



Module 2. Cryptocurrency in Practice: From Types of Assets and Wallets to Crypto Exchanges



Welcome to module 2. In this module, we will cover the diverse realm of cryptocurrencies, including bitcoin, altcoins, stablecoins, tokens, and cryptocurrency wallets with a focus on security. We will also delve into the concepts of both centralised exchanges (CEX) and decentralised exchanges (DEX), highlighting their differences and functions.

Expanding your trading knowledge, we will explore various order types and trading strategies, including margin trading and futures contracts. You will gain insights into market analysis, risk assessment, and the opportunities present in the dynamic crypto landscape. Finally, we will venture into the world of staking and yield farming, in which it is possible to actively participate in blockchain networks and earn rewards.

For this course to provide maximum practical value, we recommend registering on the WhiteBIT cryptocurrency exchange and actively engaging with each module topic.

- To sign up, open the WhiteBIT exchange platform and set up your account. Provide your email address, create a robust password, agree to the user

agreement, and follow the simple steps to complete the registration process.

- Confirm your identity (KYC) to enable operations on the exchange. A step-by-step guide can be found in the video (WhiteBIT, 2023a) or on the WhiteBIT blog (WhiteBIT, 2023b).

≡ **Unit 1**

≡ **Unit 2**

≡ **References**

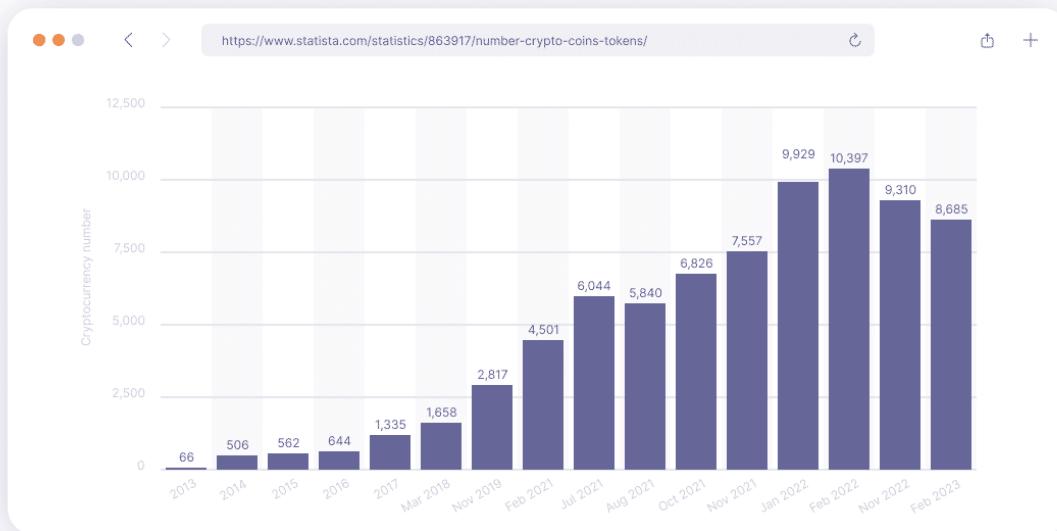
Unit 1

Chapter 1: Types of cryptocurrencies. Altcoins. Stablecoins. Coins and tokens

Cryptocurrencies serve various purposes within the digital economy, ranging from facilitating secure online transactions to enabling the creation of decentralised applications [dApps] (WhiteBIT, 2023c). They have gained significant attention and popularity due to their potential to disrupt traditional financial systems and offer innovative solutions in various industries.

Bitcoin stands out as a pioneer and a symbol of the transformative power of blockchain technology. Beyond bitcoin, a vast ecosystem of coins and tokens has emerged in response to the limitations of bitcoin. Recognising the importance of bitcoin and exploring the multifaceted realm of coins and tokens helps individuals identify investment opportunities and assess their potential for growth and utility.

Figure 1. Statistic (M2-U1-1)



whitebit

Source: [untitled image statistic], (n. d.), <https://bit.ly/3UTMWiC>

Bitcoin and its significance

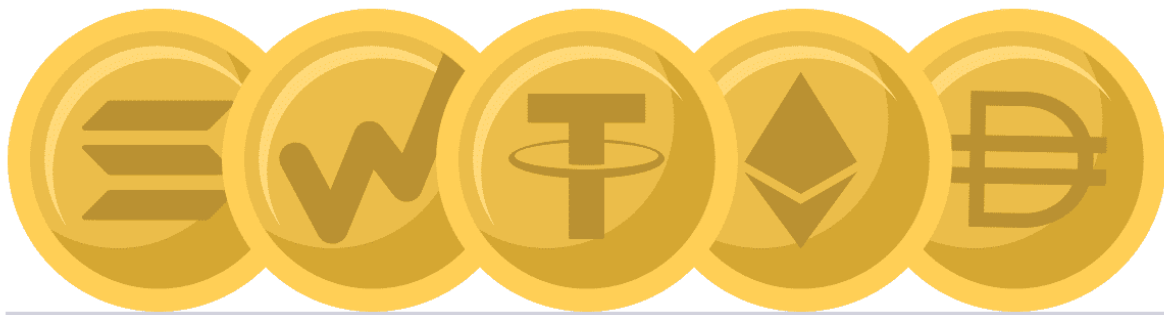
Bitcoin, often referred to as the pioneer of cryptocurrencies, holds a special place in the world of digital assets, due to its historical significance and transformative impact.

Beyond its status as a digital currency and store of value, bitcoin has had a profound impact on the broader cryptocurrency ecosystem. It paved the way for the creation of thousands of altcoins and inspired the development of blockchain technology for various use cases, including smart contracts, supply chain management, and decentralised finance (DeFi).

Bitcoin's widespread recognition and adoption have played a crucial role in introducing the concept of cryptocurrencies to the mainstream. It has encouraged individuals, institutions, and governments to explore the possibilities offered by blockchain technology and digital assets.

However, in the early days of cryptocurrency, bitcoin was primarily seen as an experiment in digital money. While it provided a groundbreaking solution to the problem of decentralised digital currency, it had certain limitations. Altcoins emerged as a way for developers and cryptocurrency enthusiasts to experiment with different technologies and concepts to improve upon bitcoin's design.

Figure 2. Coins (M2-U1-2)



Altcoins

One of the defining features of the cryptocurrency landscape is the diversity of coins and tokens available. Altcoins, short for 'alternative coins', are a category of cryptocurrencies that are not bitcoin (BTC). While bitcoin remains the most well-known and valuable cryptocurrency, altcoins have carved their own niche in the market.

Altcoins can vary significantly in terms of technology, functionality, and purpose. They were created to address specific shortcomings or limitations of bitcoin, such as scalability or privacy concerns. Some examples of popular altcoins include ethereum (ETH), ripple (XRP), litecoin (LTC), and cardano (ADA).

Understanding the different types of altcoins is fundamental to evaluating their suitability for specific applications. Here are some of the most widespread categories of altcoins.

Privacy-focused altcoins, such as Monero (XMR) and Zcash (ZEC), emphasise enhanced anonymity and confidentiality in transactions, making them appealing for users seeking greater privacy.

Smart contract platforms like ethereum (ETH) were trailblazers, introducing the concept of smart contracts and enabling the creation

of decentralised applications (dApps) and programmable agreements on their blockchain.

Stablecoins, such as Tether (USDT) and USDC, are designed to maintain a stable value by pegging their price to an underlying asset, often a fiat currency like the US dollar. They are used for value preservation, liquidity, and as a means of transferring value within the crypto ecosystem.

Utility tokens are tied to specific platforms or services and are used primarily for accessing and using those services. Examples include WhiteBIT coin (WBT) for the WhiteBIT exchange and Chainlink (LINK) for decentralised oracle services.

Security tokens represent ownership of real-world assets, such as real estate or company shares. They leverage blockchain technology to provide transparency, fractional ownership, and liquidity to traditional asset classes.

Meme coins and experimentations, like Dogecoin (DOGE) and Shiba Inu (SHIB), have gained popularity as meme coins or social experiments, often characterised by their playful branding and community-driven initiatives.

Stablecoins

The cryptocurrency market is known for its price volatility, which can make it challenging to use digital assets for everyday transactions or as a store of value. To address this issue, stablecoins were introduced. Stablecoins are a subdivision of altcoins designed to maintain a stable value by pegging their worth to external assets, such as national currencies like the US dollar (USD) or commodities like gold.

There are four main types of stablecoins on the market.

Fiat-collateralised stablecoins

These are backed by a reserve of fiat currency, typically held in a bank account. Each stablecoin issued is supposed to represent a corresponding amount of the fiat currency. Examples include:

- Tether (USDT). Tether is one of the most well-known fiat-collateralised stablecoins, and it is designed to maintain a 1:1 peg with the US dollar.
- USD coin (USDC): USDC is another widely used stablecoin backed by US dollars, and it is known for its transparency and regulatory compliance.

Crypto-collateralised stablecoins

Such stablecoins are backed by a reserve of other cryptocurrencies. They maintain their stability through over-collateralisation, in which more cryptocurrency is held in reserve than the value of the stablecoins issued. Examples include:

- DAI. DAI is a crypto-collateralised stablecoin that operates on the ethereum blockchain. It is backed by a mix of ethereum (ETH) and other ERC-20 tokens held as collateral in a decentralised autonomous organisation (DAO).
- sUSD: it is part of the Synthetix network and is collateralised by a pool of other cryptocurrencies, including ethereum and chainlink tokens.

Algorithmic stablecoins

They do not have physical collateral, but they rely on algorithmic mechanisms to control their supply and demand, aiming to maintain a stable value. Examples include:

- Ampleforth (AMPL). AMPL uses a unique rebasing mechanism to adjust its supply daily, aiming to target a specific price. If the price deviates from the target, the supply of AMPL tokens adjusts accordingly.

- Frax (FRAX): FRAX is an algorithmic stablecoin that maintains its stability through a combination of collateral and an algorithmic approach, adjusting the token's supply as needed.

Commodity-backed stablecoins

They are stablecoins that are backed by physical assets like gold and oil. Examples include:

- Tether gold (XAUt): it is a stablecoin issued by Tether (the same company behind USDT) that is backed by physical gold held in reserve. Each XAUt token is supposedly backed by one troy ounce of gold held in a Swiss vault.
- Petro (PTR): it is a cryptocurrency issued by the Venezuelan government and is claimed to be backed by the country's oil reserves. However, the petro has faced significant controversy and scepticism.

Stablecoins serve a distinct purpose within the cryptocurrency ecosystem, setting them apart from typical altcoins. While altcoins aim to differentiate themselves from bitcoin by offering unique features, use cases, or technologies, stablecoins, on the other hand, have a primary focus on stability. They are primarily used for purposes such as value preservation, enhancing liquidity, and facilitating efficient value transfer within the crypto space.

One of the standout advantages of stablecoins is their inherent stability, a characteristic that effectively mitigates the price volatility that often plagues conventional cryptocurrencies. This stability renders them exceptionally suitable for various practical applications, including remittances, trading activities, and safeguarding against abrupt market fluctuations.

In particular, the key strength of stablecoins lies in their capacity to provide a reliable store of value and a secure medium of exchange. Users can engage in transactions and store their assets without the exposure to the extreme price fluctuations frequently observed in other cryptocurrencies. This reliability makes stablecoins a pragmatic choice for everyday transactions, cross-border payments, and as a refuge during periods of market turbulence.

Additionally, stablecoins play a pivotal role in enhancing liquidity across cryptocurrency markets. Traders often turn to stablecoins as a haven for swiftly exiting volatile positions. Furthermore, stablecoins are integral components of decentralised finance (DeFi) platforms, in which they find extensive use in lending, yield farming, and supporting the stable value required for smart contract operations.

However, it is important to acknowledge that stablecoins are not without their drawbacks. Achieving stability often necessitates collateralisation, a process that frequently involves centralised custodianship or reserves of fiat currency. This centralised dimension

can raise legitimate concerns regarding trust and adherence to regulatory requirements. Furthermore, the lack of transparency regarding reserves in certain stablecoin projects has led to doubts regarding their actual backing.

Additionally, stablecoins continue to encounter regulatory challenges due to their positioning at the intersection of traditional finance and the cryptocurrency space. Governments and regulatory bodies closely monitor their utilisation due to apprehensions related to anti-money laundering (AML) and know-your-customer (KYC) compliance, underscoring the need for robust regulatory frameworks and transparency in the stablecoin sector.

Coins and tokens

In the cryptocurrency space, one often comes across the terms 'coins' and 'tokens.' These terms are used to distinguish between different types of digital assets, and the difference is essential.

Coins are cryptocurrencies that operate on their own independent blockchain. Bitcoin, ethereum, and whiteBIT coin are examples of coins. They have their unique networks and are typically used as a means of exchange or store of value within their respective ecosystems.

Tokens, on the other hand, are digital assets built on existing blockchain platforms. They rely on the infrastructure of a coin (usually ethereum) to function. Tokens can represent various assets, including utility tokens for accessing services within a blockchain network, security tokens representing ownership of real-world assets, and more.

Assignment 1: Acquire your first cryptocurrency for further practicing for free

WhiteBIT provides users with the Demo Token, a free asset, which can be claimed completely without charge once. The demo currency allows trading and transferring it to other users via WhiteBIT codes functionality.

Enter your exchange account and find the codes tab in the Products section. Click 'Get Demo Token' on the left side of the window and copy the code of the chosen cryptocurrency. After, open the 'Activate Code' tab and paste the code into the respective field to claim demo tokens.

Chapter 2: Cryptocurrency wallets. Security of wallets

Cryptocurrency wallets are an integral part of the digital asset ecosystem, serving as the custodians of cryptocurrencies.

Cryptocurrency wallets and their types

A cryptocurrency wallet is a digital tool that allows users to interact with their cryptocurrencies (WhiteBIT, 2023d). It enables the sending, receiving, and storing digital assets securely. However, it is essential to notice that cryptocurrency wallets do not store actual coins or tokens; instead, they store private and public keys. The 'balance' displayed in a wallet is merely a reflection of the transactions recorded on the blockchain that are associated with the wallet's public address. A wallet essentially acts as a user-friendly interface to interact with the blockchain.

Each crypto wallet has a **public and a private key**: they are generated in a pair using various cryptographic algorithms that differ for each cryptocurrency. While a public key is a long, randomly generated alphanumeric string that serves as a user's public address on a blockchain, a private key is necessary to access and control holdings on the blockchain.

A seed phrase, also known as a recovery phrase, mnemonic phrase, or seed words, is another crucial component of cryptocurrency wallets, especially those that use hierarchical deterministic (HD) wallet technology. It serves as a backup and recovery mechanism, allowing to restore your wallet and access the private keys in case the wallet is lost, stolen, or needs to be set up on a new device. When creating an HD cryptocurrency wallet, the wallet software generates a random

sequence of words, typically consisting of twelve to twenty-four words, chosen from a predefined list of words.

The seed phrase is used as input to a cryptographic algorithm that generates a wallet's private keys and associated public addresses. These keys and addresses match those originally generated by the wallet when it is first set up.

It is imperative to safeguard a seed phrase in a secure location, such as a physical safe or a secure vault. Avoid storing it electronically or in locations accessible to unauthorised individuals, as the security of your cryptocurrency holdings depends on the secrecy of your seed phrase. It is recommended to create multiple copies and store them in safe and separate locations.

Cryptocurrency wallets come in various forms, each catering to different preferences and security needs. Some common types are hot and cold, and custodial and noncustodial crypto wallets.

A **hot wallet** is a type of cryptocurrency wallet that stores keys in the environment with an Internet connection and actively used for conducting transactions. It is designed for convenience and accessibility, making it easy to send and receive cryptocurrencies quickly. Hot wallets are typically stored on devices like computers, smartphones, or cloud-based platforms and comprise software and web wallets. Because they are online and accessible, hot wallets are

more vulnerable to hacking and security breaches compared to cold wallets.

Software wallets are software applications or mobile apps that one can install on their computer or smartphone. They offer convenience, but may be more susceptible to malware and online attacks. Examples include Exodus, Electrum, and Trust Wallet.

Web wallets are accessible through a web browser and are convenient for everyday transactions. However, they are hosted online, which means they are less secure compared to hardware and paper wallets. Examples include Coinbase and Metamask.

A **cold wallet**, also known as a cold storage wallet, is a type of cryptocurrency wallet that keeps the keys in the offline environment. It is primarily used for long-term storage and is considered highly secure because it is less susceptible to online threats and hacking attempts. Cold wallets are often used to safeguard significant amounts of cryptocurrency that are not intended for frequent transactions. Cold wallets can take the form of hardware wallets, paper wallets, or other offline storage methods.

Hardware wallets are physical devices that store private keys offline, making them highly secure against online threats. Examples include Ledger Nano S, Trezor, and Ledger Nano X.

A paper wallet is a physical printout or handwritten document containing public and private keys. They are entirely offline and immune to online hacking. However, they must be stored securely physically.

Custodial and **noncustodial** cryptocurrency wallets are two distinct types of wallets that differ in terms of control, security, and privacy. Custodial wallets are managed by a third party, such as an exchange or wallet provider, and provide ease of use, but compromise control and privacy. Noncustodial wallets, on the other hand, offer full control and ownership of private keys, enhancing security and privacy, but requiring users to take responsibility for key management.

Figure 3. Custodial and noncustodial wallets (M2-U1-3)

Custodial wallets

and

Non-custodial wallets

Advantages



- Easily accessible
- Highly convenient
- Less responsibility to remember password
- Extensible

Advantages



- Highest security & Privacy
- Only accessible by holder
- Decision to share lies with holder

Disadvantages



- Third party password storage
- Wallet fee
- Extra effort to identify secure & reputable wallet

Disadvantages



- Inaccessibility
- Dependence on connected device
- Requirement of remembering password

whitebit

Source: created by the author for this course.

Security of cryptocurrency wallet

Ensuring the security of your cryptocurrency wallet is of utmost importance. The decentralised and irreversible nature of blockchain transactions means that, once assets are compromised, recovering them can be nearly impossible.

Once a cryptocurrency transaction is confirmed and added to the blockchain, it is irreversible. If your wallet is compromised and your funds are stolen, there is no way to reverse or recover those transactions.

Cryptocurrencies operate on decentralised networks, meaning there is no central authority to turn to for recourse in case of losing assets. In other words, you are your own bank, responsible for safeguarding your holdings.

However, in the case of custodial wallets, the dynamics change slightly. While cryptocurrencies fundamentally operate on decentralised networks, custodial wallets introduce a central authority or third-party custodian. These custodians are responsible for managing your wallet's private keys on your behalf. With a custodial wallet, there is a central authority to turn to for recourse in case of issues like lost access, forgotten passwords, or account recovery. The custodian can assist in recovering your account, often through identity verification or other authentication methods.

Common security threats and risks

Regardless of which wallet a person uses, it is important to be always alert and understand potential threats to be able to mitigate them. Common security threats and risks in the cryptocurrency space include phishing attacks, malware and viruses, and exchange hacks.

Phishing attacks are deceptive tactics used by malicious actors to trick users into revealing sensitive information, such as private keys or login credentials. Scammers create fake websites that closely resemble legitimate cryptocurrency wallets or exchange websites.

These sites often have URLs and designs that mimic the real ones, making it difficult for users to distinguish between genuine and fake sites. Phishers send fraudulent emails that appear to be from reputable cryptocurrency wallet companies or exchange providers. These emails may contain links to fake websites or request sensitive information under false pretences. Phishers also use social engineering techniques to manipulate users into disclosing their private keys or login details. They may pose as customer support representatives or use persuasive tactics to gain trust. Some phishing practices involve impersonating well-known figures in the cryptocurrency space, such as cryptocurrency influencers or executives of popular exchanges, to gain credibility and deceive users.

To protect against phishing attacks, it is essential to be cautious when clicking on links or entering sensitive information online. Always verify website URLs, use two-factor authentication (2FA), and be sceptical of unsolicited requests for your private keys or login credentials.

Malware and viruses are malicious software programmes designed to infect and compromise the security of computers, smartphones, or other devices. For example, keyloggers record keystrokes and mouse clicks, allowing attackers to capture sensitive information, including passwords and private keys, as a person enters them. Some malwares can take screenshots of a device's screen, potentially capturing wallet information or transaction details. Clipboard hijacking malware

monitors the clipboard (the temporary storage for copied text) and replaces cryptocurrency addresses with addresses controlled by the attacker during an attempt to make a transaction. Certain types of malware specifically target cryptocurrency wallets stored on your device, attempting to steal private keys or access wallet files.

To mitigate the risk of malware and viruses, use reputable antivirus and anti-malware software, regularly update your operating system and software, avoid downloading files from untrusted sources, and practice good online hygiene.

Storing cryptocurrencies on centralised exchanges exposes your assets to the risk of hacking. Exchanges, especially smaller or less secure ones, may have vulnerabilities in their security infrastructure that attackers can exploit to gain unauthorised access to users' funds. In some cases, exchange employees or insiders may be involved in or complicit in hacking attempts, enabling attackers to compromise security measures from the inside. High-profile exchanges are prime targets for cybercriminals. Hackers may use a variety of methods, such as distributed denial-of-service (DDoS) attacks or social engineering, to breach exchange security.

Best practices for securing wallets

In the pursuit of robust wallet security, it is advisable to consider various best practices. For individuals and entities prioritising security,

the use of hardware wallets is recommended as they allow for offline storage of cryptocurrencies, reducing exposure to online threats.

Additionally, maintaining regular backups of wallet private keys or recovery phrases is essential. Storing these backups securely in multiple locations can safeguard access to one's digital assets, even in the event of hardware failure or loss.

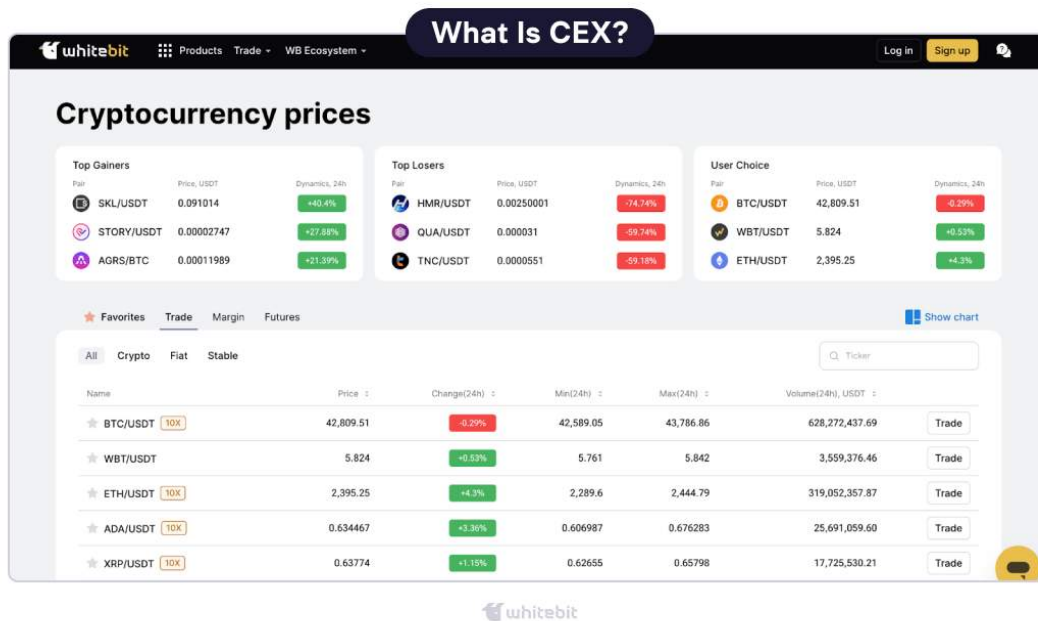
For those seeking enhanced security measures, the implementation of multi-signature wallets is a valuable option. These wallets necessitate the involvement of multiple private keys to authorise transactions, adding an extra layer of protection against unauthorised access.

Vigilance against phishing attacks is another crucial aspect of wallet security. Individuals should exercise caution by double-checking website URLs and verifying the authenticity of sender email addresses to mitigate the risk of falling victim to phishing scams.

Lastly, keeping wallet software and operating systems up to date with the latest security patches is a proactive approach to maintaining a secure environment for cryptocurrency holdings. Regular updates help address potential vulnerabilities and ensure the wallet remains resilient against emerging threats.

Chapter 3: What Is CEX? Orders, deposits, trading pairs

Figure 4. What Is CEX? (M2-U1-4)



Source: created by the author for this course.

Introduction to centralised exchanges

Centralised exchanges (CEXs) are online platforms that act as intermediaries between cryptocurrency buyers and sellers. They are managed by a centralised organisation, offering a range of services to users, including buying, selling, and trading digital assets.

As the cryptocurrency ecosystem expanded beyond bitcoin, there was a growing demand for exchanges that could support a wider range of

digital assets. Altcoins, which are alternative cryptocurrencies to bitcoin, started gaining traction, and traders sought platforms in which they could trade these altcoins against each other and against national currencies.

Nowadays, centralised exchanges serve as the primary gateway for individuals and institutions looking to enter the cryptocurrency space. They provide a secure and user-friendly environment for trading various cryptocurrencies. The core features of CEXs include:

- advanced security protocols, encryption techniques, and cold storage solutions to safeguard user funds and data. Many CEXs offer 2FA as an additional layer of security, requiring users to provide two forms of authentication before accessing their accounts;
- a diverse range of cryptocurrencies, including popular options beyond bitcoin and ethereum;
- high liquidity, allowing traders to execute orders promptly at desired prices and reducing the risk of price slippage;
- users can place different types of orders, such as market orders, limit orders, and stop-loss orders while trading on CEX;
- sophisticated order matching facilitates efficient price discovery and trade execution;

- trading tools, charts, and indicators for technical and fundamental analysis, aiding traders in making informed decisions;
- advanced trading features like margin trading and futures contracts.

CEXs focus on user experience by offering intuitive interfaces that are easy to use for both new and experienced traders.

Centralised platforms also implement know your customer (KYC) and anti-money laundering (AML) procedures to adhere to regulatory standards and build trust with stakeholders (WhiteBIT, 2023e).

Renowned centralised exchanges even have their native tokens/coins, run blockchains, create an ecosystem to provide a full range of tools for smooth trading and seamless user experience, and engage in partnerships to engage new users and promote blockchain adoption on a global scale.

One of the prominent examples of centralised exchanges is WhiteBIT, founded in 2018. It is one of the biggest European crypto exchanges, which aims to achieve mass adoption of blockchain technology and expand cryptocurrencies by establishing a secure and user-friendly crypto platform.

WhiteBIT provides over four million users with 270+ assets, 350+ trading pairs, 10 national currencies, and \$2.5B max daily trading volume.

WhiteBIT is an official cryptocurrency partner of Barcelona FC. The partnership of cryptocurrency and sports benefits fans by providing enhanced engagement and global accessibility.

The way CEXs protect their customers' data and funds

Most CEXs prioritise the protection of users' assets and data through a combination of advanced security measures and best practices like storing most users' digital assets in cold storage. Thus, they leave only a small portion of assets required for daily operations in hot wallets for liquidity.

To protect sensitive information, state-of-the-art encryption algorithms are used. This ensures that, even if unauthorised access is gained, the data remains unreadable without the appropriate decryption keys. CEXs typically offer 2FA as an additional layer of security. Users are required to provide two forms of authentication (usually something they know, like a password, and something they have, like a mobile device) before gaining access to their accounts.

Some exchanges allow users to set withdrawal whitelists, specifying a list of addresses that are authorised to receive funds. This adds an

extra layer of protection against unauthorised withdrawals.

Reputable CEXs often undergo regular security audits conducted by third-party cybersecurity firms. These audits evaluate the platform's security measures and identify vulnerabilities that need to be addressed.

Another safeguard measure is a web application firewall (WAF), which is employed to detect and block malicious web traffic, including hacker attacks. This helps protect the exchange from potential threats.

Distributed denial-of-service (DDoS) attacks can disrupt the normal functioning of an exchange. DDoS mitigation strategies help ensure uninterrupted service during attacks.

Implementing know your customer (KYC) and anti-money laundering (AML) procedures to comply with regulatory requirements helps prevent illicit activities and enhance user security.

Moreover, CEXs typically provide educational resources to users, encouraging them to adopt secure practices, such as using strong passwords, enabling 2FA, and being cautious of phishing attempts.

Figure 5. Know your customer (M2-U1-5)

KYC

Applicant data Identity document Liveness check

Please select an item in the list.

Applicant data

First name (from the document) * Last name (from the document) *

Middle name dd.mm.yyyy

Gender * Country *

City * Legal Address *

Building number * Flat number

Post code *

Next

Support
If you have any questions, you can write to us
[Open a chat](#)

KYC on WhiteBIT
web v
Quick, secure, and easy!

Tutorial
Watch the video on how to verify your identity (pass KYC) in a few clicks.

whitebit

Source: created by the author for this course.

A good example of a highly secured crypto exchange is WhiteBIT. The platform is among the most secured crypto exchanges in the world. One of the key priorities of WhiteBIT is the security of clients' funds and personal data. Each user of the platform must pass KYC verification, which unlocks the full range of tools provided on WhiteBIT.

The exchange stores 96% of digital assets in cold wallets and uses a web application firewall (WAF) to detect and block hacker attacks. The platform has been audited by Hacken.io — leading specialists in providing services in the field of cybersecurity, with specialisation in blockchain technologies. According to the audits of Hacken.io and the

CER.live certification platform in 2022, WhiteBIT meets the highest security requirements and is among the top three most reliable exchanges with the highest AAA rating.

WhiteBIT also complies with the standards of the International Anti-Money Laundering Group and Financial Action Task Force (FATF) — the exchange automatically and thoroughly checks all addresses from which clients make deposits using the anti-money laundering (AML) procedure. In addition, users can independently check any address for involvement in illegal activities on the respective platform's website page.

Deposits and withdrawals on CEX

Depositing and withdrawing funds on centralised exchanges is critical when it comes to trading and investing in cryptocurrencies. Understanding the processes helps users to effectively manage their funds on CEXs.

To trade on CEX, a user must have an account and a topped-up balance on the exchange. Then, a user must select the cryptocurrency they intend to deposit. CEXs often support a wide range of cryptocurrencies, so users should ensure they choose the correct one.

Cryptocurrency deposits pass through a blockchain network. After selecting the cryptocurrency, the user must generate a deposit

address. This address is unique and serves as the destination for the deposited funds. It is essential to double-check the deposit address to prevent errors or losses. On CEXs, the platform itself generates the address for depositing, a user should only specify the needed network. If networks do not match, the deposit will be lost.

Users must initiate a transfer from their external wallet or another exchange to the deposit address provided by the CEX. This transfer can be made from a personal cryptocurrency wallet or another exchange account.

Once the funds are sent, the transaction needs to be confirmed on the blockchain. Depending on the cryptocurrency network, confirmation times may vary. Users can track the progress of the transaction by using blockchain explorers or monitoring their exchange account.

After enough blockchain confirmations, the deposited funds will be credited to the user's CEX account. The time it takes for funds to appear in the account may vary depending on blockchain network congestion and the specific cryptocurrency.

CEXs also allow working with fiat currencies. The depositing process is straightforward, requiring only to choose a provider and confirm the deposit.

In the case of withdrawals, users also must enter the destination address and wait until the money is credited to a specified external account. For added security, many CEXs require users to confirm withdrawals using two-factor authentication (2FA). This extra layer of verification helps protect accounts from unauthorised withdrawals.

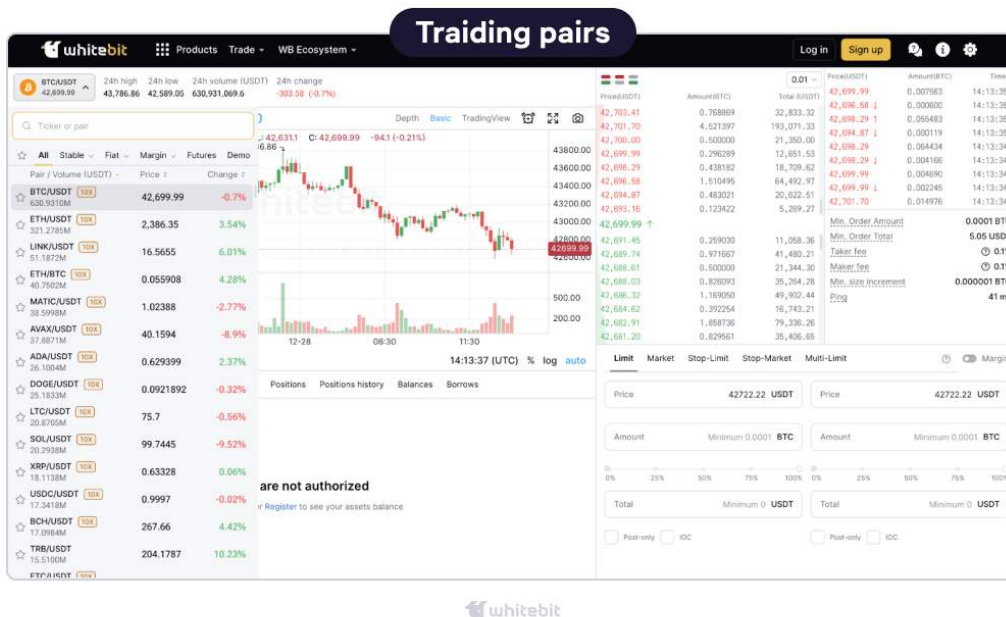
After submitting the withdrawal request, users typically receive an email confirmation with a link or a one-time code to confirm the transaction. This step helps ensure that withdrawals are authorised by the account holder.

CEXs have internal processes to review and process withdrawal requests. Once the request is approved and processed, the withdrawal transaction is broadcast to the cryptocurrency network.

Similar to deposits, users must wait for a sufficient number of blockchain confirmations to validate the withdrawal transaction in crypto. The time required for confirmations may vary based on network conditions and the specific cryptocurrency.

Once the blockchain confirms the transaction, the withdrawn funds will arrive in the external wallet provided by the user. Users can verify the transaction on the blockchain explorer.

Figure 6. Trading pairs (M2-U1-6)



Source: created by the author for this course.

Trading pairs are fundamental to the process of buying and selling digital assets. A trading pair consists of two different cryptocurrencies that are paired together on a cryptocurrency exchange. These pairs determine the exchange rate at which one cryptocurrency can be exchanged for another. For instance, if a person wants to trade bitcoin for ethereum, they are essentially engaging in a BTC/ETH trading pair, in which BTC represents bitcoin, and ETH represents ethereum.

Centralised exchanges offer users trading pairs with fiat currencies like WBT/USD and others.

Trading pairs are the foundation of the cryptocurrency market, enabling users to exchange one cryptocurrency for another with ease. They are usually denoted in the format of 'base currency/quote currency.' The base currency is the cryptocurrency a user is buying or selling, while the quote currency is the cryptocurrency used to make the purchase or sale. Sometimes, trading pairs are also called markets.

Trading pairs can be categorised into groups such as crypto-crypto, crypto-stablecoins, and crypto-fiat trading pairs.

BTC pairs —

In BTC pairs, bitcoin (BTC) serves as the base currency. The value of the altcoin is quoted in bitcoin. For example, if you are trading the ETH/BTC pair, it means you are exchanging ethereum for bitcoin.

ETH pairs —

Like BTC pairs, ETH pairs have ethereum (ETH) as the base currency. Altcoin values are quoted in ETH. For instance, the XRP/ETH pair involves trading ripple (XRP) against ethereum.

USDT pairs (stablecoin pairs) —

USDT pairs involve stablecoins, with tether (USDT) as the quote currency. This category helps traders move into a more stable asset during volatile market conditions. For example, the LTC/USDT pair involves trading litecoin against tether.

USD pairs (fiat pairs) —

Fiat pairs involve traditional currencies like the US dollar (USD) as the quote currency. These pairs provide a direct bridge between cryptocurrencies and fiat. Examples include the BTC/USD pair, in which bitcoin is traded against the US dollar.

Altcoin pairs —

Altcoin pairs involve two cryptocurrencies other than bitcoin or ethereum. The base and quote currencies are both altcoins. For instance, the ADA/XRP pair involves trading cardano (ADA) against ripple (XRP).

Cross pairs —

Cross pairs do not involve bitcoin or ethereum. Instead, they include pairs like LTC/XRP, in which litecoin is traded against ripple.

Inverse pairs —

In inverse pairs, the quote currency is bitcoin or another cryptocurrency. The value of the base currency is quoted in the cryptocurrency used as the quote. For example, the BTC/ETH pair involves quoting the value of ethereum in bitcoin.

Popular trading pairs typically involve cryptocurrencies with high market capitalisation and trading volume. Bitcoin (BTC) and ethereum (ETH) are prime examples. Pairs with these two are often the most liquid and widely traded, making them attractive to traders due to narrow bid-ask spreads and efficient price discovery. Examples of popular trading pairs include BTC/USDT, ETH/USDT, and more.

Liquidity is a vital concept in the world of trading, which refers to how easily and quickly an asset can be bought or sold without significantly affecting its price. Liquidity is influenced by trading volume, which is the total amount of a cryptocurrency traded within a specific time frame, often measured in twenty-four-hour periods.

Why are liquidity and trading volume important? Trading pairs with high liquidity and trading volume offer several advantages to traders

and investors. These pairs generally have tighter bid-ask spreads, meaning the difference between the buying (bid) and selling (ask) prices is smaller. This reduces trading costs. High liquidity also ensures that large orders can be executed without causing substantial price slippage, in which the actual trade price differs significantly from the intended price. Traders often prefer major trading pairs for their high liquidity, as they provide greater trading efficiency and are less susceptible to market manipulation.

Liquidity and trading volume are also crucial for accurate price discovery. Cryptocurrencies with more significant trading volume tend to have prices that better reflect market consensus, reducing the likelihood of extreme price swings. Lower liquidity in minor trading pairs can result in more volatile price movements and greater susceptibility to price manipulation by large traders or entities.

Assignment 2: The way to easily buy bitcoin

Enter the 'Convert' tab in the 'Trade' section of the upper website menu in your WhiteBIT account. Specify BTC in the 'Give' field and indicate the amount as well. Specify ETH in the 'Receive' field and click 'Buy Ethereum.' After that, click 'Accept' to confirm the action.

Chapter 4: Decentralised exchanges (DEX) and CEX vs. DEX

Understanding the profound disparities between centralised exchanges (CEX) and decentralised exchanges (DEX) is not merely a matter of academic interest within the cryptocurrency sphere; it is imperative for anyone seeking to comprehend the complexities of digital assets. These differences extend beyond the technical nuances; they represent a fundamental divergence in philosophy and approach, encapsulating the essence of what cryptocurrencies stand for.

Definition of decentralised exchange (DEX)

A decentralised exchange or DEX is a type of cryptocurrency exchange that operates without the need for intermediaries. Unlike centralised exchanges, which rely on a central authority to facilitate trades, DEXs function on blockchain technology, allowing users to trade directly with one another. In essence, DEXs embody the principles of decentralisation, transparency, and self-custody.

DEXs operate on blockchain networks and use smart contracts to facilitate peer-to-peer cryptocurrency trades. Users retain control of their private keys and funds throughout the trading process, eliminating the need for a central entity to custody assets or manage order books. This trustless approach empowers individuals to trade directly from their wallets, enhancing security and privacy.

Decentralised exchanges come in various types, each with its own features, mechanisms, and use cases. Here are some of the common types of DEXs:

- 1 automated market maker (AMM) or AMM DEXs use liquidity pools and algorithms.
- 2 Order book DEXs operate similarly to traditional centralised exchanges, but without a central authority.
- 3 Atomic swap DEXs enable peer-to-peer trading between users without the need for an intermediary.
- 4 DEX aggregators combine liquidity from multiple DEXs to provide users with the best available prices.
- 5 Hybrid DEXs combine elements from multiple DEX types to offer a broader range of features and capabilities. They may have order books, liquidity pools, or other unique mechanisms like Serum (combines order book and AMM) or ThorSwap (cross-chain and AMM).

Comparison: CEX vs. DEX

The primary distinction between CEXs and DEXs lies in centralisation. CEXs are managed by centralised entities, which provide services such as order matching, custody, and liquidity. DEXs, on the other hand,

operate on blockchain networks without a central authority. CEXs may require users to trust the exchange with their funds, while DEXs enable users to trade directly from their wallets.

CEXs are often favoured by users seeking simplicity, liquidity, and access to a wide range of trading pairs. They are suitable for beginners, institutions, and those looking for a user-friendly trading experience. DEXs appeal to individuals who prioritise security, privacy, and the principles of decentralisation. They are often chosen by those who want to maintain control over their assets.

CEXs provide high liquidity, a user-friendly interface, and support for various trading features. However, they may require users to trust the exchange with their funds and personal information, potentially exposing them to security risks. DEXs provide enhanced security, privacy, and self-custody of assets. Yet, they may have lower liquidity and a steeper learning curve for newcomers.

Wrapping up

In summary, the study of cryptocurrencies has taught us about different types of crypto assets, how to keep them safe in wallets, and the differences between centralised exchanges (CEX) and decentralised exchanges (DEX). With this basic understanding, you can better navigate the world of cryptocurrencies, choosing between traditional CEX and newer DEX platforms.

As cryptocurrencies keep changing, this knowledge helps individuals adapt and succeed in this ever-shifting world. Think of this knowledge as your guide, helping you explore the exciting opportunities that cryptocurrencies offer. The future of cryptocurrencies is wide open, waiting for you to keep discovering more about it.

[CONTINUE](#)

Unit 2

Chapter 1: Order and its types. Types of trade

Trading orders are instructions given by traders to buy or sell crypto assets. These orders facilitate the seamless operation of markets, ensuring that trades are executed efficiently and fairly.

Orders play a big role in maintaining market orderliness and liquidity. They enable traders to specify the conditions under which they want to execute their trades, ensuring that transactions are conducted at prices that align with their objectives. This level of control is crucial for both individual traders and institutions participating in the crypto market.

Types of trading orders

At their core, all trading orders in the cryptocurrency market can be categorised into two fundamental types: buy and sell orders. These two categories encompass the primary objectives of traders, which are to acquire cryptocurrencies (buy) or dispose of them (sell). However, within these overarching categories, various order types and

strategies exist to achieve specific goals and manage risks effectively. Read more about the types of trading orders at the link (WhiteBIT, 2023f).

A trading order is a specific set of instructions given by a trader to a centralised exchange (CEX) or decentralised exchange (DEX) to execute a trade. These orders dictate how and when a cryptocurrency trade should occur.

Centralised exchanges offer a variety of order types to cater to the diverse needs of traders (WhiteBIT, 2022).

Figure 7. Order and its types. Types of trade (M2-U1-7)

The image shows a trading interface titled "Order and its types. Types of trade". At the top, there are tabs for "Limit", "Market", "Stop-Limit", "Stop-Market", and "Multi-Limit", with "Limit" selected. To the right, there is a "Margin" toggle switch. Below the tabs, there are two columns of input fields. The left column has "Price" (42722.22 USDT), "Amount" (Minimum 0.0001 BTC), and "Total" (Minimum 0 USDT). The right column has "Price" (42722.22 USDT), "Amount" (Minimum 0.0001 BTC), and "Total" (Minimum 0 USDT). Below the input fields, there are two sliders for percentage selection (0% to 100%) and two checkboxes for "Post-only" and "IOC".

A **market order** is an instruction to buy or sell a cryptocurrency immediately at the current market price. Market orders are executed as soon as they are placed and are often used when traders want to execute a trade quickly without specifying a specific price. They guarantee the trade, but do not guarantee the price at which the trade will be executed.

A **limit order** is an order to buy or sell a cryptocurrency at a specific price or better. Unlike market orders, limit orders are not executed immediately. Instead, they remain on the order book until the market reaches the specified price. Limit orders allow traders to set price targets and potentially get a more favourable price for their trade.

A **stop-loss order** is used to limit potential losses on a trade. It is an order to sell a cryptocurrency when its price falls to or below a certain predetermined level (the stop price). Stop-loss orders are essential for risk management and protecting investments in volatile markets.

A **take-profit order** is the counterpart to a stop-loss order. It is an order to sell a cryptocurrency when its price rises to or above a specific price (the take-profit price). Take-profit orders help traders lock in profits and exit positions when their desired profit levels are reached.

A **trailing stop order** is a dynamic stop-loss order that moves with the price of the cryptocurrency. It is set as a percentage or a fixed amount below the market price. If the market price rises, the trailing stop follows it, maintaining the same distance. If the price falls, the trailing stop remains in place until it is triggered.

A **fill or kill order (FOK)** is an order that must be executed in its entirety immediately or not at all. If the exchange cannot fulfil the order at the specified price for the full quantity, it is cancelled entirely.

An **immediate or cancel order (IOC)** is like a FOK order, but it allows partial execution. If the exchange cannot execute the order for the full quantity immediately, it will execute what it can and cancel the remaining portion.

A **good 'til cancelled order (GTC)** remains on the order book until it is either executed, cancelled by the trader, or until it expires. These orders do not have a predefined expiration date and are suitable for traders with longer-term trading strategies.

One-cancels-the-other (OCO) orders are pairs of conditional orders that are linked. When one order is executed, the other is automatically cancelled. These orders are used to manage risk and potentially profit from price fluctuations.

Understanding how orders work on CEXs empowers traders to make informed decisions, manage their positions effectively, and navigate the dynamic cryptocurrency market with confidence.

How to set up an order? The process begins with a trader deciding to buy or sell a specific cryptocurrency. A trader accesses their CEX account and selects the trading pair they wish to trade (e.g., BTC/USDT). Then, they choose the type of order they want to place, such as a market order, limit order, stop-loss order, or something else, depending on their trading strategy and objectives.

After selecting the order type, a trader specifies the quantity (amount) of the cryptocurrency they want to buy or sell. They may also set the price at which they want the trade to occur, depending on the chosen order type. Once all parameters are defined, they submit the order. The order is then transmitted to the exchange's order-matching engine for processing.

The exchange's order-matching engine is a critical component that manages the execution of orders. It continuously matches buy and sell orders based on their prices and timestamps.

Market orders are executed immediately because they do not specify a price. The order matching engine finds the best available price on the order book and executes the trade.

Orders that are not immediately executed are placed on the exchange's order book. The order book is a real-time list of buy (bid) and sell (ask) orders for a specific trading pair, organised by price. Limit orders are added to the order book with their specified price. Buy orders are listed in ascending order of price, while sell orders are listed in descending order of price.

The order-matching engine continuously compares incoming buy and sell orders on the order book. When a buy order's price matches or exceeds a sell order's price (or vice versa for a sell order), a trade is executed. This process ensures that trades occur at prices agreed upon by both the buyer and seller.

In some cases, a buy or sell order may not be fully matched with a corresponding order on the opposite side. This results in a partial fill, where only part of the order is executed. The remaining portion of the order remains on the order book at the specified price until it can be fully matched or cancelled by the trader.

Once a trade is executed, the cryptocurrency is transferred from the seller's account to the buyer's account on the exchange. The trade is recorded in the exchange's trade history, which provides details of executed trades, including price, quantity, and timestamps.

Traders can monitor the status of their orders through their CEX accounts. Orders can have various statuses, including 'open' (active

and on the order book), 'filled' (fully executed), 'partially filled' (partially executed), or 'cancelled' (cancelled by the trader).

Liquidity in the market depends on the availability of buy and sell orders on the order book. Higher liquidity typically results in tighter bid-ask spreads and more efficient price discovery.

Assignment 3: Create your first order on WhiteBIT and buy WBT

Enter your exchange account and find a 'Spot' tab in the 'Trade' section in the upper website menu. Enter the section and, on the left side of the trading terminal, pick a WBT/USDT pair from the markets' list. Then scroll down. Beneath the trading chart, choose the market order, specify the desired quantity of the asset, and click on 'Buy'.

Trading types

Before delving into the specifics of each trading type, let us briefly discuss the concept of trading itself. Trading involves the buying and selling of financial assets, such as stocks, commodities, currencies, or cryptocurrencies, with the aim of profiting from price fluctuations. Traders employ different strategies and tools to achieve their financial objectives, and these strategies often fall into one of the following categories.

Spot trading is the most straightforward form of cryptocurrency trading. In spot trading, traders buy and sell actual cryptocurrencies using only their own money at the current market price or 'spot price.' This type of trading involves the immediate exchange of digital assets.

Spot trading offers several advantages. It is user-friendly and suitable for beginners. Traders have full ownership of the purchased assets, and it carries less risk compared to margin and futures trading. Find more on spot trading at this link (WhiteBIT, 2023g).

Margin trading involves borrowing assets, typically stablecoins, to buy more cryptocurrencies than one's own capital would allow. In this type of trading, traders use the leverage provided by the exchange to amplify potential profits (or losses). Learn all the intricacies of margin trading here (WhiteBIT, 2023h).

Futures trading involves entering a contract to buy or sell a cryptocurrency at a predetermined price and date in the future. This type of trading allows traders to speculate on the future price movements of digital assets without owning the underlying assets. Read a detailed overview of futures trading in this article (WhiteBIT, 2023i).

Chapter 2: Margin trading and futures

In the world of cryptocurrency, traders often seek opportunities to maximise their profits by leveraging their trading positions. One popular method to achieve this goal is through margin trading.

Margin trading is a financial strategy that allows traders to borrow funds to amplify their trading positions in the cryptocurrency market. It is a popular technique employed by experienced traders and investors seeking to maximise their potential profits or hedge against market fluctuations.

What is margin trading? Margin trading, also known as leveraged trading, enables traders to control a more significant amount of cryptocurrency than they could with their own capital alone. Instead of buying or selling assets using only the funds in their account, margin traders borrow additional capital from a trading platform or brokerage to increase their exposure to the market. This borrowed capital serves as leverage, amplifying both potential gains and losses.

Short and long positions in cryptocurrency trading are fundamental concepts that represent contrasting strategies for profiting from price movements. These positions are often used in margin trading, in which traders can borrow funds to amplify their trading positions.

A **long position** is a type of trade in which a user buys a cryptocurrency with the expectation that its price will rise. If the price

of the cryptocurrency rises as anticipated, the trader can sell it later at a higher price, thereby realising a profit.

A **short position** is a trading operation in which a trader sells a borrowed cryptocurrency with the expectation that its price will fall. In simple words, the trader borrows the cryptocurrency from a lender (usually a broker or exchange) and immediately sells it on the market at the current market price, even though they do not own it. The trader aims to buy back the same amount of cryptocurrency at a lower price in the future to repay the lender. If the price falls as anticipated, the trader profits from the price difference between the initial sale and the subsequent buyback.

How does margin trading work? We have mentioned above that margin trading implies using leverage. Leverage is often expressed as a ratio, such as 2x, 5x, 10x, or even higher. This ratio represents how much a trader can magnify their position compared to their initial capital. For example, with 5x leverage, a trader can control a position size five times larger than their own capital.

Let us say a trader has \$1000 in capital and wants to trade bitcoin with 10x leverage. With 10x leverage, they can control a position size of up to \$10,000 in bitcoin, even though they only have \$1000 in their trading account. This amplification is achieved by borrowing an additional \$9000 from the exchange or trading platform.

Margin traders pay interest on the borrowed funds, typically daily. If the market moves against their position and their account balance falls below a certain threshold (the maintenance margin), the exchange issues a margin call. It is a notification that requires the trader to either add more funds or close their position to cover the borrowed capital.

If the trader fails to add more funds and the losses continue to grow, the exchange or broker may liquidate the trader's position. Liquidation involves forcibly closing the trader's positions at the current market price to repay the borrowed funds and prevent further losses. This can result in a partial or complete loss of the trader's capital, depending on the market conditions at the time of liquidation.

Advantages and risks of margin trading

The advantages of margin trading are the following:

- 1 margin trading allows traders to amplify their profits if their market predictions are correct. A small price movement can yield significant gains with high leverage.
 - 2 Traders can diversify their portfolio and exposure to various cryptocurrencies without needing substantial capital.
-

3

Margin trading can serve as a risk management tool, enabling traders to hedge against potential losses in their spot holdings.

Risks

1

While leverage can magnify profits, it can also exacerbate losses. A market downturn can quickly deplete a trader's account balance, leading to liquidation.

2

If a trader's losses approach the borrowed capital amount, the exchange may liquidate their position to cover the debt, resulting in a complete loss of funds.

3

Borrowing funds for margin trading incurs interest charges, which can eat into profits or exacerbate losses in losing positions.

4

Margin trading can be emotionally taxing, as the pressure to make quick decisions and manage risk can lead to anxiety and impulsive trading.

Margin trading in the cryptocurrency market offers traders the potential for substantial profits, but it comes with considerable risks. It is essential for traders to have a deep understanding of the mechanics, risks, and risk management strategies associated with margin trading before venturing into this complex and high-stakes

form of trading. It is recommended that only experienced traders with a well-thought-out strategy engage in margin trading, while newcomers should focus on building their foundational knowledge and skills in the cryptocurrency market.

Chapter 3: Analysis and trading strategy. Risks and opportunities

Trading success is often contingent upon a trader's ability to make informed decisions. This requires a deep understanding of the market, an appreciation of the inherent risks, and an adeptness at seizing opportunities. Traders delve into market analysis for a multitude of reasons, chief among them being the need to make informed decisions in the volatile and dynamic cryptocurrency market.

Market, technical, fundamental, and sentiment analysis are essential in the cryptocurrency market due to its complex and volatile nature, diverse investment options, limited historical data, and unique market drivers. Cryptocurrencies' 24/7 trading cycle and lack of regulation make these analysis methods crucial for informed decision-making. Technical analysis helps monitor price trends, fundamental analysis assesses unique market drivers, and sentiment analysis gauges market psychology.

Market analysis

Market analysis is the cornerstone of any successful trading strategy. It involves the systematic examination of data and factors that influence the cryptocurrency market. There are three primary methods of market analysis: technical analysis, fundamental analysis, and sentiment analysis.

Technical analysis is a method that focuses on studying historical price and volume data to forecast future price movements. It operates on the premise that historical price patterns tend to repeat themselves. The key aspects of technical analysis are charts and indicators, patterns, and timeframes. Traders use candlestick charts, line charts, and various technical indicators like moving averages, Relative Strength Index (RSI), and Bollinger Bands to identify trends, support, and resistance levels. Technical analysts look for chart patterns such as head and shoulders, double tops, and triangles to anticipate price direction. Different timeframes (e.g., hourly, daily, weekly) are analysed to gain insights into short-term and long-term trends.

Fundamental analysis, on the other hand, assesses the intrinsic value of a cryptocurrency by examining factors beyond price data. It involves scrutinising the project's fundamentals, technology, team, and market positioning. Key components of fundamental analysis include:

- reviewing the cryptocurrency's white paper to understand its purpose, technology, and use cases.
- Evaluating the project's team, their experience, and the progress of the development roadmap.
- Analysing the competitive landscape and the cryptocurrency's unique selling points.

Sentiment analysis involves gauging market sentiment and the emotions of traders and investors. It can be a valuable tool for understanding market psychology. Traders employ sentiment analysis through news and social media and sentiment indicators. Some platforms provide sentiment indicators that aggregate data from social media and news sources to gauge overall market sentiment.

Experienced traders often combine multiple analysis methods to make more informed decisions. This can involve using technical analysis to identify entry and exit points while considering fundamental analysis to assess long-term potential. Sentiment analysis can act as a complementary tool to confirm or challenge the insights gained from technical and fundamental analysis.

Trading strategies

Trading in the financial markets is a complex endeavour that requires a deep understanding of various trading strategies. Each strategy comes with its own intricacies and approach to profit from price movements in assets. In this educational module, we will delve into the nuances of several prominent trading strategies, including scalping, day trading, swing trading, long-term investing, value investing, algorithmic trading, and high-frequency trading.

Holding (buy and hold) involves buying a cryptocurrency and holding on to it for an extended period, often years, with the expectation that its value will increase over time. Holders believe in the long-term potential of their chosen assets and are less concerned with short-term price fluctuations.

Scalping is a high-frequency trading strategy characterised by short holding periods, often just a few seconds to minutes. Scalpers aim to profit from small, rapid price fluctuations within a trading day. This strategy relies on executing many trades, seeking to capture minimal price differentials, which collectively add up to significant gains.

Day trading involves opening and closing positions within the same trading day. Day traders aim to profit from short-term price movements, capitalising on intraday volatility. They do not hold positions overnight, reducing exposure to overnight risks.

Swing trading seeks to capture price 'swings' or medium-term trends. Swing traders hold positions for several days or weeks, looking to profit from both upward and downward price movements. They rely on technical and fundamental analysis to make informed decisions.

Long-term investing is a strategy focused on accumulating assets for extended periods, often years or decades. This strategy is less concerned with short-term price fluctuations and more focused on the fundamental strength and potential growth of an asset.

Value investing is a strategy that involves identifying undervalued cryptocurrencies based on fundamental analysis. Investors look for projects with strong fundamentals, such as technology, team, and adoption, and invest in them with the expectation that their value will increase over time.

Algorithmic trading, also known as algo trading, involves the use of computer algorithms to execute trades automatically based on predefined criteria. These algorithms can analyse market data, execute trades, and manage risk at speeds impossible for humans. Algorithmic trading is prevalent in the cryptocurrency market due to its high liquidity and volatility.

High-frequency trading (HFT) is a subset of algorithmic trading that focuses on executing many trades at extremely high speeds, often within microseconds. HFT firms leverage advanced technology and co-

location near exchange servers to gain a competitive edge. In the cryptocurrency market, HFT can take advantage of price discrepancies across multiple exchanges.

Arbitrage trading involves exploiting price differences for the same cryptocurrency on different exchanges. Traders buy the asset on the exchange in which it is cheaper and sell it on the exchange in which it is more expensive, thus profiting from the price gap.

Margin trading allows traders to borrow funds (on margin) to leverage their positions and increase profits, if the market conditions are favourable.

Trend-following strategies involve identifying and trading in the direction of established market trends. Traders use technical indicators and analysis to confirm and follow these trends.

Contrarian investing. Contrarian traders go against prevailing market sentiment. They buy when the market is pessimistic and sell when it is overly optimistic, believing that markets tend to overreact.

Pattern trading. Pattern traders rely on technical analysis to identify recurring patterns in price charts, such as triangles, flags, and head-and-shoulders formations. They use these patterns to make trading decisions.

News-based trading. Traders using this strategy rely on breaking news and events to make trading decisions. For example, they may buy or sell based on announcements, partnerships, regulatory changes, or market news.

Risk assessment and management

Cryptocurrency markets are known for their extreme price volatility, which can lead to substantial gains or losses for traders. Therefore, identifying and assessing trading risks is the first step in effective risk management.

Market risk pertains to the potential for price fluctuations in the cryptocurrency market. It involves understanding factors that affect market movements, such as news events, market sentiment, and macroeconomic trends. Traders must analyse both short-term and long-term market trends to gauge potential risks accurately.

Liquidity risk refers to the possibility of not being able to buy or sell a cryptocurrency quickly at the desired price. Traders should assess the liquidity of their chosen assets and be aware of the impact on execution during low liquidity periods.

Volatility risk encompasses the likelihood of rapid and unpredictable price swings. Traders need to evaluate historical volatility, implied volatility, and volatility clusters when making trading decisions.

Once traders have identified and assessed the potential risks, they need to determine the appropriate position size and consider risk-reward ratios.

Position sizing involves deciding how much capital to allocate to a particular trade. Factors such as account size, risk tolerance, and the specific risk of the trade should all be considered. Diversifying positions across multiple assets can help mitigate risk.

Risk-reward ratios help evaluate the potential profitability of a trade compared to the amount at risk. A favourable risk-reward ratio typically involves risking less to earn more. Traders often use ratios like 2:1 or 3:1 to ensure the potential reward justifies the risk taken.

Stop-loss and take-profit orders are essential tools for managing risk and ensuring discipline in trading.

A stop-loss order is an order with a predetermined price level at which a trader is willing to exit a losing position. It helps limit losses and prevents emotional decision-making during adverse market conditions.

A take-profit order specifies a price level at which a trader intends to lock in profits and exit a winning trade. Setting a take-profit order ensures that traders do not become overly greedy and allows for consistent profit-taking.

DYOR

DYOR stands for 'do your own research', and it is a fundamental principle in the world of cryptocurrency and blockchain investments. Essentially, DYOR encourages investors and participants in the cryptocurrency space to conduct thorough and independent research before making any financial decisions.

In the cryptocurrency market, there are thousands of digital assets available for trading or investment. These assets vary significantly in terms of technology, use cases, team, and potential for growth. DYOR is vital for evaluating which cryptocurrencies have real value and potential, as opposed to those that may be speculative or even fraudulent.

The cryptocurrency space is notorious for scams and fraudulent schemes. Without conducting proper research, investors may fall prey to Ponzi schemes, fake ICOs (initial coin offerings), or misleading projects promising unrealistic returns. DYOR helps individuals identify red flags and avoid fraudulent investments. Read a comprehensive guide on how to do your own research in this article (WhiteBIT, 2023j).

Cryptocurrencies are built on blockchain technology, which can be complex. Conducting research allows investors to understand the technology behind a particular cryptocurrency, its unique features,

and how it solves real-world problems. This knowledge is crucial for assessing a project's potential for long-term success.

DYOR involves researching the project's team members, including their experience, credibility, and past achievements. A strong and capable team is often a positive indicator of a project's potential success. Additionally, assessing a project's development progress and roadmap is essential to gauge its commitment to achieving its goals.

Each cryptocurrency has specific use cases and target markets. Researching a project's use cases and adoption within its intended industry or community can help investors assess its potential for real-world utility and long-term value.

Cryptocurrency markets are highly volatile, and prices can change rapidly. Staying up to date with market happenings, fads, and other stuff can really affect the value of a certain digital currency. This information is important for making effective decisions about when and where to enter and leave the country.

DYOR is an essential component of effective risk management. By thoroughly researching and understanding the assets in which to invest, a trader can make informed decisions about the amount of capital to allocate, potential risks, and the level of risk they are willing to tolerate.

Emotions can lead to impulsive and irrational decisions in trading and investing. Conducting research and having a well-thought-out strategy can help investors stay disciplined and avoid making emotional decisions based on market FOMO (fear of missing out) or panic.

Doing your own research instils confidence in investment decisions. With a solid understanding of a cryptocurrency project and its potential, it is more likely to stay committed to an investment strategy, even during market volatility.

Chapter 4: Staking and farming

In the world of cryptocurrencies, staking has emerged as an integral mechanism that offers users the opportunity to participate actively in blockchain networks while earning rewards. Staking is a process that involves participating in the proof-of-stake (PoS) consensus mechanism, which is an alternative to the energy-intensive proof-of-work (PoW) used by cryptocurrencies like bitcoin.

Staking

Staking, in the context of cryptocurrencies, is a method by which users lock up a certain amount of their coins or tokens as collateral to support the network's operations. This locked-up collateral is used to validate and verify transactions on the blockchain. In return for their

participation, stakers are rewarded with additional coins or tokens. Staking essentially replaces the traditional mining process found in PoW networks.

Proof-of-stake (PoS) is a consensus mechanism that relies on validators, rather than miners, to confirm transactions and create new blocks. In a PoS network, validators are chosen to create new blocks and validate transactions based on the amount of cryptocurrency they 'stake' as collateral. The more coins a user stakes, the higher their chances of being selected as a validator. This system is designed to incentivise users to hold and support the network.

PoS networks typically select validators through a combination of factors such as the amount of cryptocurrency staked, the length of time it has been staked, and a randomisation element to ensure fairness. Validators are responsible for verifying transactions, and their rewards are proportional to the amount of cryptocurrency they have staked.

Participants in staking earn rewards in the form of additional coins or tokens. These rewards are typically generated from transaction fees and, in some cases, newly created tokens. The rewards are distributed among validators and stakers, based on predefined rules outlined by the blockchain protocol.

Staking provides a way for individuals to earn a passive income by contributing to the security and operation of a blockchain network. It is essential to notice that, while staking can be a lucrative endeavour, it also carries risks, such as the potential loss of the staked funds in the event of malicious activity or network disruptions.

Staking also refers to the practice of locking up or blocking assets within the smart contract of a particular blockchain project. The motivation behind staking is multifaceted, encompassing both community involvement and strategic marketing objectives. By encouraging users to lock up their assets, projects can achieve a variety of goals. One prominent objective is the enhancement of the project's liquidity.

Staking mechanisms contribute to liquidity by temporarily reducing the circulating supply of tokens, thereby potentially increasing demand and stabilising prices.

Moreover, staking serves as an effective marketing activity for blockchain projects. It creates a sense of commitment and loyalty among token holders, fostering a dedicated community. In many cases, projects offer rewards or incentives for users who participate in staking activities. These rewards can take the form of additional tokens, governance rights, or other benefits, enticing users to actively support and engage with the project.

Yield farming and liquidity provision

Yield farming is a concept that has gained immense popularity within the decentralised finance (DeFi) space. It refers to the practice of providing liquidity to DeFi protocols in exchange for rewards, often in the form of interest, fees, or governance tokens. Yield farming enables users to optimise their returns on their cryptocurrency holdings by actively participating in DeFi platforms.

To engage in yield farming, users need to provide liquidity to DeFi platforms by depositing their cryptocurrency assets into liquidity pools, which are essentially smart contracts on a blockchain that contain a pair of tokens that work as large asset storage. These pairs typically consist of one popular cryptocurrency (e.g., ETH or BTC) and another token (e.g., a newly created DeFi token). The pool's purpose is to enable users to trade one token for another within the pool, ensuring that there is always a reserve of each token available for trading.

Pools are used to facilitate decentralised trading, lending, or other financial activities on the platform. In return for their contributions, users receive rewards, which may include interest on deposited assets or governance tokens that allow them to participate in the platform's decision-making processes.

Launch pools and swap farming are specific strategies within yield farming. Launch pools involve participating in the initial stages of a new DeFi project, providing liquidity, and earning rewards. Swap farming, on the other hand, is a practice of providing liquidity to decentralised exchanges.

Yield farming presents attractive opportunities for earning significant returns on cryptocurrency holdings. However, it also comes with inherent risks. The rewards are often subject to market fluctuations, smart contract vulnerabilities, and liquidity pool impermanence.

Yield farmers should be mindful of the potential for impermanent loss, which occurs when the value of assets in a liquidity pool fluctuates, resulting in a net loss compared to simply holding the assets.

Evaluating staking and farming opportunities

Before engaging in staking, individuals should conduct thorough research on the coins or tokens they intend to stake. Important factors include the project's credibility, the team behind it, its use case, and the staking rewards and mechanisms. Additionally, users should assess the security of the staking platform and the custody of their staked assets.

Yield farming can be highly competitive, with numerous DeFi platforms and strategies available. Users should develop strategies that suit their risk tolerance and investment goals. Diversification, risk management, and staying informed about market trends and opportunities are essential aspects of optimising yield in yield farming.

Security is paramount in DeFi staking and farming. Users must exercise caution when interacting with smart contracts and DeFi platforms. Due diligence, strong password management, and the use of hardware wallets are some of the best practices to enhance security. It is crucial to be aware of potential scams and phishing attempts that target DeFi participants, like fake giveaways and promotions, unrealistically high returns, fake tokens and DeFi websites, impersonation of projects, and more.

Wrapping up

Module 2, Cryptocurrency in practice: from types of assets and wallets to crypto exchanges and trading strategies, has equipped you with a solid foundation in cryptocurrency fundamentals. From understanding the types of cryptocurrencies and wallet security, to learning the intricacies of market analysis and various types of cryptocurrency trading, you now have the knowledge needed to engage confidently in the world of digital assets. As you continue your journey, remember that the cryptocurrency space is always

changing and developing. Staying informed and practicing vigilance will be your allies in this exciting and transformative financial landscape. Happy exploring!

[CONTINUE](#)

References

[Untitled image statistic]. (n. d.).

<https://www.statista.com/statistics/863917/number-crypto-coins-tokens/>

WhiteBIT. (1 April 2022). WhiteBIT Trading Orders. WB Blog.

<https://blog.whitebit.com/en/orders-in-spot-trading/>.

WhiteBIT. (2023a). Step-by-step KYC verification on WhiteBIT Web

Version [video file]. YouTube. [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=jyQknORpMJg)

[v=jyQknORpMJg](https://www.youtube.com/watch?v=jyQknORpMJg).

WhiteBIT. (2 February 2023b). What is KYC: Meaning, Process, and

Advantages. WB Blog. <https://blog.whitebit.com/en/chto-takoe-kyc/>.

WhiteBIT. (30 January 2023c). What is a cryptocurrency, and how

does it work? WB Blog. [https://blog.whitebit.com/en/what-is-a-](https://blog.whitebit.com/en/what-is-a-cryptocurrency/)

[cryptocurrency/](https://blog.whitebit.com/en/what-is-a-cryptocurrency/).

WhiteBIT. (21 March 2023d). Types of crypto wallets. WB Blog.

<https://blog.whitebit.com/en/types-of-crypto-wallets/>.

WhiteBIT. (2 February 2023e). What is KYC: Meaning, Process, and Advantages. WB Blog. <https://blog.whitebit.com/en/chto-takoe-kyc/>.

WhiteBIT. (10 March 2023f). What is an order? Trading order types on the exchange. WB Blog. <https://blog.whitebit.com/en/torgovye-ordera-vidy-i-primenenie/>.

WhiteBIT. (3 November 2023g). What is Spot Trading in Crypto, And How Does It Work? WB Blog. <https://blog.whitebit.com/en/what-is-spot-trading-in-crypto-and-how-does-it-work/>.

WhiteBIT. (3 July 2023h). Margin Trading on WhiteBIT. WB Blog. <https://blog.whitebit.com/en/margin-trading-for-newbies/>.

WhiteBIT. (29 March 2023i). Futures Trading on WhiteBIT. WB Blog. <https://blog.whitebit.com/en/futures-trading-on-whitebit/>.

WhiteBIT. (17 February 2023j). How to Do Your Own Analysis (DYOR)? WB Blog. <https://blog.whitebit.com/en/how-to-do-your-own-analysis-dyor/>.

CONTINUE