



# Automated Stake Delegation & Rebalancing UI

## Grant Opportunity

### Overview

To support the decentralization of stake on the Solana network, the Solana Foundation will be issuing one or more grants to teams that can develop an easy-to-use user interface for a stake bot. The stake bot should allow users to manage stake delegations across multiple validators simultaneously according to a set of criteria, *and* automatically rebalance users' stake accounts according to changes in validator performance. This user-friendly tool should take as an input each user's delegation criteria and the amount of SOL they wish to delegate from their wallet or existing stake accounts. The tool should create the resulting stake accounts and delegate them accordingly based on the user's selections. The tool should request custody of the stake authority of the user's stake accounts, so that it can periodically rebalance the stake accounts in response to changing validator performance. The users should retain withdraw authority over the stake accounts managed by this tool at all times, ensuring that they always have ultimate control over their tokens and can revoke the tool's stake authority at any time.

### Goals

- Provide users the ability to stake SOL to multiple validators through a one click easy-to-use solution
- Provides users the ability to create a unique delegation strategy according to criteria selected from a list of predefined validator metrics
- Provide users the ability change their unique delegation strategy
- Automatically rebalance user's stake according to the user's uniquely created delegation strategy
- At completion of project, provide an open source reference implementation and working product, which includes the following:
  - Logic to execute queries against on-chain data or other analytics backends to provide filtered validator lists
  - Transaction construction to create and manage (delegate, split, merge, undelegate as needed) multiple stake accounts in as few transactions as possible, based on user input
  - Websockets implementation to push data to front end site or visualizer

## Scope

- Provide users a simple solution for delegating to multiple validators at once. Users should be able to filter which validators to delegate to depending on a list of criteria such as:
  - # of validators
  - Validator Name
  - Validator Data Center
  - Validator Data Center concentration
  - Validator ASN
  - Software version (and whether they're running a version that the majority of the cluster is on)
  - Validator active stake (in total SOL and % of total staked SOL)
  - Is this validator also receiving stake from stake pools (be it JPool, Socean, etc or the Solana Foundation's stake pool)
  - Historical validator commission
  - Current validator commission
  - Validator APY
  - Validator skip rate
  - Validator voting performance (# landed votes/# of blocks confirmed)
- The site should explain and provide context on why each metric is important to understanding validator performance
- The site should provide an easy to use dashboard or visualization that provides users the ability to, at a minimum:
  - See all their stake accounts
  - See which validators they've delegated to
  - See all the validators stats for the metrics described above
  - See how much they've delegated to each validator
  - See how much they've accrued in rewards from each validator
  - See a history of stake changes and their reasoning (e.g. "5% of stake moved from Validator A to Validator B in Epoch X because Validator A failed to meet Criteria: Validator APY >= 6%")
- Published reference implementation that would allow other members of the community to access and create a similar solution
- Site is ideally built with websockets and can push state changes to the front-end for real time monitoring
- The grantee commits to maintaining the website for at least a 1-year period.

## Inspiration

- There exists a free command line tool that accomplishes the goal of letting users stake to multiple validators simultaneously (see [Stake Boss](#)). This stake bot delegation UI solution can be thought of as an extension of that solution, as it not only allows for staking to multiple validators, but also rebalances stake accounts according to the criteria selected by the delegators.

## Existing Code

- Python implementation for a stake bot can be found here:  
<https://github.com/solana-labs/solana-program-library/tree/master/stake-pool/py>

## Timeline

- Product should be delivered by March 1st, 2022
- If this grant document is up, the grant is open and available for submissions

## Grant Award

- Grantees shall be rewarded \$40,000 in USDC or equivalent amount in locked SOL, depending on their location. SOL payments will be locked for 1-year after receipt.
- Grant amount will be delivered on completion of deliverables.

## Point of contact

For questions on this Grant Opportunity, please email [grants@solana.foundation](mailto:grants@solana.foundation).

## How to apply

Please fill out the grant application on [solana.foundation/grants](https://solana.foundation/grants). Your application should include a high level roadmap with defined project phases, milestones and timing and any creative ideas beyond the scope of what's outlined in this document that helps advance the project goals and staking adoption.