

# Welcome To Digital Lync

Digital Lync empowers technology seekers by providing world class infrastructure, best quality project based technology education, Research and Development of great products and supports enthusiastic new entrepreneurs.



# BlockChain with JavaScript

Creating awesome web applications with Javascript and Blockchain. In depth knowledge of how blockchain works, creating Dapps in blockchain with help of javascript will change how the current application are working

**DURATION: 30+ HOURS** 

#### **PREREQUISITES:**

- Basic Knowledge of HTML,CSS
- Basics of Javascript (Client-side and Server side)
- Familiarity with Frameworks like express js is a plus
- Basic understanding of databases is a plus

### Why BlockChain

Blockchain is a decentralized and distributed database, combining with Javascript will make programmers to create awesome single page web application using a stack called MEAN. As syntax of javascript is similar to solidity language(which was used in blockchain for creating Dapps). Can create wallet applications, also can be integrated with technologies like IOT

#### CAREER

OPPORTUNITIES

Blockchain Developer Blockchain Engineer



# BlockChain

# Curriculum

## MODULE 1: BASICS OF BLOCKCHAIN

- What is blockchain
- Centralized vs Decentralized vs Distributed systems
- What are digital ledgers
- What is a bitcoin and types of cryptocurrencies
- Difference between bitcoin and blockchain
- What is Mining and transaction validation
- What is nonce
- Transaction flow of blockchain website
- Proof of Work

#### **MODULE 2:**

#### **CRYPTOGRAPHY IN BLOCKCHAIN**

- What is hashing and digital signatures
- Types of cryptographic algorithms.
- What is dual-key encryption (public & private encryption)
- Usage of cryptography in blockchain and transaction validation
- What are merkle trees and root
- Creation of block hash

#### MODULE 3: TYPES OF BLOCKCHAIN

- Public blockchains and examples
- Private blockchains and examples
- Federated vs Consortium blockchains and examples
- Difference between permissioned vs permissionless blockchain

#### **MODULE 4:**

#### NODE-JS BASICS (OPTIONAL FOR JAVASCRIPT DEVELOPERS)

#### MODULE 5: ETHEREUM

- What is Ethereum
- Ethereum architecture
- Introduction to dapps and examples
- What are smart contracts
- Introduction to solidity
- Difference between ethereum and bitcoin blockchains
- Swarm vs IPFS
- Web3 js introduction, proof of stake

## MODULE 6: PRIVATE BLOCKCHAIN

- Difference between public, private, test networks
- Creation and explanation of genesis file
- Downloading and explanation of geth
- Web3js commands and usage in geth
- Creation of private blockchain using geth
- Connecting nodes in blockchain (temporary and permanent)
- Connecting nodes in same, different networks
- Connecting nodes using cloud and localhost
- Accounts creation, transactions and mining in node.

#### MODULE 7: SOLIDITY

- Creating first smart contract
- Remix IDE, Metamask, Mist browser
- Deploying in private blockchain
- Attaching an user interface
- Mini Project using solidity

#### MODULE 8: TRUFFLE FRAMEWORK

- Truffle introduction and unboxing
- Truffle commands and usage
- Coding explanation using truffle + solidity

### MODULE 9: HYPER LEDGERS

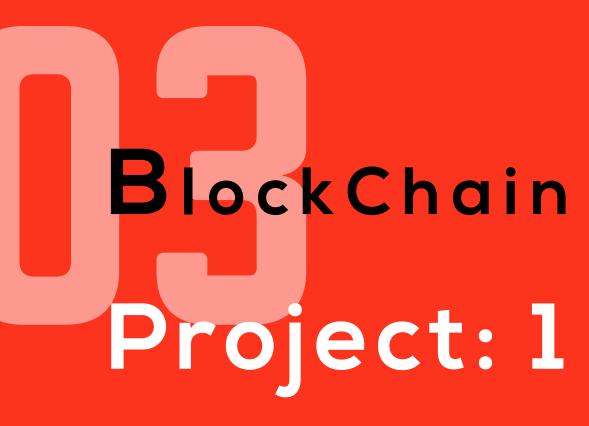
- Introduction to hyper ledgers
- Minor Application using hyper ledgers

# MODULE 10: MISCELLANEOUS

- What are Multi Chain and uses.
- What are Hybrid Blockchains
- Types of wallets to store cryptocurrencies
- Introduction to DAO/DAC
- What is Segwit

#### MODULES: BCJS

- JavaScript: Same as Previous defined in Full stack with python
- Blockchain:- Blockchain is a decentralized and distributed database in which data embedded to transactions will be immutable
- Solidity: Used as a language for creating decentralized applications in Ethereum platform.



#### **BLOCKCHAIN WALLET**

Simple Wallet that uses third party wallet API to integrate with Javascript or Python depending on Programming language that programmer uses and perform functionalities like sub wallets creation, transaction like send and receive, address generations etc...

# Project: 2

#### **BLOCKCHAIN CERTIFICATE**

Creating Private blockchain using Go-ethereum and truffle will make users to create their own blockchain certificates which are immutable and as well as more secured



# Digital Lync



# Trending

**Python** 

**Devops** 

**AWS** 

Azure (Cloud Computing)

**Data Sciences** 

**Deep Learning** 

**Artificial Intelligence** 

**Data Analysis** 

Big Data

**FullStack** 

**Digital Marketing** 

Mobile Development

Blockchain

Visual Design

**Game Development** 

IOT

**Cyber Security** 

