overview<br>  ○ Dashboard<br>  ○ Statistics<br>  ○ Map<br>  ○ Devices<br>  ○ Clients<br>  ○ Insights<br>  ○ Logs<br>• Common Wireless Config<br>  ○ Wireless Settings (PPSK, Rate Limit)<br>  ○ WLAN Group<br>  ○ Mesh<br>• Common Wired Config<br>  ○ 802.1Q VLAN<br>  ○ LAN Profile<br>  ○ Auto Backup |
| | ※ Lab 5 – Site Config & Migration<br>※ Lab 6 – PPSK without RADIUS<br>※ Lab 7 – Mesh of AP |

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| **Chapter 4:**<br>Portal & Hotspot | • Portal Authentication<br>  ○ Authentication Types<br>  ○ Portal Access Control<br>  ○ Hotspot<br>• Hotspot Manager<br>  ○ Hotspot Operator<br>  ○ Voucher Management<br>  ○ Form Auth Management<br>  ○ Local User Management |
| | ※ Lab 8 – Portal & Hotspot Manager |
| **Chapter 5:**<br>Wireless Fundamentals | • RF Fundamentals<br>• Free Space Path Loss (FSPL)<br>• 2.4/5/6 GHz Band & Channel<br>• DFS<br>• MIMO/MU-MIMO<br>• IEEE 802.11 WLAN Standards<br>• MCS & DRS |
| **Chapter 6:**<br>Demand Analysis | • Key Demand<br>  ○ Type and Number of Clients (Wireless, Wired)<br>  ○ Wireless Network Coverage<br>  ○ Throughput<br>• Device Selection |
| | ※ Lab 9 – Omada Network Deployment Advisor<br>※ Lab 10 – Omada Heatmap Design Center |
| **Chapter 7:**<br>Network Planning & Optimization | • Channel Planning<br>  ○ Co-Channel Interference (CCI)<br>  ○ Adjacent Channel Interference (ACI)<br>  ○ Airtime<br>• Site Surveys<br>  ○ Heatmap Simulation<br>  ○ Site Survey (On Site)<br>• Band Steering<br>• Roaming Optimization<br>  ○ Fast Roaming<br>  ○ RSSI Threshold<br>  ○ AP Coverage and Installation Tips<br>  ○ Transmit Power and Channel Optimization<br>• AI WLAN Optimization<br>• Wired Network Optimization<br>  ○ Loopback Detection<br>  ○ Spanning Tree Protocol (STP)<br>  ○ Port Isolation<br>  ○ DHCP Filter<br>  ○ IGMP Snooping |

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| | ※ Lab 11 - Calculate RSSI, SNR, Signal<br>※ Lab 12 - Estimate WLAN Throughput<br>※ Lab 13 - Channel Scanning<br>※ Lab 14 - AP Band Steering<br>※ Lab 15 - RSSI Threshold<br>※ Lab 16 - WLAN Benchmarking |
| **Chapter 8:**<br>Troubleshooting | • Common Wireless Network Problems and Solutions<br>○ Wireless Client Connection Failure<br>○ Low Wireless Client Link Speed<br>○ Low Wireless Client Network Speed<br>○ Wireless Client Packet Loss<br>○ External Portal Redirection Failure<br>• Troubleshooting Tools Introduction<br>○ Network Check<br>○ Packet Capture<br>○ Terminal |