



Web3 - Contracts

Solidity basics (Remix)

Easy	Medium	Hard
What is solidity, what are contracts?		
Solidity builds, abis, binaries and EVM		
Storing state, variables, types, visibility (public, private), loops		
array, structs, mappings		
require, modifiers, Ownable contract		
Inheritance		
Events		
	Interfaces and CPIs	
	Gas optimisations	
	Native payment support	
	abis, bytecode	
Sepolia test network, airdrop yourself some tokens, contract deployment		

Solidity advance

Intro to ganache, truffle, Foundry		
Writing contracts in Foundry, setting up, testing a project locally		
	Testing contract locally, deploying using Foundry	
	Gas optimisations	
	Proxy contracts	
	Upgradable contracts	

Writing contracts in Solidity

Eays	medium	hard
ERC20, ERC 720	proxy contracts	
	marketplace contract	
	DEX, AMM and liquidity pools, constant product algorithm	
	Exploring OpenZeppelin contracts	
	Staking in lieu of tokens	

Rust basics

Easy	Medium	Hard
Installing rust, IDE Setup		
Variables, data types, loops, functions, struct		
enums, pattern matching, package management (packages, crates, modules),		
	Mutability	
	Memory management	
	ownership, referencing and borrowing	
	Options, Errors, Error Handling	

Rust advance

Easy	Medium	Hard
		Lifetimes
		Traits
Generics		
	async await syntax	
		Iterators
	Multi threading, concurrency	
		Macros

Programs on Solana

easy	medium	hard
	Programs in solana	
	Accounts vs programs vs instructions, Owners	Decoding a transaction on solana
	Programs vs. Smart Contract	Data model on Solana, PDAs, bump
	Writing a simple raw program in solana.	
	Token program , ATA, metadata program, metaplex	
	Anchor vs raw programs	
	web2 like program	
	Staking program	

Web2 + Web3

easy	medium	hard
	Private key management on a server. Shamir secrets	
		Indexing blockchains
		Transaction parsing, Logs and indexed parameters
		Sweeping wallets, new wallet creation logic

Projects

Creating a crypto payment gateway (web3 stripe)