

# EMV Master Class

EMV Master Class will help you in enhancing your knowledge and skills in EMV standards. This 3-day workshop will provide you with a detailed insight in end-to-end EMV based card payment operations.

**Join the Master Class! Stay ahead of the competition!**

MVLCO offers a three full-day comprehensive EMV Master Class. The Master Class is extensively focused on EMV standards and their usage in chip card-based payment transactions.

The course covers how chip cards are issued, detailed discussion on EMV specifications for contact, contactless, QR and NFC cards, secure remote commerce specification, end to end EMV based chip card transaction processing.

The Master Class emphasizes on active participation from delegates and includes exercises and case studies.

When you complete the EMV Master Class, you will have understanding of:

- What is EMV standard and how it is implemented
- Chip card structure, card personalization and issuance
- Certification process for cards and acceptance devices
- APDU command response pairs
- Contact, contactless, NFC and QR payment applications
- EMV secure remote commerce specification
- End-to-end EMV/NFC transaction processing
- Frauds in card payment systems and card security
- EMV cryptography and key management process
- EMV tokenization process

## MVL Consulting Private Limited

#17, Laxman Villa, Near Jehangir Specialty Hospital, Paud Road, Pune 411038 India  
Mobile: +91-9764835350 / 9168435350

## Prerequisites

This is an advanced level technical course. The participants should have either completed CCPSP Certification Course from MVLCO or should have sound understanding and experience in payment card industry.

All our training programs are also available in- house. To arrange an in-house program please contact us on :  
**+91-9764835350**  
or email at  
**info@mvlco.com**

## Course contents

### Module 1 : Introduction to EMV

- What is and why EMV
- Introduction to EMV and objectives of EMV
- Advantages of EMV
- Evolution of EMV
- Overview of EMV standard and EMV specifications
- EMV standard relationship with ISO standards and PCI standards
- Players in the EMV environment and their roles

### Module 2 : Understanding the EMV card

- Integrated Circuit Chip card structure
- Chip card software architecture
- Card approval process
- EMV Card Data Personalization
- Type of card personalization data
- EMV cardholder data and cryptographic data
- EMV card personalization process
- EMV issuer models
- Card and cardholder verification methods (CVM)

### Module 3 : Understanding EMV transaction acceptance devices

- EMV transaction acceptance device overview
- EMV Transaction acceptance environment
- EMV contact/contactless terminal specification
- Device approval process
- Device performance for EMV transactions
- Placement of contactless readers
- General transaction acceptance process
- EMV transaction acceptance process
- Non EMV transactions using EMV functionality
- EMV at POS and EMV at ATM

### Module 4 : End to end EMV transaction processing

- APDU Command Response Pairs

- Step by step offline EMV and online EMV transaction processing
  - Contact chip acceptance and transaction processing
  - Contactless chip acceptance and transaction processing
- EMV parameters and their functionality
- Industry specific transaction type

### Module 5 : EMV payment applications

- EMV common core definitions
- EMV common payment applications
- EMV contact specifications
- EMV contactless specifications
- EMV QR specifications
- EMV tokenisation specifications
- EMV secure remote commerce specifications
- EMV contact/contactless terminal specification
- Overview of Visa/MasterCard and other schemes specifications

### Module 6: Security and fraud risk management in EMV

- Frauds in payment card environment
- PCI DSS applicability in EMV environment
- Fraud risk management in EMV environment

### Module 7: EMV cryptography and key management

- Introduction to key management
- Symmetric and asymmetric key management
- RSA keys and 3DES, AES, Elliptic Curve Cryptography
- Cryptographic algorithm
- Obtaining and loading keys
- Symmetric key usage in online EMV transaction
- Asymmetric key usage in off line EMV transaction
- Data authentication using SDA, DDA, FDDA and CDA

### Why should you attend:

Card payments are very popular methods of making retail payments. EMV standards are now being implemented and used across the world and it is essential for everyone working in card payment industry to master the EMV standard. The EMV Master Class will enable you to get thorough knowledge of EMV specifications and end to end EMV transaction processing.

**Register now!!**

