

PACS 301

1 Day

DURATION

9

MODULES

35

TOPICS

PACS 301

COURSE CODE

COURSE OVERVIEW

PACS 301 is the capstone course for Red Team Alliance's offensive PACS curriculum. This intensive full-day course brings together everything students have learned across the PACS program and puts it to the test through a series of challenging labs, real-world scenarios, and hands-on tool building. Students will construct their own field tools, learn operational considerations for PACS engagements, and solve complex challenges that require creative thinking and mastery of the techniques covered in prior modules. This is not a lecture-heavy course. Students will spend the majority of their time building, experimenting, troubleshooting, and solving problems. Challenges are scenario-based and designed to simulate the unusual situations encountered during real-world engagements. Some challenges are team-based while others are solo, and students will have latitude to find their own solution paths using all the tools at their disposal.

TOOLS AND REQUIREMENTS

- PACS 22x: Any in-depth regional course (PACS 222, 223, or 224).
- Proxmark3: Required for all students.
- Flipper Zero: Required for all students.
- Chameleon Ultra: Required for all students.
- Computer: Computer with administrative access and permission to install software. Windows 11 is the official platform used in class. Other operating systems are permitted, but students should understand that live technical support may not be available for OS-specific issues.

LEARNING OBJECTIVES

What You Will Learn

- Operational Considerations for PACS Engagements
- Build Lab: Wiegand Multi-Technology Datalogger (WMD)

- Build Lab: Long-Range Reader Systems
- Advanced ESPKey Techniques
- Covert Considerations and Tool Concealment

- Advanced Debugging and Troubleshooting
- Attack Chain Development
- Scenario-Based Challenges

COURSE SYLLABUS

9 Modules, 35 Topics

01

Operational Considerations for PACS Engagements

TOPICS

- When to Use Which Approach: Choosing the Right Tool and Technique
- Risk Assessment and Operational Security
- Engagement Planning and Scoping
- Documentation and Reporting Considerations

02

Build Lab: Wiegand Multi-Technology Datalogger (WMD)

TOPICS

- Understanding the WMD Architecture
- Deployment Scenarios and Use Cases
- Hands-On Assembly and Configuration
- Long-Range Reader Integration

03

Build Lab: Long-Range Reader Systems

TOPICS

- Long-Range Reader Principles and Components
- Tuning and Optimization for Field Use
- Hands-On Assembly and Testing
- Covert Deployment Considerations

04

Advanced ESPKey Techniques

TOPICS

- Beyond Capture: Credential Injection Attacks
- Combining ESPKey with Other Tools
- Advanced Configuration and Customization
- Hands-On: Injection Attack Scenarios

05

Covert Considerations and Tool Concealment

TOPICS

- Operational Realities of Covert Tool Deployment
- Building Tools into Everyday Objects
- Concealment Strategies and Packaging
- Balancing Functionality with Discretion

06

Advanced Debugging and Troubleshooting

TOPICS

- When Things Don't Work: Systematic Debugging Approaches
- Common Failure Modes and How to Overcome Them
- Signal Analysis and Diagnosis
- Building Your Field Debugging Kit

07

Attack Chain Development

TOPICS

- Combining Techniques into Effective Attack Chains
- Documenting and Communicating Your Approach
- Adapting to Unexpected Situations
- Hands-On: Build Your Own Attack Chain

08

Scenario-Based Challenges

TOPICS

- Team-Based Challenges: Collaborative Problem Solving
- Solo Challenges: Prove Your Individual Mastery
- Real-World Scenarios Requiring Creative Solutions
- Latitude to Choose Your Own Path

09

Capstone Challenge

TOPICS

- Comprehensive Scenario Requiring Full Toolkit
- Apply Everything Learned Across the PACS Curriculum
- Demonstrate Mastery Through Practical Application

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

✉ info@koenig-solutions.com