QuarkChain Root Chain
PoSW Stake Mining Tutorial

Glossary

- Staker and staker address: The participant deposits and stakes QKC to mine in the root chain. The staker address owns the staked QKC. The staked QKC will be locked at least 3 days until available for withdrawal.
- Signer: After the stake, the staker can designate a miner (and its address) to mine with its staked QKC. This can prevent malicious attackers from attacking the network by using the staked QKC.
- PoSW hash power benefit: Miners who meet the PoSW requirements can enjoy a benefit of 10,000 times hash power.
- Attack penalty: If someone is found to attack the network through PoSW mining in the root chain (such as a double-spend attack), the staked QKC may be confiscated.

Deposit and Stake QKC

Noted: This tutorial is using QuarkChain Devnet as a demonstration.

Step 1: Enter the PoSW Smart Contract Interface http://mainnet.quarkchain.io/posw, where the contract is ONLY deployed in Chain 0, Shard 0. Log in to your account. As the initial state, the private account is in Locked state, the default setting for Signer is the account itself. (Please note: After deposit QKC, it takes 3 days to until the staked QKC is available to unlock and withdraw.)

Account

Address | 0x6d3af223727309928CeFCD8303A892DD0E4A3E950000cDdD | Chain 0 ▾ | Shard 0 ▾

This Account is backed by MetaMask.Learn More

The current shard has the most QKC balance

Tokens

QKC ⬍

599,987,175.297795603 (in shard)

599,997,175.297795603 (total)

Show Detail

PoSW on Root Chain

Your current staking status for mining root chain:

Lock Status	Stakes	Allocation	Signer	Withdrawable Time
LOCKED	0 QKC	0 / 512	0x6d3af223727309928cefcd8303a892dd0e4a3e95	N/A

Please refer to this document on how PoSW works for root chain.

For following actions, gas prices default to 1 Gwei and gas limits are set automatically as sane defaults.

Add Stakes   Change Signer   Lock / Unlock   Withdraw

Amount of QKC

e.g. 1000000

Generate Transaction

Step 2: Click the "Add Stakes" button, and stake QKC with the amount as you want. Then the root chain staking will take effect.

Account

Address	0x6d3af223727309928CeFCD8303A892DD0E4A3E950000cDdD	Chain 0 ▾ Shard 0 ▾

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PoSW on Root Chain

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Please refer to this document on how PoSW works for root chain.

For following actions, gas prices default to 1 Gwei and gas limits are set automatically as sane defaults.

Add Stakes   Change Signer   Lock / Unlock   Withdraw

Amount of QKC

1000000

Generate Transaction

Once the staking is successful, you can query the staking status. As shown in the figure, after staking 1 million QKC, you can enjoy the PoSW hash power benefit of one root chain block in every 512 blocks.

Step 3: Changing the signer address. Click the "Change Signer " button, and input your new signer address. Submit the transaction to modify your signature address.

After the modification, you can check the modified signature address:

Step 4 (Very Important): For the cluster, you need to modify the ROOT_SIGNER_PRIVATE_KEY in the JSON configuration file (mainnet/singularity/cluster_config_template.json). Fill in the private key corresponding to the signature address that you modified on Step 3. (In the future, scripts can be modified directly, or the signature server can be used to sign the dug-out root blocks.)

Withdraw Staked QKC

Step 1: Unlock the staking account. Click the "Lock/Unlock" button, then click "Generate transaction" to unlock your staking account.

After unlocking, you will find the account is under unlocked status.

Account

| Address | 0x6d3af223727309928CeFCD8303A892DD0E4A3E950000cDdD | Chain 0 ▾ | Shard 0 ▾ |

This Account is backed by MetaMask.Learn More 🦊

The current shard has the most QKC balance

Tokens

QKC ⇕

598,987,175.297678206 (in shard)

598,997,175.297678206 (total)

Show Detail

PoSW on Root Chain

Your current staking status for mining root chain:

Lock Status	Stakes	Allocation	Signer	Withdrawable Time
UNLOCKED	1,000,000 QKC	0 / 512	0xfee3d08216f0bfe96a5c0f5df9ec9b2577ad64f0	12/8/19, 3:09 PM

Please refer to this document on how PoSW works for root chain.

For following actions, gas prices default to 1 Gwei and gas limits are set automatically as sane defaults.

Add Stakes   Change Signer   Lock / Unlock   Withdraw

Amount of QKC

e.g. 1000000

Can't add stakes when unlocked.

Generate Transaction

Step 2: After unlocking, you have to wait three days to be able to withdraw the staked QKC. You can check the status of the contract to see the staking time. After the withdrawable time, you can submit the transaction to withdraw the staked QKC.

GPU Mining Software:
Please download the GPU mining software at :
https://github.com/QuarkChain/ethminer/releases. If you want to PoSW mining in the root chain, please set the shard ID to 9999.