STID ACADEMY

ADVANCED TRAINING: MIFARE PLUS® & DESFIRE® EV2 & EV3

LEVEL 2

Course ID	**STID-ACD-SEC-03**
Duration	**1 day**
Format	**ILT / OST**
Certified Training	**Yes**
Languages	**FR / EN**

MASTER THE ADVANCED FEATURES AND SECURITY OF DESFIRE® EV2 AND EV3 TECHNOLOGIES

This high-level technical training is designed for professionals who have already mastered MIFARE® DESFire® Level 1 and are looking to deepen their expertise in the most advanced RFID cryptographic mechanisms and secure implementations.
This course provides an in-depth exploration of secure authentication techniques, advanced key management, secure file structures, and encrypted communication to ensure the highest level of security, interoperability, and performance for access control systems.
Through hands-on exercises and real-world case studies, participants will configure, secure, and optimize their MIFARE Plus® & DESFire® EV solutions in complex and high-security environments.

PREREQUISITES

- This is an advanced training course. Participants must have completed the Level 1 training (MIFARE® DESFire® Fundamentals).
- Prior experience with RFID, MIFARE®, and DESFire® EV2 and EV3 is required.
- Knowledge of encryption mechanisms, key management, and authentication is also expected.

AUDIENCE

This training is intended for security and access control professionals, including:

- Security Architects & System Engineers
- Installers & Integrators
- Security Administrators & Managers
- Project Managers & Technical Consultants
- Developers & IT Teams working on secure credential solutions

LEARNING OBJECTIVES

Understand the advanced security mechanisms of MIFARE® & DESFire® EV2 and EV3 technologies.

Master complex cryptographic protocols: AES, 3-DES, HMAC SHA-1, mutual authentication.

Configure and optimize file structures to manage secure credentials efficiently.

Establish fully encrypted communications to maximize the security of systems.

Migrate existing systems to MIFARE® & DESFire® EV2 and EV3 while maintaining optimal security practices.

Use advanced diagnostic and security tools to test and analyze authentication processes.

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DETAILED COURSE OUTLINE

REVIEW OF MIFARE® TECHNOLOGIES

- Quick overview of MIFARE® technologies
- Market positioning and application domains
- Comparison with other RFID and NFC solutions

MODULE 1: COMPARISON OF MIFARE® PRODUCTS (CLASSIC, PLUS, DESFIRE®)

- Vulnerabilities of MIFARE® Classic Crypto1: operation and weaknesses
- Real-world attack scenarios: impersonation, cloning, replay attacks

MODULE 2: ARCHITECTURE OF MIFARE DESFIRE® TECHNOLOGY

- Study of memory structure
- File types (standard, cyclic, value, etc.)

MODULE 3: CONFIGURING MIFARE DESFIRE® TECHNOLOGY

- Creating and configuring secure applications
- Creating and configuring secure files
- Creating and configuring various security keys

MODULE 4: SECURITY AND CRYPTOGRAPHY

- Three-pass mutual authentication
- Session Key and secure exchange
- Secure Messaging EV1 / EV2
- Key Sets and version management

MODULE 5: ADVANCED MECHANISMS (EV2 / EV3)

- Originality Check & Proximity Check
- TMAC, DAM (MIsmartApp)
- Secure Dynamic Messaging (SDM)
- Transaction Timer

MODULE 6: CASE STUDIES AND HANDS-ON WORKSHOPS

- Simulations and exercises on configuration and authentication
- Q&A with a STid expert to address specific challenges

CERTIFICATION

Certificate of Completion awarded upon successful completion.

LEARNING FORMAT

ILT (Instructor-Led Training) :
Experience hands-on training at STid's headquarters, led by experts in a fully equipped environment. Benefit from live demonstrations, interactive exercises, and direct engagement with STid specialists for an optimal learning experience.

OST (On-Site Client Training) :
Tailored training delivered at your site, adapted to your infrastructure, security needs, and equipment for a fully personalized learning experience.

SCHEDULE AND REGISTRATION

To check the schedule, pricing, or register for the course:

customer.training@stid.com

Learn more at
www.stid.com

Training Activity Number: 93 13 13328 13
STID-ACD-SEC-03 – March 2025

SMARTER SECURITY ANSWERS