


Crypto Mining with ESP32

Will guide you to mine the crypto via ESP32 Controllers.

 Difficulté Facile

 Durée 1.5 heure(s)

 Catégories Électronique

 Coût 10 USD (\$)

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Matériaux

Étape 1 - Cryptocurrency: A New Era of Money

Money is one of the most important inventions in human history. It is a medium of exchange, a store of value, and a unit of account. Money enables trade, commerce, and economic growth. However, money also has its limitations and challenges. For example, money can be counterfeited, stolen, or inflated.

To overcome these problems, some people have invented a new form of money: cryptocurrency. Cryptocurrency is a type of digital currency that uses cryptography to secure and verify transactions. Cryptocurrency is decentralized, meaning that it is not controlled by any central authority or government. Cryptocurrency transactions are recorded on a distributed ledger called a blockchain, which ensures transparency and immutability.

Some examples of cryptocurrencies are:

- **Bitcoin:** The first and most popular cryptocurrency, created in 2009 by an anonymous person or group using the pseudonym Satoshi Nakamoto. Bitcoin has a limited supply of 21 million coins and uses a proof-of-work algorithm to validate transactions and create new blocks.
- **Ethereum:** A platform that allows developers to create decentralized applications (dApps) and smart contracts using its native cryptocurrency, ether. Ethereum uses a proof-of-stake algorithm to secure its network and enable faster transactions.

Cryptocurrencies have many advantages over traditional money. They are:

- **Secure:** Cryptocurrencies use cryptography to protect transactions from fraud and hacking. Cryptocurrencies also have no single point of failure, as they are distributed across many nodes on the network.
- **Transparent:** Cryptocurrencies allow anyone to view the

Outils



history and details of every transaction on the blockchain. Cryptocurrencies also have no hidden fees or charges, as they are based on peer-to-peer transactions.

- **Inclusive:** Cryptocurrencies enable anyone with an internet connection and a digital wallet to access the global financial system. Cryptocurrencies also have no barriers to entry or discrimination, as they are open to anyone regardless of their identity or location.
- **Innovative:** Cryptocurrencies foster innovation and creativity, as they allow developers to create new applications and services using blockchain technology. Cryptocurrencies also have the potential to disrupt various industries and sectors, such as banking, e-commerce, healthcare, education, and more.

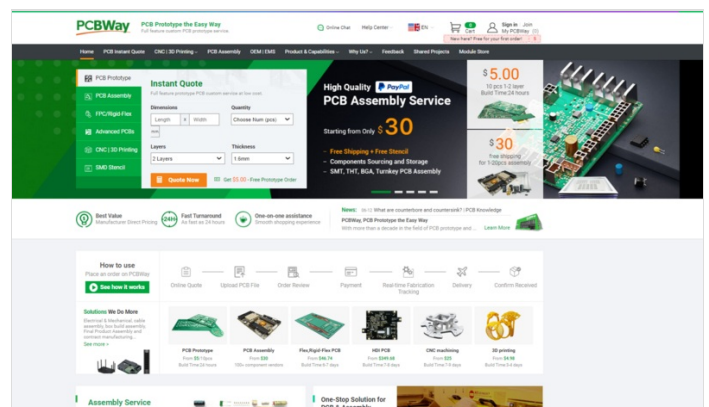
Cryptocurrencies are not without challenges and risks, however. They are:

- **Volatile:** Cryptocurrencies are subject to high price fluctuations due to supply and demand dynamics, market sentiment, regulatory uncertainty, and technical issues. Cryptocurrencies can also be affected by external factors, such as geopolitical events, cyberattacks, media coverage, and public opinion.
- **Complex:** Cryptocurrencies require a steep learning curve for users to understand how they work and how to use them safely and effectively. Cryptocurrencies also involve technical jargon and concepts that may be confusing or intimidating for beginners.
- **Unregulated:** Cryptocurrencies operate in a legal gray area, as they are not recognized or regulated by most governments and authorities. Cryptocurrencies may face legal restrictions or bans in some areas, which may limit their adoption and usage. Cryptocurrencies may also pose ethical and social issues, such as tax evasion, money laundering, terrorism financing, and environmental impact.

Cryptocurrency is a new era of money that offers many opportunities and challenges for the future. Cryptocurrency is not just a technology or a currency; it is a social phenomenon that reflects the values and aspirations of its users. Cryptocurrency is not perfect or flawless; it is an experiment that evolves and improves over time. Cryptocurrency is not for everyone or everything; it is a choice that depends on one's preferences and needs.

Étape 2 - Get PCBs For Your Projects Manufactured

You must check out PCBWAY for ordering PCBs online for cheap! You get 10 good-quality PCBs manufactured and shipped to your doorstep for cheap. You will also get a discount on shipping on your first order. Upload your Gerber files onto PCBWAY to get them manufactured with good quality and quick turnaround time. PCBWay now could provide a complete product solution, from design to enclosure production. Check out their online Gerber viewer function. With reward points, you can get free stuff from their gift shop.



Étape 3 - Crypto mining:

It is the process of creating new units of cryptocurrency by solving complex mathematical problems. Crypto mining is essential for securing and verifying transactions on the blockchain, which is a distributed ledger that records the history and details of every transaction. Crypto mining also rewards miners with newly minted coins, which increases the supply and circulation of cryptocurrency. There are several types of crypto mining, depending on the algorithm and consensus mechanism used by the cryptocurrency network. The most common type is proof-of-work (PoW) mining, which requires miners to use their computing power to compete to find the solution to a cryptographic puzzle. The first miner who solves the puzzle gets to add a new block to the blockchain and claim the block reward. Some examples of cryptocurrencies that use PoW mining are Bitcoin, Ethereum, Litecoin, and Monero.

Another type of crypto mining is proof-of-stake (PoS) mining, which requires miners to stake a certain number of coins to participate in the validation process. PoS mining does not involve solving puzzles but rather selecting validators based on their stake and other factors. Validators then take turns to propose and confirm new blocks and receive rewards based on their stake and performance. Some examples of cryptocurrencies that use PoS mining are Cardano, Polkadot, Binance Coin, and Tezos.

Crypto mining can be profitable or unprofitable, depending on several factors such as the price of the cryptocurrency, the difficulty of the mining algorithm, the cost of electricity and hardware, and the competition from other miners. Crypto mining can also have environmental and social impacts, such as energy consumption, carbon emissions, waste generation, noise pollution, and regulatory issues.

If you want to mine cryptocurrency, you will need some specialized hardware that can perform complex calculations and consume a lot of electricity. There are several types of hardware for mining different cryptocurrencies, but the most common ones are ASIC (application-specific integrated circuit) devices, which are designed to mine a specific algorithm or coin.

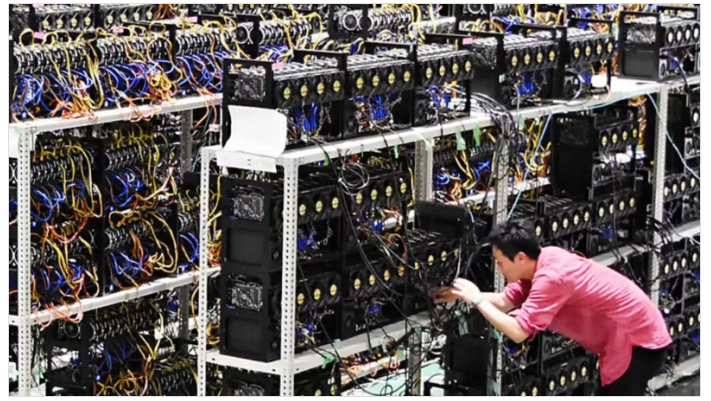
Some of the best ASIC devices for mining cryptocurrency in 2023 are:

- **Antminer S19 Pro:** This is one of the most powerful and efficient Bitcoin mining hardware, with a hash rate of 110 TH/s and a power consumption of 3,250 W.
- **WhatsMiner M30S++:** This is another top Bitcoin mining hardware, with a hash rate of 112 TH/s and a power consumption of 3,472 W.
- **AvalonMiner 1246:** This is heavy-duty Bitcoin mining hardware, with a hash rate of 90 TH/s and a power consumption of 3,420 W.
- **WhatsMiner M32-62T:** This is a new Bitcoin mining hardware, with a hash rate of 62 TH/s and a power consumption of 3,360 W.

You can see these are some of the high-power and costly miners, also their power consumption is extremely high.

In this tutorial, you will see how to mine crypto with low-power ESP32 microcontrollers.

Note: This is not a profitable way to mine crypto.



Étape 4 - Duco Coin: A Simple and Eco-Friendly Crypto Coin

Duco coin is a unique crypto coin that can be mined using low-powered devices, such as Arduino boards, ESP32, Raspberry Pi, and even old computers. Duco coin aims to provide a simple, accessible, and eco-friendly way of participating in the crypto world, without the need for expensive and energy-intensive hardware.

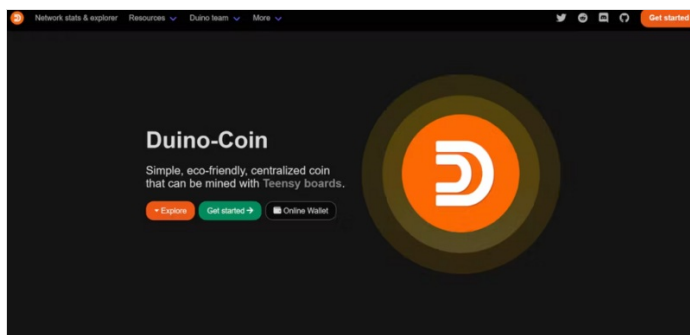
Duco coin uses its own blockchain and consensus algorithm, called DUCO-S1, which is based on SHA-1. DUCO-S1 is designed to be fast, secure, and adaptable to different devices and mining methods. Duco coin also uses a reward system called the Kolka system, which adjusts the mining difficulty and rewards based on the device's performance and network conditions. The Kolka system ensures that low-powered devices have a fair chance of earning coins while preventing abuse and spam.

The Duco coin has an infinite supply of coins, but it also has a burning mechanism that reduces circulation by destroying some coins every time a transaction is made. This creates a balance between inflation and deflation and maintains the value of the coin. The Duco coin also has no transaction fees, as the miners are rewarded by the Kolka system.

The Duco coin is a crypto coin that offers many advantages over traditional coins. It is:

- **Simple:** Duco coin is easy to mine, use, and understand. It does not require any complex setup or configuration. It also has a user-friendly web wallet and a mobile app that allows users to manage their funds and transactions.
- **Eco-friendly:** Duco coin is environmentally friendly, as it uses low-powered devices that consume minimal electricity and generate less heat and noise. It also reduces electronic waste by giving new life to old devices.
- **Inclusive:** Duco coin is inclusive, as it enables anyone with an internet connection and a cheap device to join the crypto world. It also has no barriers to entry or discrimination, as it is open to anyone regardless of their identity or location.
- **Innovative:** Duco coin is innovative, as it fosters creativity and experimentation among its users and developers. It also has the potential to disrupt various industries and sectors, such as education, gaming, IoT, and more.

Duco coin is a new era of crypto coin that offers simplicity, sustainability, accessibility, and diversity. Duco coin is not just a technology or a currency; it is a community that shares the same vision and values.



Étape 5 - How to mine Duco coin with ESP32:

To mine Duco coin with ESP32, you will need the following steps:

Step 1: Register an account on the Duino-Coin website and create a wallet.

You will need your username and wallet address for mining.

Step 2: Download and install the Arduino IDE and the ESP32 board support package. You will also need to install some libraries, such as WiFiClientSecure, ArduinoJson, and DHT (if you want to use a DHT sensor).

Step 3: Download the Duino-Coin ESP32 code from GitHub and open it in the Arduino IDE.

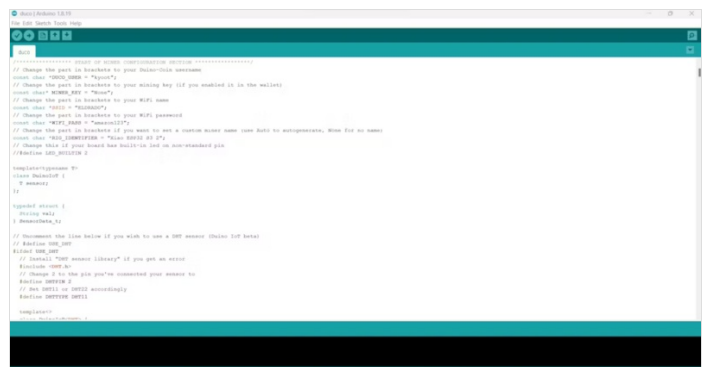
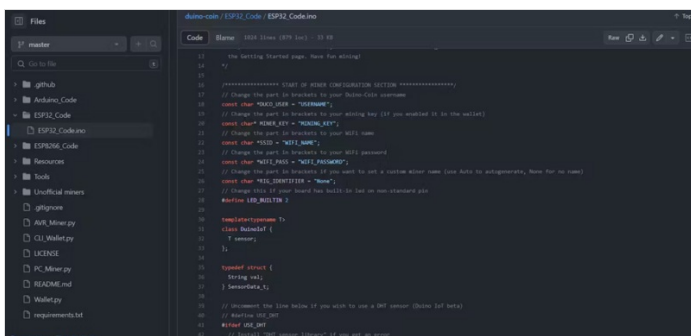
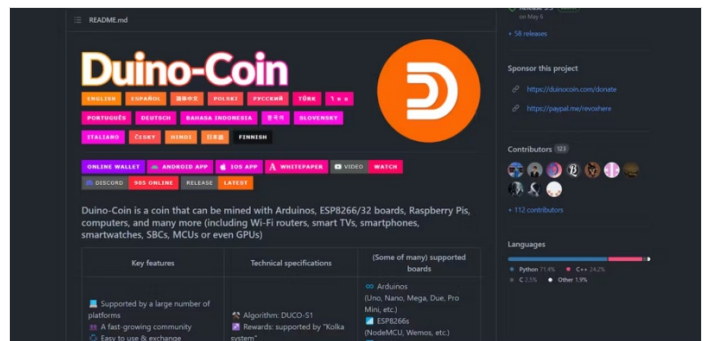
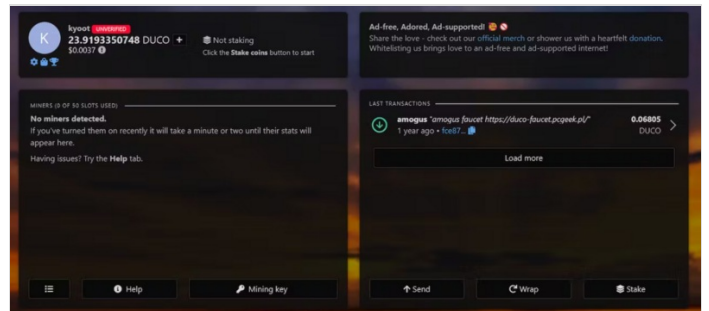
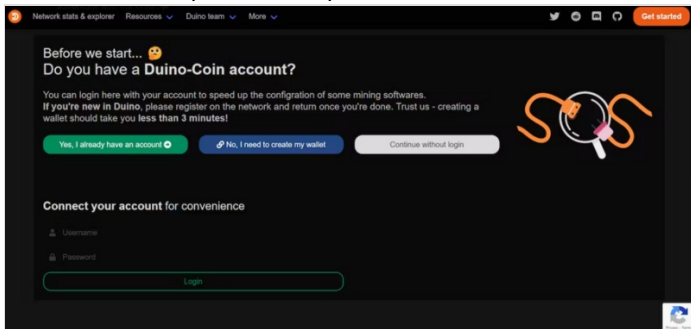
Edit the code to enter your Wi-Fi name, password, username, and mining key (if you enabled it in the wallet). You can also change the rig identifier and the LED pin if you want.

Step 4: Connect your ESP32 board to your computer via a USB cable and select the correct port and board settings in the Arduino IDE.

Upload the code to your ESP32 board and wait for it to connect to the Duino-Coin server.

Step 5: You can monitor your mining status and earnings on the Duino-Coin web wallet or the mobile app. You can also use the serial monitor in the Arduino IDE to see the debug messages from your ESP32 board.

That's it! You are now mining Duco coin with your ESP32 board. You can also use multiple ESP32 boards or other devices, such as Arduino, Raspberry Pi, or PC, to increase your hash rate and earnings. However, be aware of the Kolka system, which adjusts the mining difficulty and rewards based on your device's performance and network conditions.



```
COM3
21:08:24.066 ->
21:08:24.066 -> Duino-Coin Official ESP32 Miner
21:08:24.158 ->
21:08:24.158 -> WiFi disconnected!
21:08:24.158 -> Scanning for WiFi networks
21:08:24.438 -> Creating mining thread on core: 0
21:08:24.671 -> Creating mining thread on core: 1
21:08:30.366 -> 3 networks found
21:08:30.366 -> 1: ELDORADO (-29)*
21:08:30.366 -> 2: Wifi_jam (-86)*
21:08:30.412 -> 3: ACTFIBERNET (-92)*
21:08:30.412 ->
21:08:30.412 -> Please check if your WiFi network is on the list and check if it's strong enough (greater than -90)
21:08:30.412 -> ESP32 will reset itself after 60 seconds if can't connect to the network
21:08:30.412 -> Connecting to: ELDORADO.
21:08:30.689 ->
21:08:30.689 -> Successfully connected to WiFi
21:08:30.689 -> Local IP address: 192.168.1.4
21:08:30.689 -> Rig name: Xiao ESP32 83 2
21:08:30.689 ->
21:08:30.689 -> Core 0 is waiting for the poolpicker...
21:08:31.015 -> Fetching mining node from the poolpicker in 1s
21:08:31.670 -> Core 1 is waiting for the poolpicker...
21:08:33.014 -> Poolpicker selected the best mining node: 42-pool-2
21:08:35.679 ->
21:08:35.679 ->
21:08:35.679 -> Core 0 is connecting to the Duino-Coin server...
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Autoscroll Show timestamp Newline 500000 baud Clear output

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