

Course Code: 500-202E

AppShape++
e-Learning Course Outline

Version 2.1



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1 Purpose

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This course syllabus introduces topics covered in the Radware # 500-202E AppShape++ non-certification curriculum, which includes the following self assessments:

- 7 Tcl Self Assessments
- 10 AppShape++ Self Assessments

Training materials for this course include hands-on training, a lab manual, and an accompanying PowerPoint presentation to be used in tandem.

2 e-Learning Module Outline

2.1.1 Day 1

Overview of AppShape++

- Overview of AppShape++
 - AppShape++ and Tcl
 - AppShape++ Structure
 - AppShape++ Script
- EVENTS
 - AppShape++ EVENTS
 - Enable EVENTS
- Commands
 - AppShape++ Commands
 - AppShape++ Library
- Script Implementation
 - Steps for Implementation

2.1.2

Basics of Tcl

- Basics of Tcl
 - Tcl
 - What is Tcl?
 - Why Tcl?
 - Learning Tcl
 - Running Tcl
 - Tcl Tools and files
- Tcl Syntax
 - Tcl Basic Components
 - Tcl Syntax
- Tcl Commands
 - Basic Tcl Commands
 - Tcl Commands
 - Commands Arguments
 - Group Arguments
 - Document Code
- Tcl Evaluation
 - Rules of Substitution
 - Variable Substitution
 - Command Substitution
 - Backslash Substitution

Basics of Tcl (cont.)

- Review
- Tcl Variables
 - Tcl Variables
 - Simple variables
 - String variables
 - Scope of Tcl variables
 - Variable Names
 - Naming Guidelines
- Tcl Expressions
 - Tcl Expressions
 - Evaluating Expressions
 - Tcl Operators
 - Rational Operators
 - Logical Operators
 - String Operations
- Self-Assessment
 - Tcl Tools and files
 - Self-Assessment 1-6

2.1.3

Tcl Code & Scriptwriting

- Tcl Code
 - Writing Tcl Code
 - Tcl Script
 - Tcl Syntax
- Conditional Control
 - If Command
 - Operators
 - Boolean Operators
 - Logical Operators
 - Nested If Command
 - Switch Command
- Loop Control
 - While Command
 - For Command
 - Foreach Command
 - Break Command
 - Continue Command
- Tcl Strings
 - String Evaluation
 - String Operators

Tcl Code & Scriptwriting (cont.)

- String Commands
 - String Commands
 - Append Command
- Tcl Lists
 - Tcl Lists
 - List Commands
 - Concat Command
- Regular Expressions
 - Pattern Matching
 - Use regular expressions
 - Find metacharacters
- Scriptwriting
 - Scriptwriting
 - Coding Conventions
 - Best Practices
 - Use braces correctly
 - Control execution
 - Injection-attack protection
- Self-Assessment
 - Tcl Tools and files
 - Self Assessment 7

2.2.1 Day 2

Intro to AppShape++

- What is AppShape++?
 - Why use AppShape++?
- AppShape++Boundaries
 - Relationship
 - Limits
 - Overrides
 - Restrictions
 - Tcl Framework
 - Collection
 - Effect on Tunnel
 - Pilot Text
 - Performance
- AppShape++ Scripts
 - Components
 - Event Driven Programming
 - Steps for Implementation
- AppShape++ Variables
 - Review of Tcl Variables
 - AppShape++ variables
 - Local Dynamic Variables
 - Global Static Variables
- Global Functionality
 - Attach Command
 - Global Group
 - Port Selection
- AppShape++ EVENTS
 - Preview EVENTS
 - Enable EVENTS
 - INIT EVENT
 - EVENT Declaration
 - CLIENT EVENTS
 - SERVER EVENTS
 - HTTP EVENTS
- Self-Assessment
 - AppShape++ Assessment
 - AppShape++ Assessment 1
 - AppShape++ Assessment 2
 - AppShape++ Assessment 3
 - AppShape++ Assessment 4

2.2.2

AppShape++ Commands – TCP UDP IP LB SSL

- AppShape++ Commands
 - Why use AppShape++?
- IP Commands
 - Overview IP
 - Example IP Code
- TCP Commands
 - Overview TCP
 - Example TCP Code
- UDP Commands
 - Overview UDP
 - Example UDP Code
- LB Commands
 - Overview LB
 - Example LD Code
- SSL Commands
 - Overview SSL
 - Example SSL Code
- STARTTLS for SMTP

- Self Assessment
 - AppShape++ Assessment
 - AppShape++ Assessment 5-6

2.3.1 Day 3

AppShape++ Commands – HTTP & Log

- AppShape++ Commands
 - Overview HTTP
 - HTTP Commands
- Content Functionality
 - HTTP Content
 - Collect Behavior
 - Transfer Coding
- Using HTTP Commands
 - 1. Header/Cookie Exam
 - 2. Redirect
 - 3. Respond
 - 4. Content Rules
 - 5. Close
- Content Modification
 - Transparent Header Modification
 - Using Switch Command
 - Using If Command
 - Using Header Replace
 - HTTP Page Issues
- Log Command
 - Use Log Command
 - Example Log Command
- Self-Assessment
 - AppShape++ Assessment
 - AppShape++ Assessment 7-10

2.3.2

AppShape++ Script Management (Draft)

- Under Construction
- AppShape++ Library
- Script Implementation
 - Steps for Implementation
 - Virtual Service
 - Validation and Initialization
- CLI Management
- BBI Management
- Error Handling
 - Port Selection
 - Recovery from Execution Errors

3 e-Learning Self Assessment

Basics of Tcl

- Tcl Self Assessment 1 – Create Tcl variable
- Tcl Self Assessment 2 – Manipulate Tcl variable
- Tcl Self Assessment 3 – Output Tcl variable
- Tcl Self Assessment 4 – Create Tcl string variable
- Tcl Self Assessment 5 – Display Tcl string variable
- Tcl Self Assessment 6 – Create multi-word string variable(s)

Tcl Code & Scriptwriting

- Tcl Self Assessment 7 – Create iterative Tcl script

Intro to AppShape++

- AppShape++ Assessment 1 – Create global static variable
- AppShape++ Assessment 2 – Create script to trigger event
- AppShape++ Assessment 3 – Create script to trigger client side event
- AppShape++ Assessment 4 – Create script to trigger HTTP event

AppShape++ Commands – TCP UDP IP LB SSL

- AppShape++ Assessment 5 – Create script to implement back-end SSL
- AppShape++ Assessment 6 – Create script to insert/rename/remove cookie

AppShape++ Commands – HTTP & Log

- AppShape++ Assessment 7 – Explain a script
- AppShape++ Assessment 8 – Create script to insert header
- AppShape++ Assessment 9 – Create script to remove header
- AppShape++ Assessment 10 – Create script to insert value of the header

4 Suggested Self-Paced Schedule

	First Day	Second Day	Third Day
About 1 hour	Module 1 Overview of AppShape++ (≈10 min)	Module 4 Intro to AppShape++ (≈25-30 min)	Module 6 AppShape++ Commands [HTTP & log] (≈25-30 min)
	Module 2 Basics of Tcl (≈35-40 min)		
	Module 2 Tcl Self Assessment 1-4 (≈10-15 min)	Module 4 AppShape++ Self Assessment 1-4 (≈20-25 min)	Module 6 AppShape++ Self Assessment 7-10 (≈30-35 min)
About 1 hour	Module 3 Tcl Code & Scriptwriting (≈35-40 min)	Module 5 AppShape++ Commands [TCP UDP IP LB SSL] (≈15-20 min)	Module 7 AppShape++ Script Management (Draft) (≈30 min)
	Module 3 Tcl Self Assessment 7-10 (≈15-20 min)	Module 5 AppShape++ Self Assessment 5-6 (≈35-40 min)	Hands-on exploration with Alteon v29 (30+ min)

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