

Aruba Mobility Fundamentals, Rev. 20.11

Course Summary

Description

This course teaches the knowledge, skills and practical experience required to set up and configure a basic Aruba WLAN utilizing the OS 8.X architecture and features. Using lecture and labs, this course provides the technical understanding and hands-on experience of configuring a single Mobility Master with one controller and AP Aruba WLAN. Participants will learn how to use Aruba hardware and ArubaOS to install and build a complete, secure controller network with multiple SSIDs. This course provides the underlying material required to prepare candidates for the Aruba Certified Mobility Associate (ACMA) certification exam.

Objectives

At the end of this course, students will be able to:

- Explain how Aruba's wireless networking solutions meet customers' requirements
- Explain fundamental WLAN technologies, RF concepts, and 802.11 Standards
- Learn to configure the Mobility Master and Mobility Controller to control access to the Employee and Guest WLAN
- Control secure access to the WLAN using Aruba Firewall Policies and Roles
- Recognize and explain Radio Frequency Bands and channels, and the standards used to regulate them
- Describe the concept of radio frequency coverage and interference and successful implementation and diagnosis of WLAN systems
- Identify and differentiate antenna technology options to ensure optimal coverage in various deployment scenarios
- Describe RF power technology including, signal strength, how it is measured and why it is critical in designing wireless networks
- Learn to configure and optimize Aruba ARM and Client Match and Client Insight features
- Learn how to perform network monitoring functions and troubleshooting

Topics

- WLAN Fundamentals
- Mobile First Architecture
- Mobility Master Mobility Controller Configuration
- Secure WLAN configuration
- AP Provisioning
- Describes the 802.11 discovery, authentication and association
- Firewall Roles and Policies
- Dynamic RF Management
- Guest Access
- Network Monitoring and Troubleshooting

Audience

Typical candidates for this course are IT Professionals who deploy small-to-medium scale enterprise network solutions based on Aruba products and technologies.

Prerequisites

There are no prerequisites for this course.

Duration

Three days

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Course Outline

I. WLAN Fundamentals

- A. Describes the fundamentals of 802.11, RF frequencies and channels
- B. Explain RF Patterns and coverage including SNR
- C. Roaming Standards and QOS requirements

II. Mobile First Architecture

- A. An introduction to Aruba Products including controller types and modes
- B. OS 8.X Architecture and features
- C. License types and distribution

III. Mobility Master Mobility Controller Configuration

- A. Understanding Groups and Subgroups
- B. Different methods to join MC with MM
- C. Understanding Hierarchical Configuration

IV. Secure WLAN configuration

- A. Identifying WLAN requirements such as SSID name, encryption, authentication
- B. Explain AP groups structure and profiles
- C. Configuration of WLAN using the Mobility Master GUI

V. AP Provisioning

- A. Describes the communication between AP and Mobility controller
- B. Explain the AP booting sequence and requirements
- C. Explores the APs controller discovery mechanisms
- D. Explains how to secure AP to controller communication using CPSec
- E. Describes AP provisioning and operations
- F. WLAN Security

VI. Describes the 802.11 discovery, authentication and association

- A. Explores the various authentication methods, 802.1x with WPA/WPA2, Mac auth
- B. Describes the authentication server communication
- C. Explains symmetric vs asymmetric Keys, encryption methods
- D. WIPS is described along with rogue discovery and protection

VII. Firewall Roles and Policies

- A. An introduction into Firewall Roles and policies
- B. Explains Aruba's Identity based Firewall
- C. Configuration of Policies and Rules including aliases
- D. Explains how to assign Roles to users

VIII. Dynamic RF Management

- A. Explain how ARM calibrates the network selecting channels and power settings
- B. Explores OS 8.X Airmatch to calibrate the network
- C. How Client Match and ClientInsight match steers clients to better APs

IX. Guest Access

- A. Introduces Aruba's solutions for Guest Access and the Captive portal process
- B. Configuration of secure guest access using the internal Captive portal
- C. The configuration of Captive portal using Clearpass and its benefits
- D. Creating a guest provisioning account
- E. Troubleshooting guest access

X. Network Monitoring and Troubleshooting

- A. Using the MM dashboard to monitor and diagnose client, WLAN and AP issues
- B. Traffic analysis using APPrf with filtering capabilities
- C. A view of Airwaves capabilities for monitoring and diagnosing client, WLAN and AP issues