

Algorand

gm



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Developer Advocate
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#BUIDL
web3



TODO:

Resources
Setup: Dev Env
Demo: PyTeal ABI



wen moon





Resources



Developer Portal



The screenshot shows the Algorand Developer Portal homepage. On the left, there's a large teal circle with the text "Build the future on Algorand". Below it is a list of features:

- Defi at global scale
- Rapidly growing ecosystem
- Sub 5-second finality, low fees

In the center, a modal window titled "Welcome to Algorand Developer Portal!" displays the message "Let's get started...". It shows the navigation path "(dev-portal) > docs 📄" and a list of categories:

- Blockchain basics
- Smart contracts & dApps
- Tokenization
- Integration
- See all

The "Smart contracts & dApps" option is highlighted with a green background.

At the bottom of the page, the URL <https://developer.algorand.org/docs/get-started/dapps/> is visible.



<https://developer.algorand.org/>

Discord Server

Algorand

The screenshot shows the Algorand Discord server interface. On the left is a sidebar with various channels: DEV TOOLS, NFT AND ART, and APIs. The main channel, '# welcome', is displayed. It features a large 'Welcome to Algorand' message from 'thumpark' dated March 1, 2022. Below it, there's a message from 'Ryan R. Fox' (@#0001) with a 'NEW' badge. The right side shows a list of administrators and online users.

Welcome to Algorand

This is the beginning of this server.

March 1, 2022

thumpark 03/01/2022
Welcome to the official Algorand Discord!

All the Channels are still there.

To join the server, follow the instructions from the DM message from YAGPDB.xyz.

If you disabled DMs, please enable them, leave this server, and join again.
We are sorry for the inconvenience: this is the only way to prevent bots from joining.

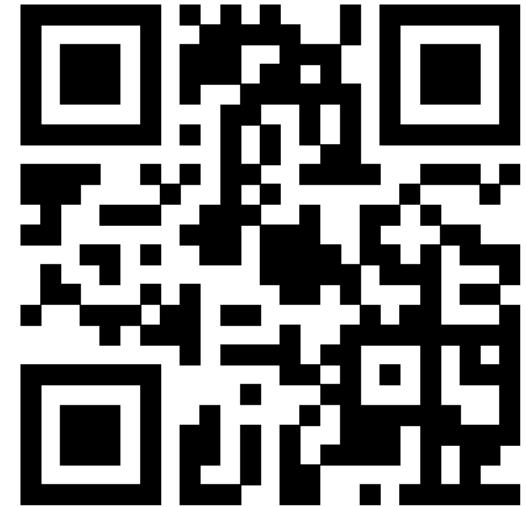
1681 856 1093 695 359 399 348 340 280
290 298 325 282 263 260 399 322 282
231 248

Message #welcome

Administrator — 1

ALGORAND INC — 7

ONLINE — 445



<https://discord.gg/algorand>

Developer Forum

Algorand

The screenshot shows the Algorand Developer Forum homepage. The top navigation bar includes links for "Dev Docs", "Sign Up", and "Log In". Below the navigation is a search bar and a menu icon. The main content area features a list of forum topics:

- Welcome to the Algorand Community** (by A, 1 reply, 3.7k views, Sep '18)
- BetaNet Update 3.7.1** (by BetaNet, 1 reply, 9 views, 44m ago)
- Send transaction created using python sdk to algosigner?** (by D, 4 replies, 65 views, 1h ago)
- Signing transactions in tx group result into error: 'The transaction group is incomplete or presented in a different order than when it was created.'** (by N, H, J, 3 replies, 31 views, 1h ago)
- Get assets using Algorand's Indexer REST API 2.0 testnet** (by B, 1 reply, 18 views, 2h ago)
- Choice Coin: A Solution to the Decentralized Governance Problem** (by Governance, 43 replies, 5.9k views, 17h ago)



<https://discord.gg/algorand>

YouTube

Algorand

The screenshot shows the YouTube channel page for 'Algorand'. The main header displays the channel name 'Algorand' and a play button icon. Below the header, there's a search bar and a 'HOME' tab selected. A banner for 'Decipher 2021' is prominently displayed, followed by a description: 'The inaugural convening of the Algorand community. November 29 - 30, 2021 / Miami, Florida.' Below the banner, there are five video thumbnails from the Decipher 2021 event, each with its title, duration, and view count. The first video is 'Decipher | Building a Blockchain City with Mayor...'. The second is 'Decipher | Remarks From The Founder'. The third is 'Decipher | Welcome to Decipher with Steve Kokinos'. The fourth is 'Decipher | Algorand Product Roadmap with Paul Rieg...'. The fifth is 'Decipher | Off the Rails: Reinventing Payments...'. Below this section, there's a 'Developers' section with four video thumbnails, and at the bottom, an 'Interviews with the Algorand Team' section with two video thumbnails. The left sidebar contains links for Home, Explore, Shorts, Subscriptions, Library, History, Your videos, Watch later, and Liked videos. It also includes a 'SUBSCRIPTIONS' section for 'Algorand' and other channels like 'Reach Platform' and 'Blockchain Pro Chann...', and a 'MORE FROM YOUTUBE' section for YouTube Premium, Movies & Shows, and Gaming.



<https://youtube.com/algorand>



Dev Env

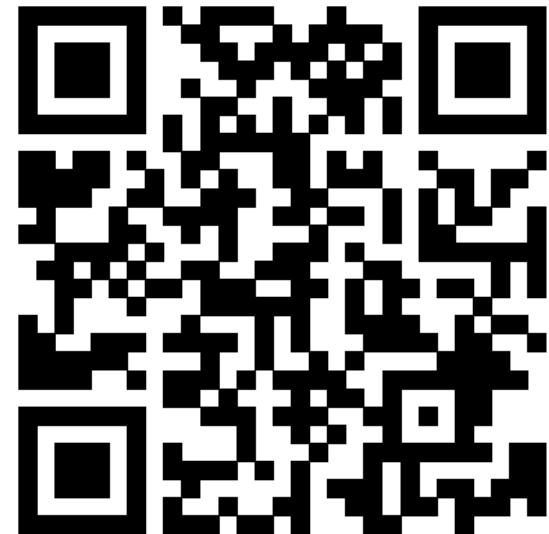


Wallet

Algorand

The screenshot shows a web browser window with the Algorand Developer Portal. The URL in the address bar is <https://developer.algorand.org/ecosystem-projects/?tags=wallets>. The page title is "Ecosystem Tools & Projects". The main content area is titled "Wallets" and lists three projects:

- Pera Wallet**: A yellow square icon with a sun-like symbol. Description: "Pera is the most popular mobile wallet on the Algorand ecosystem. Hold, transact, and manage your assets all in one place, taking comfort in the fact that your private keys and data never leaves your phone. Interact with the Algorand Blockchain, earn rewards, connect with dApps, pair Ledger Nano X accounts, display your NFTs and buy or sell Algo with native integrations." An "expand" arrow icon is to the right.
- My Algo**: A blue circle icon with a white "M". Description: "My Algo is an Algorand Wallet allowing you to freely interact with the Algorand blockchain. My Algo provides a simple and secure way of sending and receiving Algos, organize and track all your Algorand wallets, manage your assets and much more. Hardware wallet and multisig wallets are supported." An "expand" arrow icon is to the right.
- AlgoSigner**: A blue and orange stylized "A" icon. Description: "AlgoSigner Build DeFi Applications on Algorand. Purestake's AlgoSigner is an Algorand wallet extension for Chrome that lets users approve and sign transactions that are generated by Algorand applications. By integrating AlgoSigner into your decentralized application, you can request to connect to a visitor's wallet, send transactions for their signature, and transmit signed transactions to the Algorand TestNet or MainNet – all without needing to handle keys or secrets. With AlgoSigner, it's easier than ever to integrate ALGOs into your DeFi application for payment, investing," An "expand" arrow icon is to the right.



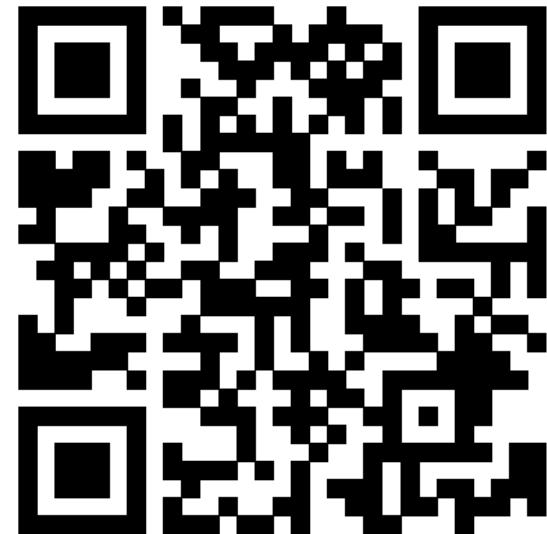
[https://developer.algorand.org
/ecosystem-projects/](https://developer.algorand.org/ecosystem-projects/)

IDE



The screenshot shows the Algorand Developer Portal with the title "Algorand IDEs". It lists three tools:

- Algorand VS Code Extension**: Support for Algorand in VS Code by Obsidian Labs. It includes a VS Code icon and a "↗" button.
- Algedesk.io**: Build. Test. Execute. Algedesk provides open-source and developer-friendly tools to build decentralized apps and smart contracts on Algorand network. One can quickly create ASA and compile ASC1 and more without installing anything. It includes an Algedesk icon and a "↗" button.
- algoDEA**: algoDEA Algorand IntelliJ Plugin provides end to end development life-cycle on Algorand blockchain using IntelliJ IDE. Using this plugin, developers can create and test both stateless and stateful smart contracts directly from their IntelliJ IDE. It also provides other features like ASA management, transactions, test account management etc. GitHub: <https://github.com/bloxbean/algodea>. It includes an IntelliJ icon and a "↗" button.



[https://developer.algorand.org
/ecosystem-projects/](https://developer.algorand.org/ecosystem-projects/)

Sandbox



The screenshot shows a code editor window with the title "Preview README.md — sandbox". The left sidebar displays a file tree with a "SANDBOX" folder containing various configuration files like genesis, images, utils, and dockerignore. The main content area shows the "Algorand Sandbox" README, which includes instructions for Docker Compose, a warning about not being suitable for production, and usage instructions. A terminal tab at the bottom shows the command "algostaff@Algo-Admin-MBP sandbox % ./sandbox up dev".

\$./sandbox up dev

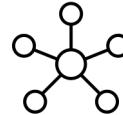


[https://github.com/
algorand/sandbox/](https://github.com/algorand/sandbox/)

Sandbox



Network(s) Nodes



Transaction Builder



Key Manager



Query Tool



sandbox

algod :4001

goal n/a

kmd :4002

indexer :8980

SDK

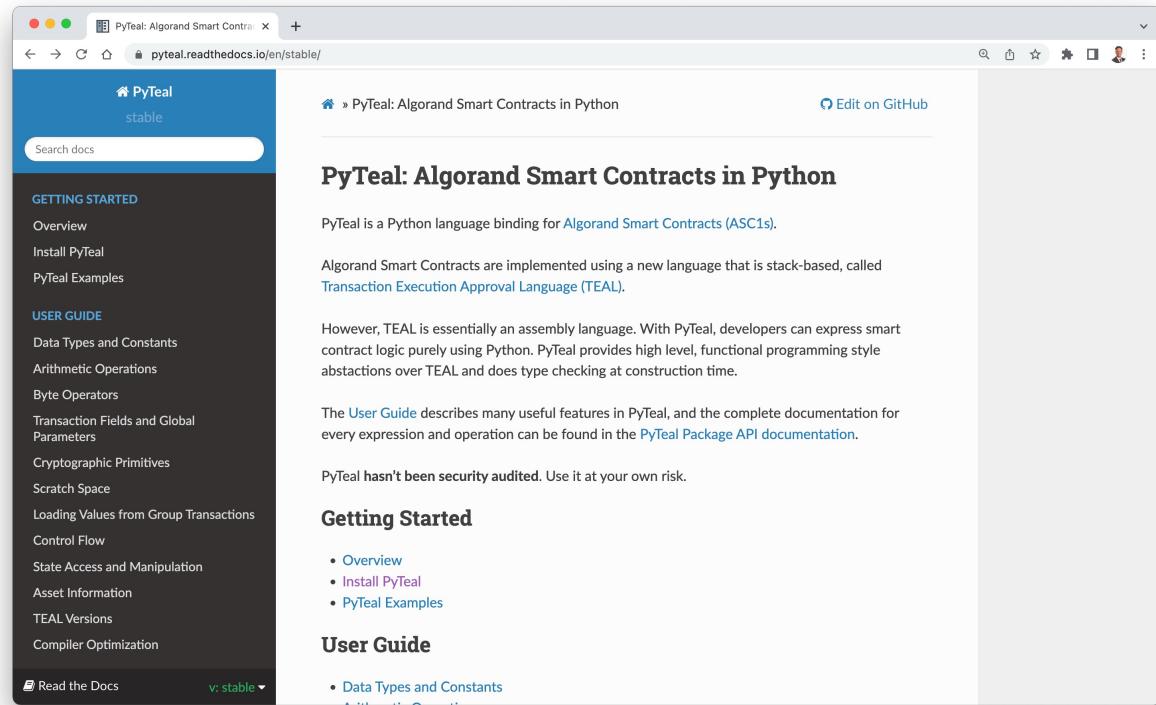


The screenshot shows the Algorand Developer portal's SDK section. The page has a header with the Algorand logo and a search bar. On the left, there's a sidebar with a menu and links to developer docs, get started, and various SDKs (Python, Javascript, Go, Java, REST APIs, CLI Tools, Run a node, About, Archive). The main content area features large, colorful logos for different programming languages: JS (yellow), Python (blue and yellow), Java (red and blue), and Go (white on blue). Below these are smaller logos for C# and R. To the right, there's a table of contents with sections for Algorand supported (Python, JavaScript, Go, Java) and Community Supported.



[https://developer.algorand.org
/docs/sdk/](https://developer.algorand.org/docs/sdk/)

```
$ pip install py-algorand-sdk
```



The screenshot shows a web browser displaying the PyTeal documentation at pyteal.readthedocs.io/en/stable/. The page title is "PyTeal: Algorand Smart Contracts in Python". The left sidebar contains sections for "GETTING STARTED" (Overview, Install PyTeal, PyTeal Examples) and "USER GUIDE" (Data Types and Constants, Arithmetic Operations, Byte Operators, Transaction Fields and Global Parameters, Cryptographic Primitives, Scratch Space, Loading Values from Group Transactions, Control Flow, State Access and Manipulation, Asset Information, TEAL Versions, Compiler Optimization). At the bottom of the sidebar are links for "Read the Docs" and a dropdown menu showing "v: stable". The main content area starts with a brief introduction to PyTeal as a Python binding for Algorand Smart Contracts (ASC1s), mentioning that Algorand Smart Contracts are implemented using TEAL. It then discusses the assembly-like nature of TEAL and how PyTeal provides a high-level, functional programming style abstraction over it. The "User Guide" section is mentioned as providing many useful features and documentation for expressions and operations. A note states that PyTeal has not been security audited.



<https://pyteal.readthedocs.io/>

```
$ pip install pyteal
```



PyTeal ABI Demo



Get the code



The screenshot shows a Microsoft Visual Studio Code interface. On the left is the Explorer sidebar, which lists the project structure:

- DEMO-ABI
- .vscode
- go
- goal
- js
- py
- src
 - .app_id
 - .gitignore
 - approval.teal
 - clear.teal
 - contract.json
 - contract.py
 - LICENSE
 - manage.sh
 - README.md
 - requirements.txt

The README.md file is currently open in the main editor area. The content includes:

Algorand AVM ABI

Demo of implementation for contract and client code that conforms to the ARC4 spec.

<https://github.com/algorandfoundation/ARCs/blob/main/ARCs/arc-0004.md>

ARC-004 or the Algorand ABI is a specification for encoding and decoding of data types and a standard for handling method calls.

Contents

- contract.py – A PyTEAL contract that generates a set of methods that can be called as ABI methods
- contract.json – A JSON file describing the interface of the contract to be read by SDK clients
- js/ – Directory containing a TypeScript client to read in the contract.json file and call methods
- py/ – Directory containing a Python client to read in the contract.json file and call methods
- go/ – Directory containing a Go client to read in the contract.json file and call methods

At the bottom of the VS Code interface, the status bar shows:

- fox/demo
- Algorand Panel
- Python 3.10.2 64-bit
- 0 0 0
- Go 1.16.13
- Go Update Available



[https://github.com/
algorand-devrel/demo-abi/](https://github.com/algorand-devrel/demo-abi/)

Quick UI

Algorand

WASABI - UI generated based on an ARC-4 App's ABI Interface

WASABI Live Demo

This project intends to provide a UI for developers and regular dApp users to interact with [ARC-4](#)-compliant smart contracts using a dApp-agnostic UI as long as the contract interface is provided.

How to run this project

1. Start the project
yarn start
2. Run sandbox using [go-algorand c2c branch](#)
config.c2c

```
export ALGOD_CHANNEL=""  
export ALGOD_URL="https://github.com/algorand/go-algorand/tree/main/tools/c2c"  
export ALGOD_BRANCH="feature/contract-methods"  
export ALGOD_SHA=""  
export NETWORK=""  
export NETWORK_TEMPLATE="images/algod"  
export NETWORK_BOOTSTRAP_URL=""  
export NETWORK_GENESIS_FILE=""  
export INDEXER_URL="https://github.com/algorand/indexer"  
export INDEXER_BRANCH="develop"  
export INDEXER_SHA=""
```

Contract Methods

add
sum a and b, return the result
a (uint64)
b (uint64)
Query Returns type uint64 -

sub
subtract b from a, return the result

Config

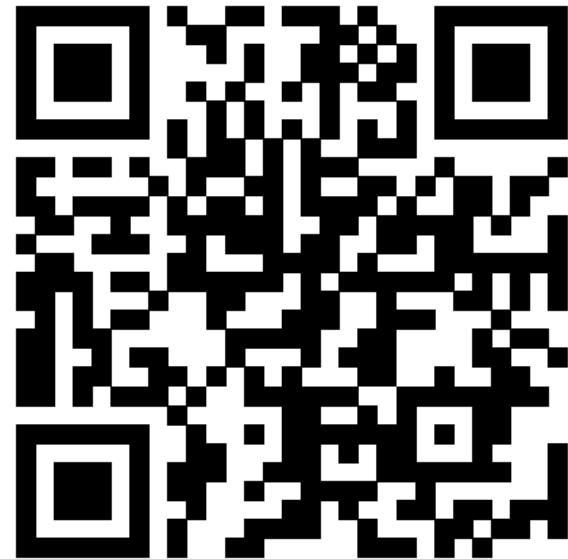
Algod: aaaaaaaaaaaaaaaaaa http://localhost 4001 KMD: aaaaaaaaaaaaaaaaaa http://localhost 4002

KMD Wallets unencrypted-default-wallet

KMD Status: connected

KMD accounts: ATY34X7644TDAZWK2V5INBFU4UE2HP7UCKFWEB4C2XMQ3QUDVCAJBE54! Signer
GNTAHWZ2CSGLQ7KFG23SEMFPK8SFVX6SXDRUNFKD4V2AOVIEQIDB4MRK84! User
QDMFPLB4FP736QHSCHHANFTNSPGYCTZK322M2H3MSOSQYR4KHWFGR0ZCOM! User

Apps created by Account:
Self-defined App ID: 0 Current
Opted-in Apps: None



<https://github.com/fionnachan/wasabi>

Developer Portal - Challenges



The screenshot shows a web browser window for the Algorand Developer Portal. The URL is developer.algorand.org/challenges/transaction-rookie/?language=python. The main page displays a challenge titled "Payment Transaction Rookie" which has been completed ("NOT EARNED"). The challenge details include:

- Rookie**: Send a basic payment transaction.
- ACQUIRED BY**: 22 People
- ASSET ID**: 801348719
- VIEW**: View on NFTx

A modal window titled "Payment Transaction Rookie" is open, showing a trophy icon and the message "Congratulations! You have successfully completed the Payment Transaction Rookie challenge. You can now claim your on-chain badge reward and receive it in the wallet of your choice!". It features two buttons: "Claim Badge" (in green) and "See other challenges".

In the bottom right corner of the main page, there is a terminal-like interface with the following text:

```
Confirmed round: 22808860
Verifying the challenge...
Transactions validated! Collect your badge :)
```



thanks



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THANKS

