



**Enterprise Computing Solutions - Education Services**

## **TRAINING OFFERING**

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**You can reach us at:**

Arrow ECS B.V., Kromme Schaft 5, 3991 AR Houten, The Netherlands

Email: [education.ecs.nl@arrow.com](mailto:education.ecs.nl@arrow.com)

Phone: +31 20 582 6109

# Configuring BIG-IP ASM: Application Security Manager (replaced with F5N\_BIG-AWF-CFG, Configuring F5 Advanced WAF (previously licensed as ASM) v14.1.)

CODE:	LENGTH:	PRICE:
F5N_BIG-ASM-ESS	32 Hours (4 days)	€3,635.00

## Description

This course gives participants a functional understanding of how to deploy, tune, and operate BIG-IP Application Security Manager (ASM) to protect their web applications from HTTP-based attacks.

The course includes lecture, hands-on labs, and discussion about different ASM components for detecting and mitigating threats from multiple attack vectors such web scraping, Layer 7 Denial of Service, brute force, bots, code injection, and zero day exploits.

## Objectives

- Provisioning ASM
- Traffic processing with BIG-IP Local Traffic Manager (LTM)
- Web application concepts
- Web application vulnerabilities
- Security policy deployment
- Security policy tuning
- Attack signatures
- Positive security building
- Securing cookies and other headers
- Reporting and logging
- Policy Diff, merging, and exporting
- Advanced parameter handling
- Using application templates
- Using Automatic Policy Builder
- Integrating with web vulnerability scanners
- Login enforcement
- Brute force mitigation
- Session tracking
- Web scraping detection and mitigation
- Geolocation Enforcement and IP Address Exceptions
- Using Parent and Child policies
- Layer 7 DoS protection
- ASM and iRules
- Using Content Profiles for AJAX and JSON applications
- NEW — Advanced Bot Detection and Defense
- NEW — Proactive Bot Defense
- NEW — Simple Edit Mode for Attack Signatures

## Audience

This course is intended for system and network administrators responsible for the installation, deployment, tuning, and day-to-day maintenance of the Application Security Manager.

## Prerequisites

Students must complete one of the following F5 prerequisites before attending this course:

- Administering BIG-IP instructor-led course

-or-

- F5 Certified BIG-IP Administrator

The following free web-based training courses, although optional, will be very helpful for any student with limited BIG-IP administration and configuration experience. These courses are available at F5 University (<http://university.f5.com>):

- Getting Started with BIG-IP
- Getting Started with BIG-IP Application Security Manager (ASM)

The following general network technology knowledge and experience are recommended before attending any F5 Global Training Services instructor-led course:

- OSI model encapsulation
- Routing and switching
- Ethernet and ARP
- TCP/IP concepts
- IP addressing and subnetting
- NAT and private IP addressing
- Default gateway
- Network firewalls
- LAN vs. WAN

## Programme

- Introducing the BIG-IP System
- Initially Setting Up the BIG-IP System
- Archiving the BIG-IP System Configuration

Chapter 1: Setting Up the BIG-IP System • Leveraging F5 Support Resources and Tools Chapter 2: Traffic Processing with BIG-IP

- Identifying BIG-IP Traffic Processing Objects
- Overview of Network Packet Flow
- Understanding Profiles
- Overview of Local Traffic Policies

• Visualizing the HTTP Request Flow Chapter 3: Web Application Concepts

- Overview of Web Application Request Processing
- Web Application Firewall: Layer 7 Protection
- ASM Layer 7 Security Checks
- Overview of Web Communication Elements
- Overview of the HTTP Request Structure

• Examining HTTP Responses

• How ASM Parses File Types, URLs, and Parameters

• Using the Fiddler HTTP Proxy

Chapter 4: Common Web Application Vulnerabilities

• A Taxonomy of Attacks: The Threat Landscape

• What Elements of Application Delivery are Targeted?

• Common Exploits Against Web Applications

Chapter 5: Security Policy Deployment

• Defining Learning

• Comparing Positive and Negative Security Models

• The Deployment Workflow

• Policy Type: How Will the Policy Be Applied

• Policy Template: Determines the Level of Protection

• Policy Templates: Automatic or Manual Policy Building

• Assigning Policy to Virtual Server

• Deployment Workflow: Using Advanced Settings

• Selecting the Enforcement Mode

• The Importance of Application Language

• Configure Server Technologies

• Verify Attack Signature Staging

• Viewing Requests

• Security Checks Offered by Rapid Deployment

• Defining Attack Signatures

• Using Data Guard to Check Responses

Chapter 6: Policy Tuning and Violations

- Post-Deployment Traffic Processing
- Defining Violations
- Defining False Positives
- How Violations are Categorized
- Violation Rating: A Threat Scale
- Defining Staging and Enforcement
- Defining Enforcement Mode
- Defining the Enforcement Readiness Period
- Reviewing the Definition of Learning
- Defining Learning Suggestions
- Choosing Automatic or Manual Learning
- Defining the Learn, Alarm and Block Settings
- Interpreting the Enforcement Readiness Summary
- Configuring the Blocking Response Page

## Chapter 7: Attack Signatures

- Defining Attack Signatures
- Attack Signature Basics
- Creating User-Defined Attack Signatures
- Defining Simple and Advanced Edit Modes
- Defining Attack Signature Sets
- Defining Attack Signature Pools
- Understanding Attack Signatures and Staging
- Updating Attack Signatures

- Defining and Learning Security Policy Components
- Defining the Wildcard
- Defining the Entity Lifecycle
- Choosing the Learning Scheme
- How to Learn: Never (Wildcard Only)
- How to Learn: Always
- How to Learn: Selective
- Reviewing the Enforcement Readiness Period: Entities
- Viewing Learning Suggestions and Staging Status
- Violations Without Learning Suggestions
- Defining the Learning Score
- Defining Trusted and Untrusted IP Addresses

## Chapter 8: Positive Security Policy Building

## Chapter 9: Cookies and Other Headers

- ASM Cookies: What to Enforce
- Defining Allowed and Enforced Cookies
- Configuring Security Processing on HTTP headers
- Overview: Big Picture Data
- Reporting: Build Your Own View
- Reporting: Chart based on filters
- Brute Force and Web Scraping Statistics
- Viewing ASM Resource Reports
- PCI Compliance: PCI-DSS 3.0
- The Attack Expert System
- Viewing Traffic Learning Graphs
- Local Logging Facilities and Destinations
- How to Enable Local Logging of Security Events
- Viewing Logs in the Configuration Utility
- Exporting Requests
- Logging Profiles: Build What You Need
- Configuring Response Logging
- Defining Parameter Types
- Defining Static Parameters
- Defining Dynamic Parameters
- Defining Dynamic Parameter Extraction Properties
- Defining Parameter Levels
- Other Parameter Considerations
- Comparing Security Policies with Policy Diff
- Merging Security Policies
- Editing and Exporting Security Policies
- Restoring with Policy History
- Examples of ASM Deployment Types
- ConfigSync and ASM Security Data
- ASM QKVIEW: Provide to F5 Support for Troubleshooting
- Application Templates: Pre-Configured Baseline Security
- Overview of Automatic Policy Building
- Defining Templates Which Automate Learning
- Defining Policy Loosening
- Defining Policy Tightening
- Defining Learning Speed: Traffic Sampling
- Defining Track Site Changes

## Chapter 11: Lab Project 1

## Chapter 12: Advanced Parameter Handling

## Chapter 13: Policy Diff and Administration

## Chapter 14: Using Application-Ready Templates

## Chapter 15: Automatic Policy Building

- Defining Templates Which Automate Learning
- Defining Policy Loosening
- Defining Policy Tightening
- Defining Learning Speed: Traffic Sampling
- Defining Track Site Changes

## Chapter 16: Web Application Vulnerability Scanner Integration

- Integrating Scanner Output Into ASM
- Will Scan be Used for a New or Existing Policy?
- Importing Vulnerabilities
- Resolving Vulnerabilities
- Using the Generic XML Scanner XSD file

#### Chapter 17: Layered Policies

- Defining a Parent Policy
- Defining Inheritance
- Parent Policy Deployment Use Cases
- Defining Login Pages
- Configuring Automatic Detection of Login Pages
- Defining Session Tracking
- What Are Brute Force Attacks?
- Brute Force Protection Configuration
- Defining Source-Based Protection
- Source-Based Brute Force Mitigations
- Defining Session Tracking
- Configuring Actions Upon Violation Detection
- Session Hijacking Mitigation Using Device ID

#### Chapter 18: Login Enforcement, Brute Force Mitigation, and Session Tracking

- Defining Web Scraping
- Mitigating Web Scraping
- Defining Geolocation Enforcement

#### Chapter 19: Web Scraping Mitigation and Geolocation Enforcement

- Configuring IP Address Exceptions
- Defining Denial of Service Attacks
- The General Flow of DoS Protection
- Defining the DoS Profile
- Overview of TPS-based DoS Protection
- Applying TPS mitigations
- Create a DoS Logging Profile
- Defining DoS Profile General Settings
- Defining Bot Signatures
- Defining Proactive Bot Defense
- Defining Behavioral and Stress-Based Detection

#### Chapter 20: Layer 7 DoS Mitigation and Advanced Bot Protection

- Defining Behavioral DoS Mitigation
- Common Uses for iRules
- Identifying iRule Components
- Triggering iRules with Events
- Defining ASM iRule Events
- Defining ASM iRule Commands

#### Chapter 21: ASM and iRules

- Using ASM iRule Event Modes
- Defining Asynchronous JavaScript and XML
- Defining JavaScript Object Notation (JSON)
- Defining Content Profiles

#### Chapter 22: Using Content Profiles

- The Order of Operations for URL Classification
- Final Lab Project (Option 1) – Production Scenario
- Final Lab Project (Option 2) – JSON Parsing with the Default JSON Profile
- Final Lab Project (Option 3) – Managing Traffic with Layer 7 Local Traffic Policies

## Session Dates

On request. Please [contact us](#)

## Additional Information

[This training is also available as onsite training. Please contact us to find out more.](#)