# Running a Guardian Node on the Google Cloud Marketplace

## Deploying

First off we are going to launch the VM. Simply go to the following page:

https://console.cloud.google.com/launcher/config/theta-marketplace-public/theta-guardian-node. On the dashboard, click on the "Launch" button



#### theta-guardian-node

Theta Labs, Inc Estimated costs: \$0.00/month

Secure the Theta blockchain by running a Theta Guardian Node

Runs on Google Compute Engine

Type Single VM

Last updated 5/10/20, 6:32 PM

Category Developer tools Networking

Version default-version

Operating system Ubuntu LTS 18.04

Package contents go 1.14.2 Docker 19.03.6 Python 3.6.9

#### Overview

Running a Guardian Node on the Theta blockchain is now easier than ever, with a turnkey node solution on Google Cloud Platform. In minutes you can set up a Guardian Node on GCP, stake your Theta tokens to the node, and start participating in Theta blockchain's consensus and block production. In return for staking Theta tokens and contributing to the Theta blockchain, you will earn Theta Fuel tokens, which are the payment token of Theta protocol. In Theta blockchain's Multi-Level BFT consensus method, Guardian Nodes participate in consensus by finalizing newly-produced blocks at 100 block intervals. They make up a "second line of defense" of up to 1,000s of community-run nodes that download and examine the Theta blockchain and try to reach consensus on finalized checkpoints. With thousands of nodes, it is substantially more difficult for attackers to compromise blockchain integrity, and thus the blockchain has a much higher level of security. We believe this mechanism achieves a good balance among transaction throughput, consistency, and level of decentralization, the three comers of the socalled "impossible triangle". For more information, please also see "Scalable BFT Consensus Mechanism Through Aggregated Signature Gossip' by Theta CTO Jleyi Long at https://github.com/thetatoken/theta-protocolledger/blob/master/docs/multi-level-bft-tech-report.pdf

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#### About Theta Labs, Inc

Theta Labs, Inc. pioneered the next generation Esports entertainment platform, THETA.tv, and Theta Network, the leading video delivery network powered by blockchain technology. Theta rewards anyone to restream video and enables video platforms to deepen engagement and drive incremental revenues.

### You can take the default settings or customize them. When complete click "Deploy"

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Software

Software

Terms of Service

theta-guardian-node overview

Operating System Ubuntu LTS (18.04)

go (1.14.2) Docker (19.03.6) Python (3.6.9)

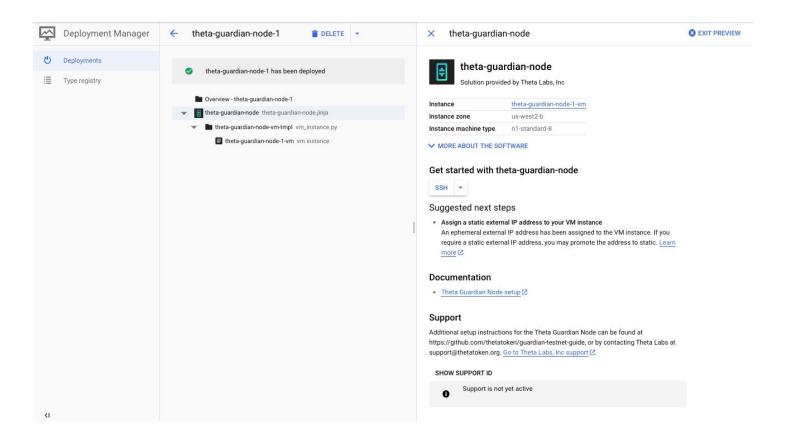
By deploying the software or accessing the service you are agreeing to comply with the Theta Labs, incitering of service L<sup>2</sup>, GCP Marketplace terms of service and the terms of applicable open source software licenses bundled with the software or service. Please review these terms and licenses carefully for details about any obligations you may have related to the software or service. To the limited extent an open source software license related to the software or service software license governs your use of that software or service.

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Solution provided by Theta Labs, Inc

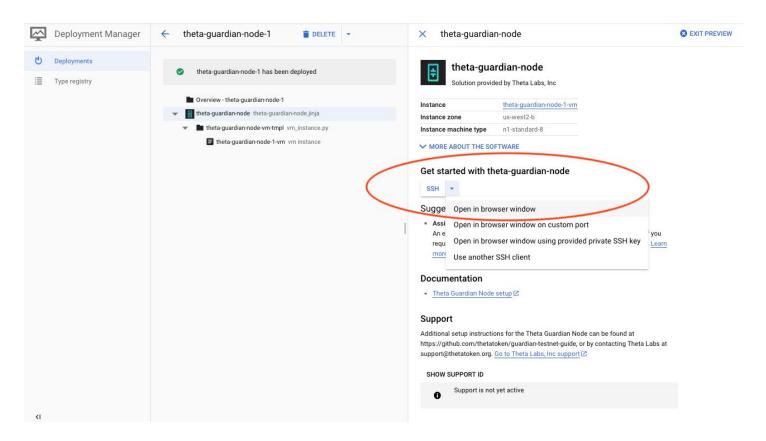
Deployment name		
theta-guardian-node-1		
Zone 💮		
us-west2-b		
Machine type 💮		
8 vCPUs 👻	30 GB memory	Customize
Boot Disk Boot disk type <i>@</i>		
Standard Persistent Disk		-
Boot disk size in GB 🛞		
100		
Networking		
letwork interfaces		
default default (10.168.0.0/20)		1
	+ Add network interface	

That's it! Your guardian node is now deploying.



## Stake to the Guardian Node

Next, we need to stake your THETA to the node to make it a Guardian node. First let us connect to the VM via ssh as highlighted in the image below



After you have logged onto the machine, first run the following command to check if the node is synchronized with the network.

thetacli query status

Wait until the return says "syncing": false as shown below. It might take 10 to 15 mins for the node to synchronize with the network.

```
Linux theta-guardian-network-gnl 4.9.0-11-amd64 #1 SMP Debian 4.9.189-3+deb9ul (2019-09-20) x86_64
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Mon May 11 01:43:57 2020 from 12.199.204.162
ubuntu@theta-guardian-network-gnl:-$ thetacli query status
     "address": "0x214e7f42a8783e3dbB5a997e39bf77562cF30A0a",
     "chain_id": "testnet_sapphire",
     "current_epoch": "2542317",
"current_height": "1221090",
"current_time": "1589161493",
     "latest_finalized_block_epoch": "2542315",
     "latest finalized block hash": "0x4f33baf9597168a15c75834c9915adadd91a4795061a4c02323dffe18420dedb",
     "latest_finalized_block_height": "1221090",
"latest_finalized_block_time": "1589161484"
     "peer_id": "0x214e7f42a8783e3dbB5a997e39bf77562cF30A0a",
     "syncing": false
```

After the node is in-sync with the network, we can query its guardian summary in preparation for the staking. Please run the following command to query the guardian summary.

thetacli query guardian

buntu@theta-guardian-network-gn1:~\$ thetacli query guardian
"Address": "0x214e7f42a8783e3dbB5a997e39bf77562cF30A0a",
"BlsPubkey": "8baa514f99e0aa6914806ba9237a4e2c2c4c00dfe0ad9c7fe611ce0fbdbf386dbe5aae58793bef98f1d3d1370e3f261e",
"BlsPop": "a29cf5bf56040dfc6d30fcd8b977d9cfae133c985190566e0e3bedd35ed498e784b6f49674b48a52459b4e234b1d1cd70a5190812429b124aedff68a123d38
9a38bdf93b25436e3f5ed47003645ea721687b0f8cdab72476d7c821ff22678dc",
"Signature": "93780d89d966ba3953dd92a42f80638278aca3e600969ed49cebb3ab267bd0672c1bfe2a10426a0c32c1bc5bc9565dbb733af423ae7886af74342bb8574
c9c800",
"Summary": "0x214e7f42a8783e3dbB5a997e39bf77562cF30A0a8baa514f99e0aa6914806ba9237a4e2c2c4c00dfe0ad9c7fe611ce0fbdbf386dbe5aae58793bef98f1d
d1370e3f261ea29cf5bf56040dfc6d30fcd8b977d9cfae133c985190566e0e3bedd35ed498e784b6f49674b48a52459b4e234b1d1cd70a5190812429b124aedff68a123d3859
38bdf93b25436e3f5ed47003645ea721687b0f8cdab72476d7c821ff22678dc93780d89d966ba3953dd92a42f80638278aca3e600969ed49cebb3ab267bd0672c1bfe2a10426
0c32c1bc5bc9565dbb733af423ae7886af74342bb85747c9c800"

Now, copy the "summary" field from the return, and we can proceed to stake to the guardian node.