

---

## Testing CBDC in the FinTech and Innovations Hub

**Duration: 5 Days (40 Hours)**

**Daily Duration: 8 Hours**

---

### **Day 1 – Preparing the CBDC Test Environment**

**Duration:** 8 Hours

#### **Objective**

To prepare the **CBDC test environment**.

#### **Topics Covered**

- Introduction to **CBDC fundamentals**
  - Policy rationale
  - Retail vs Wholesale CBDC
- Review **BIS design principles**
  - Two-tier model
  - Coexistence with existing financial systems
  - Financial stability safeguards
- Decide **CBDC architecture**
  - Token-based model
  - Hybrid / intermediated model
- Identify **key risks**
  - Financial stability risks
  - AML/CFT risks
  - Cyber risks
  - Operational risks
- Select **blockchain platform**

- Hyperledger
- Quorum
- Private Ethereum

### **Deliverable**

- CBDC model definition
  - Architecture diagram
  - Risk matrix as inputs for preparing the **CBDC Test Environment**
- 

## **Day 2 – Designing the CBDC System Framework**

**Duration:** 8 Hours

### **Objective**

To design the **CBDC system structure and framework** for testing.

### **Topics Covered**

- CBDC system components
- Node structure and network setup
- Digital currency issuance model
- Distribution mechanism through intermediaries
- Integration with payment ecosystem

### **Deliverable**

- CBDC system framework and technical setup plan for the **test environment**
- 

## **Day 3 – CBDC Use for Payments**

**Duration:** 8 Hours

### **Objective**

To elaborate **CBDC usage for digital payments**.

### **Topics Covered**

- Create **user and merchant wallets**
- Implement **peer-to-peer (P2P) transfers**

- Enable **merchant payments using QR simulation**
- Configure **holding limits and transaction caps**
- Implement **tiered wallet logic**
- Develop **simple UI dashboard**

#### **Deliverable**

- Knowledge and skills on **CBDC end-user payment flows**
- 

### **Day 4 – CBDC Risk Management Guidelines**

**Duration:** 8 Hours

#### **Objective**

To prepare **CBDC risk management guidelines**.

#### **Topics Covered**

- Implement **KYC tier levels**
- Define **AML transaction rules**
- Configure **suspicious transaction triggers**
- Build **admin monitoring dashboard**
- Implement **wallet freeze functionality**
- Simulate **suspicious transaction patterns**

#### **Deliverable**

- Knowledge on **CBDC Risk Management Guidelines**
- 

### **Day 5 – Implementing the CBDC Test Program**

**Duration:** 8 Hours

#### **Objective**

To implement the **CBDC test program and prototype simulation**.

#### **Topics Covered**

- Execute full **issuance → distribution → payment flow**
- Conduct **high-volume transaction simulation**

- Test **limit breach attempts**
- Simulate **suspicious structuring activities**
- Perform **node failure scenario**
- Measure **latency and throughput**
- Document **simulation results**

#### **Deliverable**

- Knowledge on **CBDC prototype design and live run**