



Certified Blockchain Professional (CBP) Training Course

5 – 9 September 2027
Johannesburg

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Overview

Certified Blockchain Professional CBP training is a 5-day course for IT professionals, developers, architects and innovation managers who leave with a documented blockchain solution design for a real business process. Many organizations explore distributed ledgers without a clear view of when a blockchain fits, which platform to choose or how to secure it. The course moves from cryptography and consensus to smart contracts, enterprise platforms, tokenization and governance, then applies them to sector use cases. Certified Blockchain Professional preparation of this kind is delivered by Agile Leaders Training Center.

Who Should Attend

- Software developers who build applications, APIs and integrations with business systems
- Solution and enterprise architects responsible for platform selection and system design
- Information security staff who assess risks in new technologies and digital assets
- Business and innovation managers who evaluate digital initiatives and build business cases
- IT project and product leads who plan pilots and coordinate technical and business teams

The course assumes participants already work with IT systems or digital projects, and it leaves out cryptocurrency trading and investment advice.

Departments and Industries

The course serves teams that design, secure or sponsor distributed ledger solutions across sectors.

- IT, software development and enterprise architecture departments
- Information security and risk management units
- Banking, payments and financial services
- Supply chain, logistics and trade operations
- Government services, healthcare and energy organizations

Learning Objectives

By the end of this course, participants will be able to:

- Analyze distributed ledger architecture, hashing and Merkle tree structures
- Compare consensus mechanisms such as PoW, PoS and PBFT for a given use case
- Build and test basic Solidity smart contracts on Ethereum
- Evaluate permissioned platforms such as Hyperledger Fabric for enterprise needs
- Diagnose blockchain security threats and smart contract vulnerabilities

- Prioritize blockchain use cases with a fit assessment and governance model

Course Agenda

Day 1: Blockchain Foundations and Cryptography

- Distributed Ledger Technology Concepts and Blockchain Data Structures
- Cryptographic Hash Functions, Public and Private Key Pairs and Digital Signatures
- Merkle Trees, Blocks and Transaction Validation Flow
- Public, Private and Consortium Blockchain Models Compared
- Blockchain Fit Assessment Decision Tree for Business Problems

Day 2: Consensus Mechanisms and Network Architecture

- Proof of Work Mining, Difficulty and Energy Considerations
- Proof of Stake, Delegated Models and Validator Economics
- PBFT and Raft Consensus for Permissioned Networks
- Bitcoin Network Architecture, UTXO Model and Wallet Types
- Node Roles, Peer-to-Peer Networking and Scalability Layers

Day 3: Ethereum, Smart Contracts and Decentralized Applications

- Ethereum Virtual Machine, Accounts and Gas Model
- Solidity Smart Contract Structure, Functions and Events
- Development Toolchains: Remix IDE, Test Networks and MetaMask Wallets
- Decentralized Application Architecture and Oracle Integration
- Tokenization Standards ERC-20 and ERC-721 for Digital Assets and NFTs

Day 4: Enterprise Platforms, Security and Governance

- Hyperledger Fabric Channels, Chaincode and Membership Services
- Enterprise Platform Selection Matrix: Fabric, Ethereum and Consortium Networks
- Blockchain Attack Vectors: 51% Attacks, Sybil Attacks and Key Theft
- Smart Contract Vulnerabilities: Reentrancy, Overflow and Access Control Flaws
- Blockchain Governance Models, Data Privacy and Consortium Operating Rules

Day 5: Blockchain Solution Design Practice and Capstone

- Exercise: Applying the Fit Assessment to Supply Chain and Finance Scenarios
- Exercise: Writing and Testing a Solidity Contract on a Test Network
- Exercise: Reviewing a Smart Contract Against a Security Checklist
- Exercise: Drafting a Hyperledger Fabric Network Design for a Consortium
- Capstone: Presenting a Blockchain Solution Design and Governance Plan



Practical Exercises

The course includes suggested activities that link each concept to realistic business scenarios.

- Suggested activity: trace a transaction from signing to block confirmation
- Suggested activity: compare consensus options for a trade finance consortium
- Suggested activity: deploy a token contract and test transfers on a test network
- Suggested activity: score candidate use cases for value, feasibility and risk

FAQs

Who is Certified Blockchain Professional training suited to, and what does it assume?

It suits developers, architects, security staff and innovation managers who evaluate or build distributed ledger solutions. It assumes familiarity with IT systems; basic programming experience helps in the smart contract sessions but is not essential for business participants.

How does Certified Blockchain Professional training differ from a cryptocurrency course?

A cryptocurrency course focuses on digital coins, markets and trading. Certified Blockchain Professional training focuses on the underlying technology: ledger architecture, consensus, smart contracts, enterprise platforms and governance for business solutions.

What is the difference between public and permissioned blockchains?

Public blockchains such as Ethereum let anyone join and validate transactions. Permissioned blockchains such as Hyperledger Fabric restrict participation to known members, which suits enterprises that need privacy, identity control and higher transaction throughput.

Are smart contracts on a blockchain secure by default?

No. Smart contracts can contain flaws such as reentrancy or weak access control, and deployed code is hard to change. Security reviews, testing on test networks and audit checklists reduce these risks before deployment.

Conclusion

Participants return with a blockchain solution design and governance plan for a selected business process. The design gives their organization a tested basis for choosing a platform, securing smart contracts and defining consortium rules. Teams can then run focused pilots instead of open-ended experiments.