# How to Set Up a Cryptocurrency Exchange


A cryptocurrency exchange is a platform that allows users to buy/sell different tokens. It is like a stock exchange, but instead of shares you buy or sell cryptocurrencies. In this article we would like to explain how to **create your own cryptocurrency exchange software**.

## Type of Cryptocurrency Exchange

Selecting the kind of trading platform you wish to build is the first step in launching your own cryptocurrency exchange. This is crucial since the platform selection is influenced by the cryptocurrency exchange's mechanism, storage methods, liquidity control, FIAT currency trading capabilities, and other elements.

The primary characteristic of centralized exchanges (CEX), the most prevalent kind of trading platform, is the existence of a centralized operator in charge of exchange operation, security, and renewal. The speed of cryptocurrency transactions and the lack of liquidity issues are the primary benefits of centralized websites. Security is the primary flaw since centralized exchanges keep customers' money in wallets, which are frequently compromised, as experience has shown.

## Opportunities to earn with CEX:

**Spot trading:** The user trades his funds on the platform. The owner of the crypto platform earns from commissions.
**Margin trading:** The user has the option to borrow for trading. Usually, the loan can be from x2 to x5 of your deposit. The owner of the platform earns from the trading commission, the commission for using the loan and the liquidation of the user's funds.
**Derivatives:** Users can enter into positions with leverage up to x100 and sometimes more. High risks generate high returns, but statistics show that only 2% of users make money using this tool.

**Decentralized Exchanges (DEXs):** These platforms link buyers and sellers of cryptocurrencies, enabling them to immediately trade assets without the need for middlemen to verify the transaction. Open source software powers the platform's smart contracts, which operate as transaction guarantors. By eliminating the need to pay middlemen, this method lowers costs while enhancing security because the exchange does not have access to customers' funds or private keys. The benefit is that the user has financial responsibility when setting up a decentralized exchange.

**Instant trading:** Very easy to use platforms that work like a regular exchange. All a user needs to do is open a trade order, and it will be executed instantly. This is possible because such platforms act as brokers that provide access to the liquidity of many exchanges. The cost of speed is an increase in the number of intermediaries, which leads to higher fees and less security.

There are also hybrid systems available on the market that mix the features of decentralized and centralized exchanges. For instance, the service can be run by outside operators and provide dealers with greater financial control. On these cryptocurrency exchanges, orders and transactions are encrypted, time-stamped, and recorded on the blockchain. Order trading takes place on a third-party host that is not part of the blockchain.

Therefore, you must decide what type of platform you want to build and what kind of money it may generate before starting from scratch with a **cryptocurrency exchange development**. Since trading in derivatives (futures) yields the biggest profits, attorneys at Regulated United Europe advise paying attention to this type of trading.

## Basic and advanced features

In the next step, you need to decide what functionality you want to implement in your crypto exchange. Usually, it is divided into modules such as:

**Authentication and Verification:** The path of a regular user to trade on the exchange begins with registration via email or accounts on social networks and Google. But registration itself is usually not enough to start trading. For this, identification is needed – verification. This check is

necessary to ensure the transparency of transactions and minimize the possibility of fraud, and because regulators require it.

**Trading Engine Platform:** It is responsible for the basic functionality of the trading platform. For example, the trading engine checks the balance on the user's wallet to ensure that he has enough money for the transaction. It also compares exchange orders and rates in real time, executes transactions, processes price and commission information, creates charts, etc.

**User Interface:** Depending on the target audience, the user interface can be simple and intuitive or relatively complex due to the presence of many indicators, trading signals, customizable charts and other tools for experienced traders. In any case, the user should be able to place buy and sell orders, view the current order book, past transactions, balances, statistics, etc. It should also be possible to configure the entire functionality of the crypto exchange to suit your needs.

**Exchange admin panel:** Before you create your own crypto exchange, you need to figure out what admin panel you want to get. Typically, it should have tools to monitor the current status of the exchange (traffic, trading volume, number of transactions, commission income), traders, wallets, transactions, and content. Additionally, tools should be implemented to verify users, edit and remove content, ban and remove users, change commissions, manage marketing and affiliate programs.

**Analytical tools for traders:** This feature will help attract experienced traders to the platform. Analytical tools provide additional information about the current state of the market, forecast its movement, analyze trends, create and test trading strategies. When starting your cryptocurrency exchange, you need to decide which indicators you want to see on your platform. The most popular (mandatory) options are:

- Relative Strength Index (RSI), which shows the strength of the trend and the probability of its change. It works simply: the system measures the magnitude of recent price changes and displays the speed of price change.
- Moving Average (MA). Another important indicator that helps determine trends by showing the average price for the selected period.
- Moving Average Convergence/Divergence (MACD). Used to estimate and forecast price fluctuations.

**Push notifications and alerts**: They allow you to communicate with users, informing them about important events on the stock exchange: stocks, news, special applications, updates, etc. In addition, alerts can also be integrated into trading, to show traders alerts about changes in the exchange rate of selected trading pairs, changes in the trend, important indicator notifications or closing of the transaction. Alerts should be useful and customizable, not mandatory and annoying.

**Security Features:** One of the main problems of the cryptocurrency market is the low security of cryptocurrency exchanges. Not a year goes by without news of another major stock market

hack. The most sensational: Mt. Gox – $450 million. Bitfinex – $65 million, Bithumb – $58 million, Binance – $40.5 million. Bithumb – 58 million.

Therefore, when you create your own trading platform, you need to do everything possible to protect your users' data and money, especially if you want to create a centralized cryptocurrency exchange. Here's what you should do:

- Protection against DoS (Denial of Service) attacks;
- HTTP Parameter Protection;
- Protection against DDoS (Distributed Denial of Service) attacks;
- Server-side protection (SSRF);
- Cross-Site Request Forgery Protection (CSRF);
- Two-factor authentication and HTTPS;
- Biometric authentication;
- Data encryption;
- SQL injection protection.

## Architecture, technology stack and APIs

**Exchange architecture:** This concept usually refers to the platform structure, which helps to logically and visually define the relationship and way of interaction between all the components of the exchange: the login screen, the trading engine, the user interface, security features, API, database, etc.

**Technology stack:** It is a set of development tools, such as programming languages, libraries, frameworks, database management systems, compilers, APIs, etc. to create backend and frontend platforms.

Only through bespoke design should cryptocurrency exchanges be implemented, since this is the only method to ensure the software's correct quality and security. Although there are ready-made solutions (scripts) available, they are typically written by amateurs and/or run the danger of having several security flaws in the code that was either purposefully or unintentionally developed. In light of the numerous bitcoin exchange hacks, the risk in this instance is too high.

## Crypto Exchange Development

Once you have selected a developer, the process of creating a cryptocurrency exchange will be as follows:

1. **Signing the agreement:** You and the developer discuss the general concept of a cryptocurrency exchange, on the basis of which a technical description of the project is created. You then agree on the terms, costs, KPIs, communication channels and sign a cooperation agreement.

2. **Platform Prototyping:** In the next stage, the designer, business analyst and/or client create the design structure of the cryptocurrency exchange, which is then traded and brought to an ideal state. li>
3. **Create interface design:** Then, based on the framework, designers develop a layout and/or prototype of the platform interface, which shows how it will look for traders and administrators.
4. **Direct coding:** After the design and technical description is created, it is handed over to programmers who implement all of this into the code. This is the responsibility of frontend, backend, blockchain and mobile developers.
5. **Product Testing:** Almost immediately after coding begins, QA engineers take over the case, checking the new code for bugs and so on until the software is written.
6. **Implementation and Support:** Once the cryptocurrency exchange software is ready for launch, a marketing company is launched to attract traders. The site is listed on business listings and social networks.

## How to Start a Crypto Startup

Starting a cryptocurrency startup in today's world of financial technology is an exciting venture, full of both significant growth potential and risk. Below is a step-by-step plan on how to start a cryptocurrency startup that can help entrepreneurs avoid common pitfalls and increase their chances of success.

### Step 1: Define the concept and target market

The first step is to identify the unique idea or solution that your startup will offer. It is important to conduct a thorough market analysis to understand the needs and problems of potential users, as well as study your competitors. Determine how your product or service will be different and what benefits it will offer.

### Step 2: Write a business plan

Develop a detailed business plan that includes your mission statement, product description, market analysis, marketing strategy, financial projections, and a product development plan. The business plan will serve as both a guide for your team and a document to attract investors.

### Step 3: Create a team

Building a strong team is a key aspect of any startup's success. You will need experts in blockchain technology, programming, finance, marketing, and management. Find people who share your passion for the project and have the right skills and experience.

### Step 4: Product Development

At this stage, you need to start developing your product or service. This may involve creating a prototype or a minimum viable product (MVP) to help gather feedback from early users and ensure you are on the right track.

### Step 5: Legal formalization and regulation

The cryptocurrency market is highly regulated in many countries, so it is important to ensure that your startup complies with all requirements and regulations. This may include registering a company, obtaining the necessary licenses, and developing data privacy and security policies.

### Step 6: Funding

A cryptocurrency startup will need capital to launch and scale. Consider different sources of funding, including venture capital, crowdfunding, ICO (Initial Coin Offering), or STO (Security Token Offering). It is important to be clear about what terms of the offering you are willing to accept and how they will affect your startup in the long run.

### Step 7: Marketing and Promotion

Develop a marketing strategy to attract users and investors. Use social media, content marketing, SEO, and other channels to increase awareness of your product. Building a community around your startup can play a key role in its success.

### Step 8: Launch and Scaling

Once you have developed your product and built your user base, it is time to launch your startup. Follow user feedback and constantly improve your product. Gradually scale your business by expanding the market and introducing new features.

## Conclusion

Starting a cryptocurrency startup requires careful planning, in-depth knowledge of the market and technology, and the willingness to overcome numerous challenges. However, with the right approach and perseverance, your startup can succeed and bring significant changes to the world of digital finance.