

FAQ

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Questions about

Raydium

What is Raydium and what makes it different?

Raydium is an automated market maker (AMM) platform built on Solana where users can swap, trade and provide liquidity to earn yield on digital assets. However, unlike other AMM platforms, Raydium's AMM provides on-chain liquidity to OpenBook's central limit order book, meaning that Raydium's users and liquidity pools have access to the order flow and liquidity of the entire OpenBook ecosystem, and vice versa. Raydium's Best Price Swaps feature determines whether swapping within a liquidity pool or through the OpenBook order book will provide the best price for users. Not only can you trade and swap on Raydium, but there are a number of ways you can earn additional tokens while farming liquidity pools and staking. Raydium's AcceleRaytor sets out to drive the growth of the Solana Ecosystem, serving as a launchpad for innovative projects to raise capital and drive initial liquidity. Learn how to participate in an AcceleRaytor IDO [here](#).

Why build on Solana?

Solana stands out in DeFi with lightning-fast speeds of up to 65,000 transactions per second, 400ms block times, and less than 0.01 average transaction fees. Raydium believes in the Solana vision and that it will power the future of De-Fi. Read more [here](#).

What is an AMM and how is it different from a traditional exchange?

There are two major types of exchanges that allow users to trade cryptocurrency: traditional exchanges and [automated market maker](#) (AMM) exchanges. Traditional exchanges use an order book to match users looking to buy tokens with users looking to sell. On an AMM platform, instead of trading between buyers and sellers, users trade against a pool of tokens — a liquidity pool. However, unlike other AMM platforms, Raydium's AMM provides on-chain liquidity to OpenBook's central limit order book, meaning that Raydium's users and liquidity pools have access to the order flow and liquidity of the entire OpenBook ecosystem, and vice versa.

Can I yield farm and stake on Raydium?

Yes, learn more about [yield farming](#) and [staking](#) on Raydium.

What is AcceleRaytor and how do I participate?

AcceleRaytor is an initiative by Raydium to spearhead the growth of the Solana Ecosystem. It serves as a launchpad for the latest projects to raise capital and drive initial liquidity in a decentralized and interoperable manner while enabling both project and Raydium communities to participate in carefully curated and vetted token offerings. You can read more about how to participate in AcceleRaytor [here](#). Follow us to stay up to date on new AcceleRaytor announcements and rules on [Discord](#), [Telegram](#), [Twitter](#), or [Medium](#).

If you're interested in launching a project on AcceleRaytor, please fill out [this form](#) !

What are Raydium Farms and how do I participate?

Raydium farms are pools that allow liquidity providers to generate RAY tokens in addition to the trading fees contributed to the pool. Follow this [link](#) for complete instructions on how to participate.

What are Raydium Fusion Pools and how do I participate?

Fusion pools are liquidity pools that go beyond RAY-incentivized farming pools and allow liquidity providers to earn tokens from projects they support in addition to the trading fees contributed to the pool. Fusion pools enable projects to bootstrap liquidity for their token on Raydium and OpenBook. Some pools also offer Dual Yield, where users can earn RAY in addition to project tokens. Follow this [link](#) for complete instructions on how to participate.

How can a token get listed on Raydium?

Anyone can create a liquidity pool on Raydium for a token pair. Projects or users can leverage Raydium's AMM and drive liquidity by creating a Permissionless liquidity pool.

Are tokens on Raydium wrapped?

Some tokens on Raydium are wrapped. For example, BTC and ETH are wrapped using the Wormhole bridge. As the ecosystem expands more bridges will likely integrate with Solana. Other tokens on Raydium are SPL native tokens. It's highly suggested to research a bridge before bridging assets.

What wallets can I use with Raydium?

To connect to Raydium, you'll need an SPL wallet. Raydium a number of SPL wallets, including Ledger, Phantom, and Solflare. Raydium will continue to integrate new wallets as they are developed.

Can I use Raydium on my phone?

You can access Raydium from your mobile browser by connecting your wallet. The Raydium team is in the process of rolling out a more mobile-friendly version of the platform.

Is RAY a governance token?

Governance is a key component of Raydium's mission and a governance method is in development.

How do I work with Raydium?

Please complete this [form](#) to apply for a Fusion Pool or AcceleRator IDO.

How can I get in touch?

You can get support on [Discord](#) or [Telegram](#) . Join the global community!

Questions about Trading

What does "Your SOL balance is low" mean?

SOL is required to pay network (gas) fees. Fees are very low on Solana and you may be able make a number of transactions with a low balance, however it is recommended to keep at least 0.05 SOL in your wallet for gas.

What fees do I pay when I trade or swap tokens on Raydium?

Swap fee: Every time a user swaps between a pool, a 0.25% fee is taken on the trade. 0.22% of that trade goes back to the LP pool as fees earned and 0.03% of that goes to buying back RAY. Network fee: A nominal amount of SOL is also required to pay Solana network fees on each trade. Most trades cost between 0.0001 — 0.001 SOL.

How does the AMM work with the

OpenBook Order Book? The key differentiator in Raydium's AMM is that liquidity on Raydium also creates a market on OpenBook that is tradable on any OpenBook DEX GUI. Because Raydium's LPs take orders directly on the OpenBook central limit order book, anyone trading on OpenBook has access to that liquidity. This is different from almost every other AMM protocol where liquidity is siloed off from other trading platforms.

What is price impact?

Price impact is the difference between the current market price and the expected price for a trade. Price impact is primarily determined by the size of your trade relative to the amount of liquidity in the pool. As the number of tokens you buy from the pool increases, the price of the token increases as well. This unfavorable change in price is called price impact. If you are swapping in a pool with very low liquidity, you may receive a very poor price for your swap. If you see high price impact when swapping, try trading a smaller amount or swapping in a pool with higher liquidity.

Why did my transaction fail?

Insufficient SOL: SOL is required to pay network fees (gas), it's recommended to keep at least 0.05 SOL in your wallet to ensure smooth transactions. Slippage Tolerance: Transactions will fail if the price of the underlying pool moves past your Slippage Tolerance. Try increasing your slippage tolerance on the Swap page. Approving Transactions: If you see the "Making Transaction" notification in the lower left - hand corner of your screen, you will need to approve the transaction in your SPL wallet.

Questions about

Liquidity & Pools

What's the benefit of providing liquidity on Raydium?

Liquidity providers earn transaction fees from swaps within the pool. Additionally, the Raydium AMM market makes on the OpenBook order book, with earnings from maker volume also returned to liquidity providers in the relevant pool. When you add liquidity to a pool you will receive Liquidity Provider tokens (LP tokens) which represent your proportional share of the pooled assets. For example, if a user deposited RAY and USDC into a pool, you would receive RAY-USDC LP tokens. Every time a user swaps within the pool between RAY and USDC, a 0.25% fee is taken. 0.22% of that trade goes back to the LP pool. 0.03% of that goes to RAY buybacks. * Previously, if there were 100 LP tokens representing 100 USDC and 100 RAY, each token would be worth 1 USDC & 1 RAY. * If one user trades 10 USDC for 10 RAY, and another traded 10 RAY for 10 USDC, then there would now be 100.022 USDC and 100.022 RAY. * This means each LP token would be worth 1.00022 USDC and 1.00022 RAY now when it is now withdrawn. Additionally, if there is a farm or Fusion pool for the tokens you're LP-ing, you will be able to earn additional tokens. If you are unfamiliar with the concept of impermanent loss, [reviewing this article](#) for a basic understanding is highly recommended.

Which curves do liquidity pools on Raydium use?

Raydium currently uses the constant function $K = Y \times X$. This equation has a special property that is stateless and given any two tokens, without any information about their relative prices or value, it can provide "infinite" liquidity to traders. Raydium utilizes this equation and prices orders on the OpenBook order book according to the Fibonacci sequence to provide up to 20 orders at a variety of prices with spreads as small as 25bps between them, which is optimized for Solana.

What does Permissionless Pool mean?

Permissionless pools allow anyone to create a liquidity pool on Raydium. Once a pool is created it can then immediately be traded on the Raydium swap interface. The pool AMM will also place orders on the OpenBook order book, allowing liquidity to be traded on the Raydium Trading page, or any other OpenBook DEX GUI. Read this detailed [explanation](#) for more details.

How do I earn yield from liquidity provider fees on Raydium?

Every time a user swaps within a Raydium liquidity pool, a 0.25% fee is taken on the trade. 0.22% of that trade goes back to the LP pool. 0.03% of that goes to RAY buybacks. Fees deposited into the LP pool increase the number of tokens that you get back when you withdraw liquidity. Therefore you don't need to "harvest" your earnings at any point. Additionally, the Raydium AMM market makes on the OpenBook order book, with earnings from maker volume also returned to liquidity providers in the relevant pool.

What are LP tokens?

Liquidity Provider (LP) tokens represent a proportional share of a liquidity pool. For instance, if you contribute to the SOL-RAY pool, you will receive SOL-RAY liquidity pool tokens (LP tokens). If you have deposited liquidity, you can see these tokens in your wallet.

Can I withdraw my liquidity anytime?

Yes, you can redeem liquidity tokens for a proportional share of the pool at any time.

How are projected earnings and APY calculated?

APY from fees is calculated by total fees collected by the pool in the last 24 hours and extrapolating that to a 365 day year then dividing by the total liquidity in the pool. [Getting Started -Previous Best practices Next- Traders Swapping](#) Last modified 16d ago