TUTORIAL TWO

Using Crypto Wallets

1. Exchanges - Centralized Exchanges (CEX) v Decentralized Exchanges (DEX)

You will hear a lot about Centralised and Decentralised Exchanges and the Currencies/Tokens that they support. The first question to satisfy yourself is whether Centralised is better than Decentralised – after all, isn't Cryptocurrency all about being Decentralised? Well yes it is…but when it comes to Centralised Exchanges (CEX) they aren't totally Decentralised as they have a different function than the Decentralised Exchange (DEX).

A CEX can be used to conduct exchanges from ***fiat to cryptocurrency*** (or vice versa). Decentralized exchanges do not provide this service, only allowing ***crypto-to-crypto exchanges***. Decentralized exchanges are often thought of as a "trustless" environment, functioning as peer-to-peer exchanges. (Trustless…because you don't need to trust them like say an ordinary bank as the validation is done by all of the users constantly checking and verifying their blockchains)

As a new Cryptocurrency you will primarily be dealing with the CEX variety as you'll want to be able to exchange your Fiat currency to be able to purchase some Crypto. A Major benefit of the CEX is when it comes to liquidity, they have higher amounts compared toa DEX. Liquidity means the ease with which a user can purchase or sell an asset without significantly impacting its prevailing market value and is a crucial factor for traders who wish to carry out fast transactions at low volatility.

Just keep in mind that most Exchanges will have their own mobile app that they recommend or force you to use their Wallet for their Exchange. The top 10 exchanges at the time of writing are:

1.	Binance	meanswww.binance.com
2.	Coinbase Exchange	www.coinbase.com
3.	Kraken	www.kraken.com
4.	KuCoin	www.kucoin.com
5.	Binance.US	www.binance.com
6.	Bitfinex	www.bitfinex.com
7.	Gemini	www.gemini.com
8.	Coincheck	www.coincheck.com

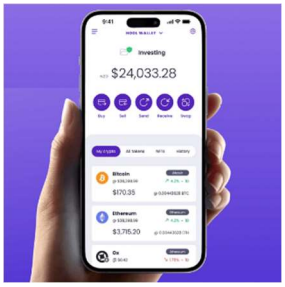
Your first port of call in selecting an exchange/s to use is to check out their website and satisfy yourself that they will meet your needs. NOTE: These are the larger ones but it is also suggested that you do a web search and find out who the preferred exchange providers are in ***your jurisdiction***. It may very well be that you are limited in choice as often you may find that a

particular currency that you wish to use to credit your account is not accepted by that exchange, forcing you to select an exchange that does. i.e. some exchanges may only accept USD or Euro, not much use if you only have AUD.

An Exchange will have gone through an accreditation process whereby the financial controllers within your jurisdiction will have ensured that the Exchange has the means and tools, both financially and technically, to be able to provide that service. An accredited exchange will have established relationships with banks and other financial institutions enabling it to receive Fiat currency from you (bank deposit/credit card etc) which in turn you can then use to purchase your cryptocurrency.

Some of the principal Exchanges are significant companies int their own right and have invested significant capital and expertise in creating their Exchange software as well as the infrastructure to support it. Just make sure that you due diligence in selecting the right one for you.

2. Wallets – What are they and how they work?



Cryptocurrency Wallets are similar in function to a wallet you put cash and cards into. If you've been using banking applications on your mobile for any length of time then you shouldn't have much trouble in navigating one once you've made a few transactions. Transferring funds via Crypto though is significantly faster than you are used to from traditional banks. It's one of the significant advantages that Crypto offers its users.

Want to send Cryptocurrency to someone on the other side of the world? Often its instantaneous (Depending on the network activity at the time) rather than having to wait days for the other person to confirm they have received your funds. Your Crypto Wallet works a little bit differently in that instead of holding physical items a Crypto Wallet stores the passkeys you use to sign for your Cryptocurrency transactions and provides the interface that lets you access your crypto.

Cryptocurrency wallets are software applications on computers or mobile devices such as phones or tablets. They use an internet connection to access the blockchain network for the cryptocurrency you're using. Cryptocurrencies are not "stored" anywhere—they are bits of data in a database, and it is the wallets' function – using its software to organise that information.

In exactly the same way that you go to Apple or Google' online store to download an application for your mobile or other device, you do the same to select your wallet of choice. Just keep in mind that most Exchanges will have their own mobile app that they recommend or force you to use their Wallet for their Exchange. The top 10 exchanges at the time of writing are:

1. Binance meanswww.binance.com
2. Coinbase Exchange www.coinbase.com
3. Kraken www.kraken.com
4. KuCoin www.kucoin.com
5. Binance.US www.binance.com

6. Bitfinex www.bitfinex.com
7. Gemini www.gemini.com
8. Coincheck www.coincheck.com

Your first port of call in selecting an exchange/s to use is to check out their website and satisfy yourself that they will meet your needs. NOTE: These are the larger ones, but it is also suggested that you do a web search and find out who the preferred exchange providers are in your jurisdiction. It may very well be that you are limited in choice as often you may find that a particular currency that you wish to use to credit your account is not accepted by that exchange, forcing you to select an exchange that does. i.e. some exchanges may only accept USD or Euro, not much use if you only have AUD.

Make sure that you're downloading any software update from your Exchange/Wallet provider as hackers are constantly looking for loopholes and back doors into cryptocurrency service providers products and by taking on any updates you'll be benefitting from the patches and updates they will be applying.

3. KYC and AML

Once you have chosen a wallet provider and downloaded their application you will need to go through a series of Identity checks.

Which includes:

1. Name
2. Date of Birth
3. Address
4. A government approved ID (Generally passport or Drivers Licence)
5. Business licenses and articles of incorporation from enterprise customers

This is to satisfy any KYC (Know Your Customer) requirements that are required of the Exchange as part of their financial warrant.

KYC (Know Your Customer) and AML (Anti Money Laundering) are requirements that financial authorities place upon cryptocurrency Exchanges. Let's start with KYC. Knowing You Customer is a process you will have to pass in order to register as a customer on a cryptocurrency Exchange. This involves providing evidence of:

- Your legal name
- Date of birth
- Address
- Verification documentation, such as a driver's license or passport
- Business licenses and articles of incorporation from enterprise customers

This information will be assessed by the Exchange and once you have passed their scrutiny you will be able to use their Exchange to buy and sell cryptocurrencies.

Anti Money Laundering is a global problem and one that financial authorities task your Exchange to monitor. Cryptocurrencies have received a lot of negative attention from financial authorities around the world, due to the perceived ability to be able to hide identities of users within blockchains. Whilst it is true that there is a high degree of anonymity in cryptocurrencies,

transactions are viewable in most instances across the blockchain. Fiat currencies remain the most popular currency used in any money laundering worldwide. None the less, it is a requirement for Exchanges to report any instances of AML if they want to retain their financial relations with banks and government.

OK…now to fund your Crypto Wallet. You can do this by:

1. Transferring some Crypto to that Wallet (If you know someone who already has some Crypto and they are happy to dop that!
2. Linking a bank account
3. Linking a credit card

4. Hot Wallets v Cold Wallets

Hot wallets are internet-enabled and online, while cold wallets are offline and come in the form of a physical device, such as a USB stick, of specially created device that will help you establish your own security keys unique to that device. A hot wallet's primary use is conducting transactions; it should not be used long term to store keys (However, this is a requirement for most CEX to transact on their Exchanges)

A cold wallet offers more security benefits because it is not connected to the internet or another device. Remember - **Not in control of your keys? Not your money!** Sorry to harp on about this but it is part of Crypto 101 understanding that if someone else has your private key then they have the ability to take that Crypto from you. As long as you understand that Hot Wallets and Cold Wallets serve different and very important functions. By all means use a CEX for its intended purpose to buy and sell Cryptocurrencies utilising their great liquidity, however, when it comes time to take your virtual pot of currency off the table then place it into something designed to look after it for you – a cold wallet.

Over the past several years there have been multiple examples of Exchanges who have been raided by hackers and entire stores of coins lost. On any exchange that operates a 'Hot wallet' i.e. a Wallet that uses their or an approved software wallet that they work with, they will require both public and private keys to be available in order to transact.

It's a good idea to take any larger amounts of cryptocurrency that you want to secure off the blockchain and out into a storage account. This can be achieved by using a device or process that is purposely made for this function. Two of the main devices that can be purchased to achieve this are:

- Trezor - https://trezor.io/
- Ledger - https://www.ledger.com/

These devices can be plugged into your PC and will prompt you through a series of instructions to set them up as an 'off chain' repository for your cryptocurrencies. They do this by allowing you to create a unique PIN access and increasingly they are offering a wider range of coins other than Bitcoin and Ethereum (The two earliest coins). Additionally, they will go through a process whereby they set up a 20 word 'seed phrase' which is a combination of words in an order that is unique to that device. In the event that you lose your device, or it gets damaged, there are sites you can go to and after entering your seed phrase, recover your cryptocurrency. NEVER ever let anyone have access to your seed phrase, as with this they have access to your cryptocurrency.

It's a good idea to hide or secure your written seed phrase **SEPARATELY** from any device and make as many copies as you feel comfortable with. Another tip is to make sure that you laminate any written material so that inks etc don't fade over time, or get wet, destroyed your access and at the same time, your cryptocurrency. Remember if you are unable to access your device, or if it gets lost or destroyed and you don't have a seed phrase to recover it…you have lost your cryptocurrency. There are millions of coins on the Bitcoin blockchain that have been lost and will never be recovered – out of the finite 21 million. Don't be one of those people.

Another alternative should you not want to pay for a storage device (It's a small expense really compared to losing your investment) is to use a paper wallet to take your funds off chain. Here is one site that you can use to do that https://bitcoinpaperwallet.io/ once again, should you create a paper wallet, make sure you laminate your wallet card, wrap it in something plastic, store it secretly someone in a water tight glass jar so it doesn't get damaged.

More than likely, you will be familiar with 2FA (Two Factor Authentication) if you are using any banking or security applications. Make sure that wherever possible you have 2FA enabled, as this will mean that you will have the added benefit of having a second means of verification included in any payment or trading of cryptocurrencies. Many cryptocurrency transactions will make a QR code available as a tool to use when sending public and private keys. This is a good option to take with your exchange as **NEVER** ever type in a cryptocurrency key. Unless you are the world's best typist and you are not concerned with mis keying a digit, then go ahead and take that risk.

Always copy and paste your transaction.

1A1zP1eP5QGefi2DMPTfTL5SLmv7DivfNa

TIP 1: **ALWAYS** check the first half a dozen and last half a dozen numbers and digits whenever you are sending or receiving cryptocurrency prior to clicking your send or receive button. WHY? If you get one of those digits wrong then unlike traditional banking there is NO recourse. Your cryptocurrency is gone.

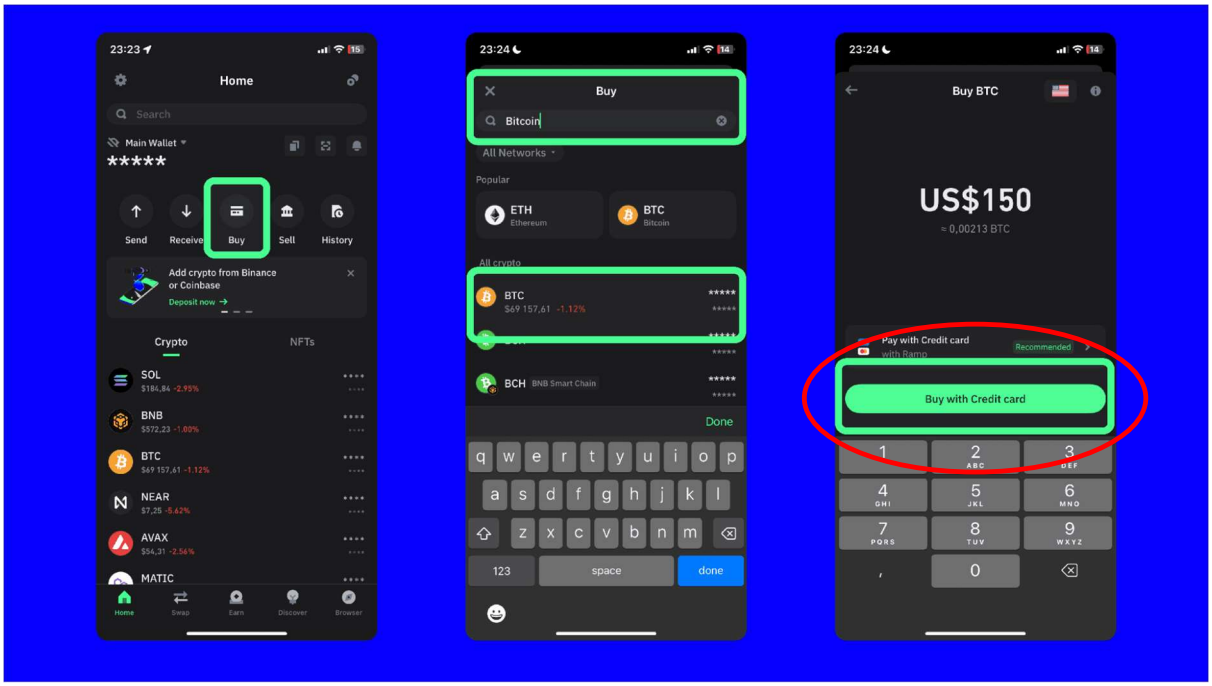
TIP 2: **ALWAYS** make sure that you are sending or receiving cryptocurrency on the **SAME** blockchain. If you send your Bitcoin key to an Ethereum Blockchain then once again…your cryptocurrency is gone…and there is no recourse. Not such a big issue of you're sending $10 worth of cryptocurrency…if you're sending $10,000 though there will be some tears…

5. Security - (2FA) and software updates

Security is one of, if not the most important consideration, in dealing with your cryptocurrency. There are multiple actors around the world at both state and individual level who are more than happy to take advantage of your lack of understanding of how cryptocurrencies work. It is not an exaggeration to state that there will be people sitting at their computer screens right now who are employed to separate you from your cryptocurrency investment.

6. Sending and Receiving Cryptocurrency

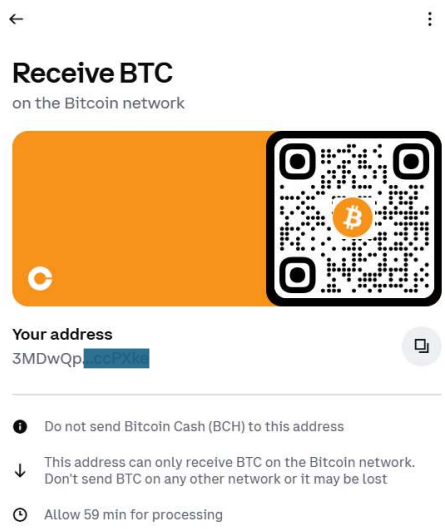
Once linked then just select that deposit method and add your funds to your wallet. The same way you would with a physical wallet. Just keep in mind that whilst the functions are pretty much the same from Wallet to Wallet, the design and look will be different, but you will be fine once you've done one or two transactions.



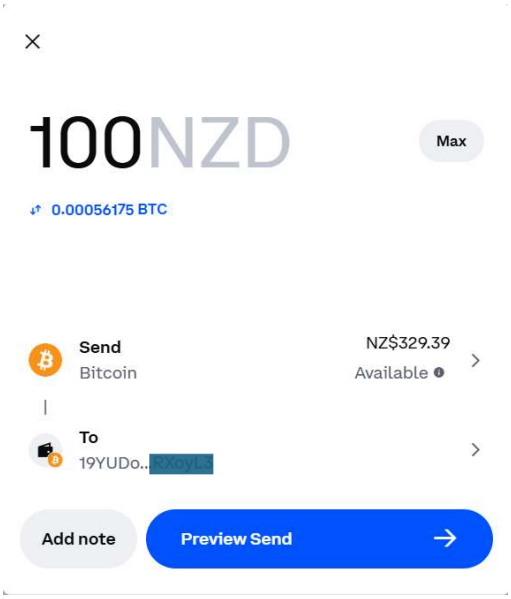
If you're buying your Crypto from an Exchange then this can vary depending on how they manage their procedure (Yes they can be different). i.e. if you're using the exchange desk top version of the software in conjunction with their mobile version then purchasing via the desktop will also mean that those funds will show up in your mobile and vice versa.

If you are ready to **RECEIVE** cryptocurrency from someone else just remember you have to tell them where to send it. Now it is time for you to share your **PUBLIC ADDRESS** with the person who is sending you Cryptocurrency (They need to know your address, the same as if they were sending you a letter by mail) All wallets and exchanges will provide you with the ability to Send/Receive and the process once you click on those buttons is pretty standard. The purpose of the exchange after all is to negotiate the sale between buyer and seller and then take a margin (service fee) for doing that. In much the same way as you'd expect to pay a fee for a stockbroker organisation a share purchase/sale, you'll pay a fee here too. So, you will pay a fee to the Exchange for arranging the fee, and you'll pay a network fee (Gas fee its also called) for the Miner to place that transaction.

RECEIVE



SEND



NOTE: Unless you are the worlds best typist...NEVER ever type in a Wallets address. Please always use a copy and paste function or use your camera with the QR code option to ensure that you get the address right. Remember...if you get the address wrong or send Bitcoin to an Ethereum address (Different Blockchain) those coins are gone. Crypto is not like your traditional bank.

OK...how do I get that Cryptocurrency out and spend it? This is the point where the liquidity within the Exchange you have chosen comes into play. In much the same way that you would on a stock exchange when you choose to sell your Cryptocurrency you're placing a 'Sell' order on the Exchanges system. One the reverse side of that transaction is someone who wants to place a "Buy" order and they have pressed that button asking the Exchange to introduce them to someone who wants to buy their Crypto at "$X" (Or whatever your Fiat currency is). The Exchange confirms the buy/sell order and then you will receive that Fiat currency in your registered bank account (or credit card depending on how you have set up that part of your wallet). And takes their fee.

NOTE: Exchanges in most countries will be required by their regional authority to provide information about those transactions to the appropriate revenue authority for tax purposes.

DEX Exchanges operate slightly differently as due to their decentralised nature they will generally operate peer to peer (Person to person) so there is no reporting requirement and no exchange fee payable.