

MATRIX NODE DEPLOYMENT GUIDE

FOR MAC

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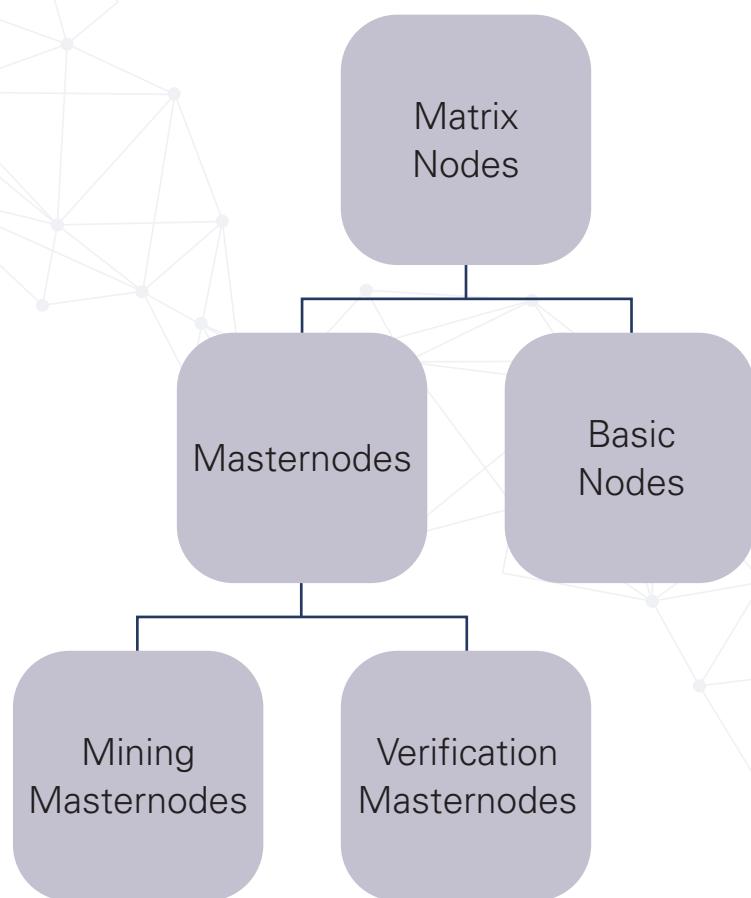
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**PLEASE NOTE THAT ALL INFORMATION CONTAINED HEREIN
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Thank you for supporting the Matrix AI Network by choosing to become a node! This article details how to stake and run a functioning Matrix Mining and/or Verification Masternode.

MATRIX AI NETWORK NODES: A BRIEF INTRODUCTION

The Matrix AI Network supports two types of nodes: Basic nodes and Masternodes. Basic nodes allow users to sync with the blockchain data. There are two types of Matrix Masternodes: Mining and Verification Masternodes. Both are responsible for maintaining the normal operation of the Matrix blockchain – namely, packaging and verifying transactions.



MATRIX MASTERNODES

Please pay attention to the following points

1. When pasting command into Command Prompt, please copy them line by line .Or you can open Notepad or another word processing software. Copy and paste the command into a separate document. After doing so, ensure that the entirety is a single string of text. Copy it and paste it into the Command Prompt. Please make sure that it is the same as the reference picture.
2. Please confirm that your computer's system clock time is accurate to the real world. When your computer time is out of sync with reality, you will not be able to synchronize blocks. This will impact your ability to earn block rewards.
3. A single public IP address can only support one Matrix Masternode. If you deploy multiple nodes using the same IP, only one node will be able to perform mining and verification tasks successfully.
4. To guarantee the normal operation of your Matrix Masternode, you need to ensure that you have opened Port 50505. Please refer to the 《Matrix AI Network Port 50505 Opening Guide》 .

MATRIX MASTERNODES

There are three basic steps to launching a Matrix Masternode:

1. Prepare two Matrix wallets
2. Deploy your Masternode
3. Stake Tokens

1. PREPARE TWO MATRIX WALLETS

While not an absolute necessity, it is recommended to use two Matrix wallets when deploying a Masternode. This will make your Masternode more secure. You will need to have access to these wallets' keystore files. You can open new wallets and download related keystore files as necessary using the Matrix Web Wallet (<http://wallet.matrix.io/>).

For the purpose of this guide, your two wallets will be identified as followed:

- Wallet A: Your existing Matrix wallet that holds all your MAN tokens
- Wallet B: A brand new wallet created for the purpose of deploying a Masternode

As a general strategy, after successfully setting up your node, we suggest keeping Wallet A in a safe place as this wallet will receive the block rewards. Wallet B can be used

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to manage daily Masternode activities and will not hold and MAN tokens.

2. DEPLOY YOUR MASTERNODE

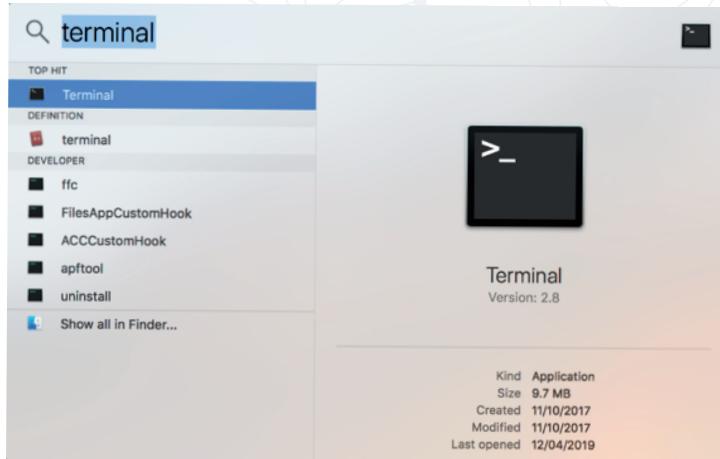
Please note that the following steps will need to be repeated every time the Matrix team updates the gman(mac).zip package.

STEP 1: DOWNLOAD GMAN(MAC).

1. Download and save the gman(mac).zip package.
Up-to-date versions can be downloaded from the Matrix website (<https://www.matrix.io/downloads/>).
2. Decompress the package using your operating system or another file archiver software.
3. Save the folder contained therein. The folder can be saved anywhere. This guide will assume that it was saved to your desktop.

STEP 2: PRIME YOUR COMPUTER

1. Open your system's Terminal. This can be done by first clicking "ctrl/command + Spacebar" and typing "terminal". Click to open.



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2. Enter "cd" then drag your "gman(mac)" folder into the Terminal window to automatically fill in the filepath. Press Enter.

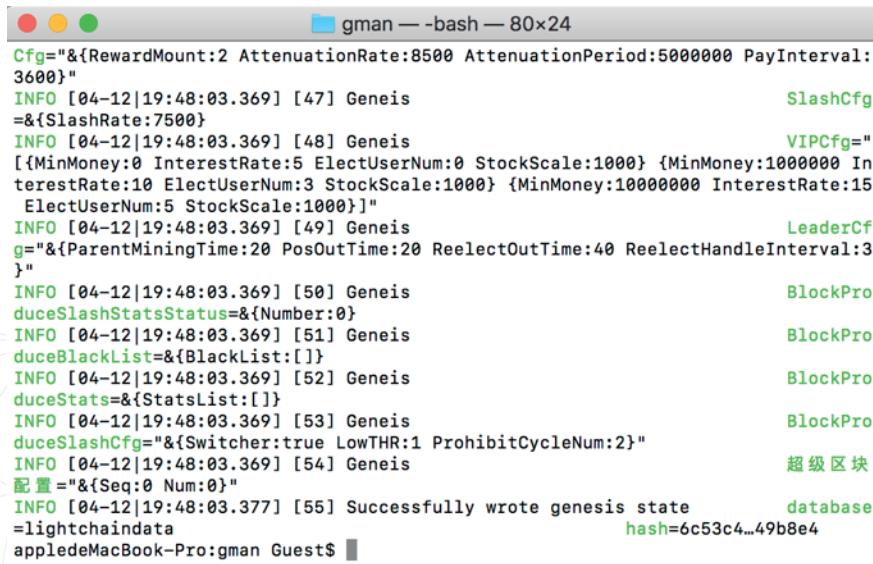


3. Type "**chmod 777 gman**" in your Terminal. Click Enter.
4. Copy "**./gman --datadir ./chaindata/ init
./MANGenesis.json**", while omitting the apostrophes. Paste it in the Terminal window.

```
Last login: Fri Apr 12 19:41:46 on ttys000
[appledeMacBook-Pro:~ Guest$ cd /Users/Guest/Desktop/gman
[appledeMacBook-Pro:gman Guest$ chmod 777 gman
appledeMacBook-Pro:gman Guest$ ./gman --datadir ./chaindata/ init ./MANGenesis.json]
```

5. Press Enter. A string of data should appear after a few seconds.

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```
gman — bash — 80x24
Cfg="&{RewardMount:2 AttenuationRate:8500 AttenuationPeriod:5000000 PayInterval:3600}"
INFO [04-12|19:48:03.369] [47] Geneis SlashCfg
=&{SlashRate:7500}
INFO [04-12|19:48:03.369] [48] Geneis VIPCfg=""
[MinMoney:0 InterestRate:5 ElectUserNum:0 StockScale:1000} {MinMoney:1000000 InterestRate:10 ElectUserNum:3 StockScale:1000} {MinMoney:10000000 InterestRate:15 ElectUserNum:5 StockScale:1000}]"
INFO [04-12|19:48:03.369] [49] Geneis LeaderCf
g="&{ParentMiningTime:20 PosOutTime:20 ReelectOutTime:40 ReelectHandleInterval:3 }"
INFO [04-12|19:48:03.369] [50] Geneis BlockPro
duceSlashStatsStatus=&{Number:0}
INFO [04-12|19:48:03.369] [51] Geneis BlockPro
duceBlackList=&{BlackList:[]}
INFO [04-12|19:48:03.369] [52] Geneis BlockPro
duceStats=&{StatsList:[]}
INFO [04-12|19:48:03.369] [53] Geneis BlockPro
duceSlashCfg="&{Switcher:true LowTHR:1 ProhibitCycleNum:2}"
INFO [04-12|19:48:03.369] [54] Geneis 超级区块
配置="&{Seq:0 Num:0}"
INFO [04-12|19:48:03.377] [55] Successfully wrote genesis state database
=lightchaindata hash=6c53c4...49b8e4
appledeMacBook-Pro:gman Guest$
```

- If your Terminal looks anything like the above image, you have successfully primed your computer. Congratulations!

STEP 3: CONFIGURE YOUR WALLET

Please note that this step exclusively uses Wallet B's address and keystore file.

- If you have successfully primed your computer, there should now be a folder called "keystore" in the "chaindata" folder. The "chaindata" folder is found in the "gman(mac)" folder.

Name	Date Modified	Size	Kind
gman	Today at 7:48 PM	--	Folder
keystore	Today at 7:50 PM	--	Folder
man.json	Today at 11:29 AM	343 bytes	JSON File

- Move your Wallet B keystore file to the "keystore" folder. Please take care to ensure that this is Wallet B's keystore file.

MATRIX MASTERNODES

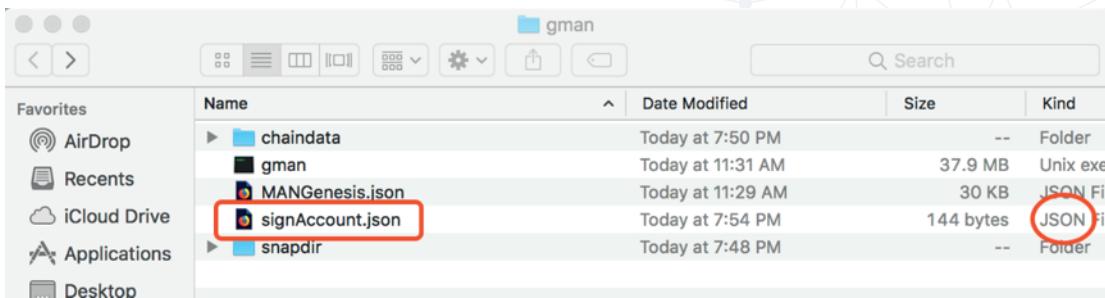
STEP 4: CONFIGURE YOUR SIGNACCOUNT

Please note that this step exclusively uses Wallet B's address and keystore file.

1. Open the signAccount.txt in the “gman(mac)” folder. Copy and paste the following while replacing the highlighted content with your own Wallet B address and Wallet B unlock password. Mind the brackets and apostrophes. All must be included.

```
"Address": "Wallet B address (own wallet address)",  
"Password": "Wallet B unlock password (your own unlock code)"
```

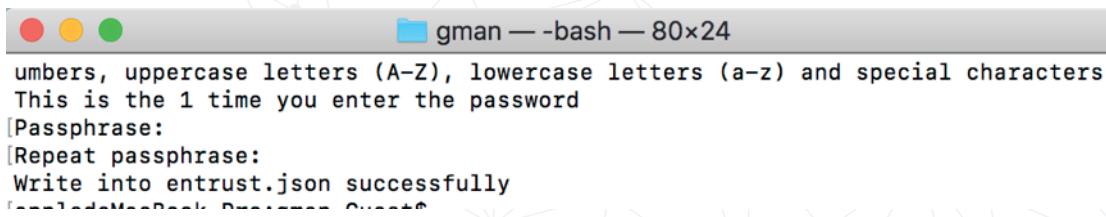
2. Save the file as a json file. Please note that you will need to rename the file to "signAccount.json". Confirm that you want to save it as a .json file when prompted.



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STEP 5: GENERATE A PASSWORD

1. Open the Terminal window. Enter “`./gman --datadir ./chaindata aes --aesin ./signAccount.json --aesout entrust.json`”, while omitting the apostrophes. Paste it in the Terminal window. Press Enter.
2. Enter your password. Your password MUST contain both upper and lower case letters, numbers, and special characters. Your password also MUST include a minimum of 8 characters. You will not see your password as you type it. The Terminal window will remain blank. Press Enter.
3. Enter your password again. As last time, you will not be able to see your password as you write it.
4. After successfully entering your password twice, a message containing “entrust.json” will appear. You can confirm that your password has been successfully generated by verifying that your “gman(mac)” folder now contains an “entrust.json” file.



A screenshot of a macOS terminal window titled "gman — -bash — 80x24". The window shows the following text output:

```
umbers, uppercase letters (A-Z), lowercase letters (a-z) and special characters
This is the 1 time you enter the password
[Passphrase:
[Repeat passphrase:
Write into entrust.json successfully
[---] MacBook Pro:~ Guest%*
```

5. After confirming that you have the entrust.json file, it is recommended that you delete the signAccount.json file.

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Name	Date Modified	Size	Kind
► chaindata	Today at 7:50 PM	--	Folder
entrust.json	Today at 7:57 PM	108 bytes	JSON Fil
gman	Today at 11:31 AM	37.9 MB	Unix exe
MANGenesis.json	Today at 11:29 AM	30 KB	JSON Fil
► snapdir	Today at 7:48 PM	--	Folder

STEP 6: LAUNCH YOUR MASTERNODE

Please note that this step exclusively uses Wallet B's address and keystore file.

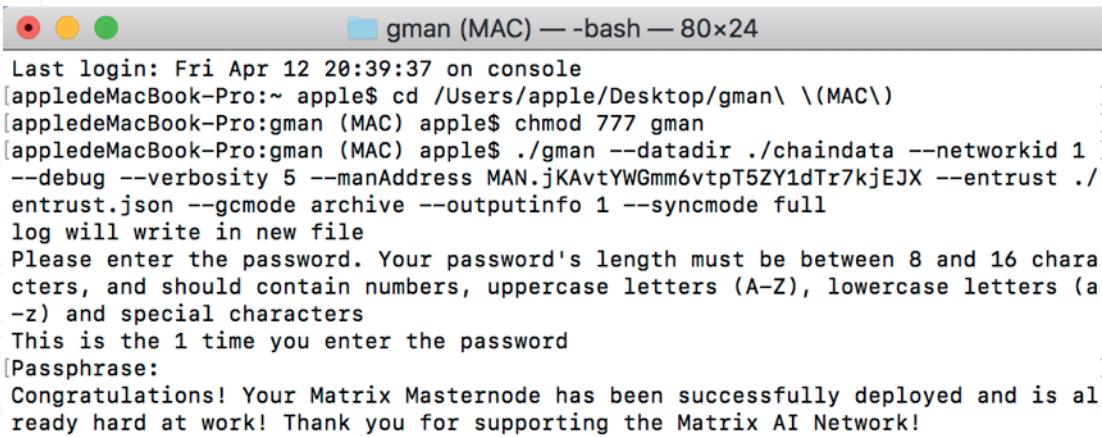
1. Open a word processing software. Copy and paste the following string into a separate document and replace the highlighted section with your own Wallet B address. After doing so, ensure that the entirety is a single string of text. Copy it and paste it into the Terminal window.

Please make sure to insert a space between manAddress and your Wallet B address.

```
./gman --datadir ./chaindata --networkid 1 --debug --verbosity 5  
--manAddress MAN.srXXXXXXXXXXXXXXkeE7MK --entrust  
.entrust.json --gcmode archive --outputinfo 1 --syncmode full
```

2. Press Enter. You will be prompted to enter the password you just set up. As before, you will not be able to see your password as you write it. Do so. Press Enter. If you mistyped your password, you will receive an error message. Don't worry. Simply follow the prompts until the "\$" symbol appears.
3. After entering your password, you should receive a congratulatory message after a few seconds.
Congratulations! Your node is set up!

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```
gman (MAC) — bash — 80x24
Last login: Fri Apr 12 20:39:37 on console
[appledeMacBook-Pro:~ apple$ cd /Users/apple/Desktop/gman\ \((MAC\)
[appledeMacBook-Pro:gman (MAC) apple$ chmod 777 gman
[appledeMacBook-Pro:gman (MAC) apple$ ./gman --datadir ./chaindata --networkid 1
--debug --verbosity 5 --manAddress MAN.jKAvtYWGmm6vtpT5ZY1dTr7kjEJX --entrust ./entrust.json --gcmode archive --outputinfo 1 --syncmode full
log will write in new file
Please enter the password. Your password's length must be between 8 and 16 characters, and should contain numbers, uppercase letters (A-Z), lowercase letters (a-z) and special characters
This is the 1 time you enter the password
[Passphrase:
Congratulations! Your Matrix Masternode has been successfully deployed and is already hard at work! Thank you for supporting the Matrix AI Network!
```

4. Please note that if you close this Terminal window, you will take your Masternode offline. If you do so, you need to first repeat the first three steps of “Prime your computer” as well as the entirety of “Step 6: Launch your Masternode”.

STEP 7: VIEW YOUR MASTERNODE

1. To view the status of your Masternode, open a new Terminal window. Ensure that the Terminal is engaging with the “gman(mac)” folder. If it isn’t, type “cd ” then drag your “gman(mac)” folder into the Terminal window to automatically fill in the filepath.



2. Copy and paste the following into the Command Prompt.

./ gman attach ./chaindata/gman.ipc

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3. You can enter a variety of commands here. To see what commands are available to you, enter “man.” while omitting the apostrophes then click the tab-button. For example, if you would like to query to current block height, select man.blockNumber.
4. To view information about your received rewards and account balance, you may search your wallet address in the Matrix Blockchain Browser at <http://tom.matrix.io/>.

NOTICE:

1. If your node is unable to synchronize blocks for an extended period of time, please confirm that your computer’s system clock time is accurate to the real world. When your computer time is out of sync with reality, you will not be able to synchronize blocks. This will impact your ability to earn block rewards.
2. A single public IP address can only support one Matrix Masternode. If you deploy multiple nodes using the same IP, only one node will be able to perform mining and verification tasks successfully.

3. STAKE TOKENS

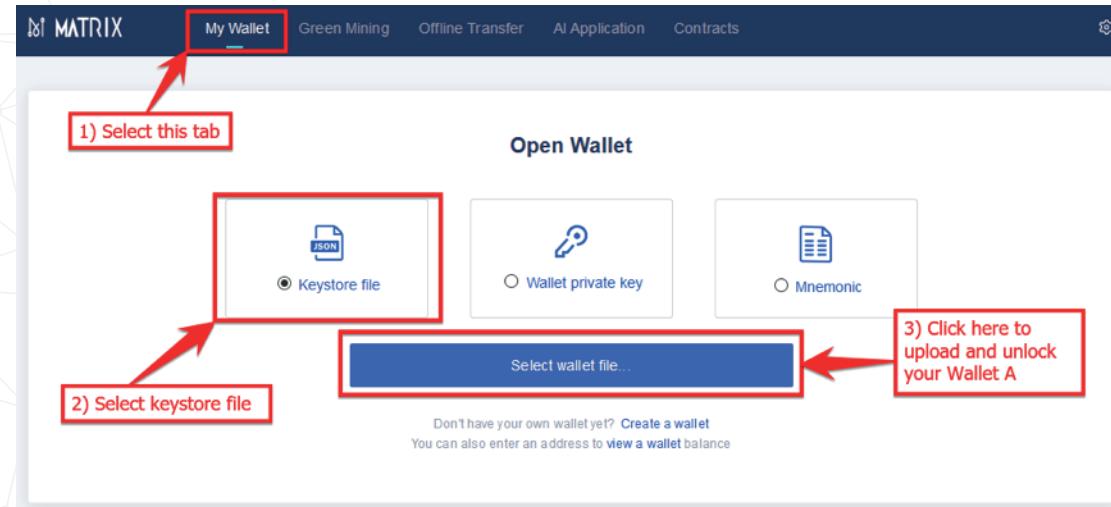
Please note that this section uses *both* Wallet A and Wallet B’s addresses and keystore files.

IMPORTANT: BEFORE STAKING TOKENS, YOU MUST ENSURE THAT YOUR MASTERNODE IS FULLY SYNCED. IF YOU STAKE TOKENS BEFORE YOU SYNC YOUR MASTERNODE, IT WILL NOT BE ELIGIBLE FOR SELECTION AND MAY REGISTER AS OFFLINE. THIS WILL IMPACT HOW MANY BLOCK REWARDS YOU CAN RECEIVE AND MAY RESULT IN NETWORK PENALTIES.

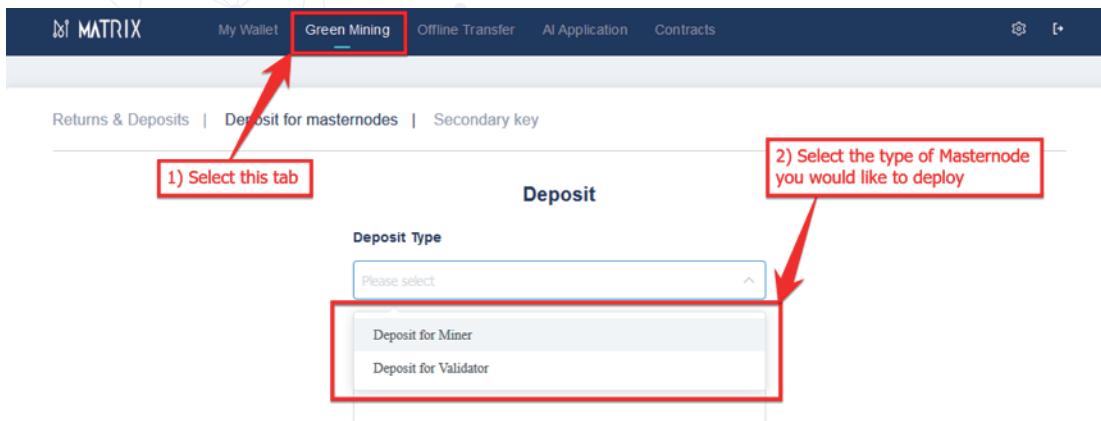
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The Matrix web wallet allows you to stake tokens to run Masternodes via the Deposit/Withdrawal tab. The wallet is accessible at <http://wallet.matrix.io/>.

1. Unlock your Wallet A on the Matrix Web Wallet (wallet.matrix.io) using the Wallet A keystore file.



2. Click the “Green Mining” tab and select the relevant Masternode (Deposit for Miner vs Deposit for Validator) by clicking the Deposit Type drop-down arrow.



3. Enter the amount you would like to stake. Please note that you must stake at least 10,001 MAN tokens to be eligible to run a Mining Masternode. Similarly, you must

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stake at least 100,001 MAN tokens to be eligible to run a Verification Masternode. The additional 1 MAN token will cover any related gas fees.

Deposit Type

Deposited for Validator

Deposited MAN

100001

Estimated gas fee

4. Input your Wallet B address. It will not contain any MAN tokens. All earned block rewards will be automatically send to Wallet A. Wallet B will allow you to manage the day-to-day operations of your Masternode without exposing your Wallet A balance of MAN tokens.

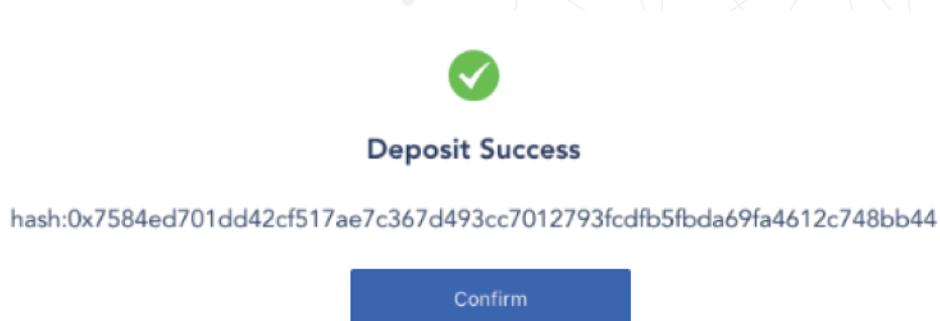
Address

Wallet B Address

*This is a signature account for mining without any awards. The awards will go to your current wallet.
*You can only have one signature account.

Make Deposits

5. After successfully staking your MAN tokens, you will receive a confirmation similar to the one below:



MATRIX BASIC NODES

You can also deploy a basic node without needing to stake tokens. Doing so will allow you to synchronize with the blockchain data and operate an offline account. Basic nodes do not perform mining or verification tasks, so they do not receive rewards. Matrix Basic Nodes can, however, report on malicious behavior.

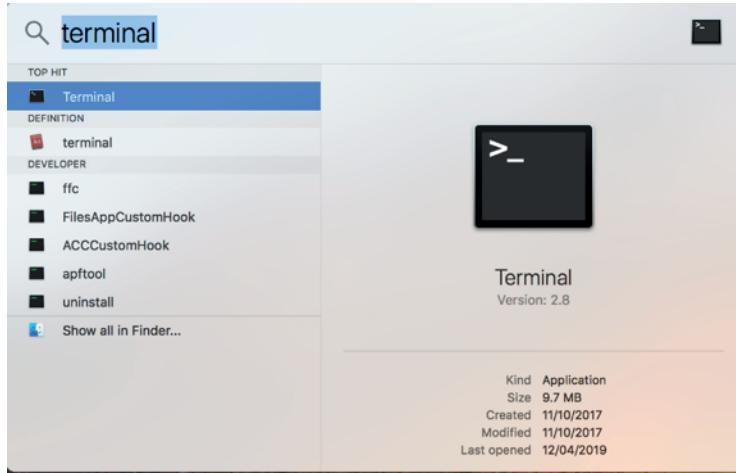
STEP 1: DOWNLOAD GMAN(MAC).

1. Download and save the gman(mac).zip package. Up-to-date versions can be downloaded from the Matrix website (<https://www.matrix.io/downloads/>).
2. Decompress the package using your operating system or another file archiver software.
3. Save the folder contained therein. The folder can be saved anywhere. This guide will assume that it was saved to your desktop.

STEP 2: PRIME YOUR COMPUTER

1. Open your system's Terminal. This can be done by first clicking "ctrl/command + Spacebar" and typing "terminal". Click to open.

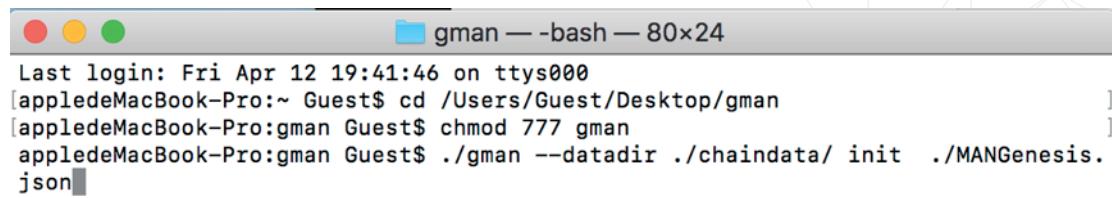
MATRIX BASIC NODES



2. Enter "cd" then drag your "gman(mac)" folder into the Terminal window to automatically fill in the filepath.
Press Enter.

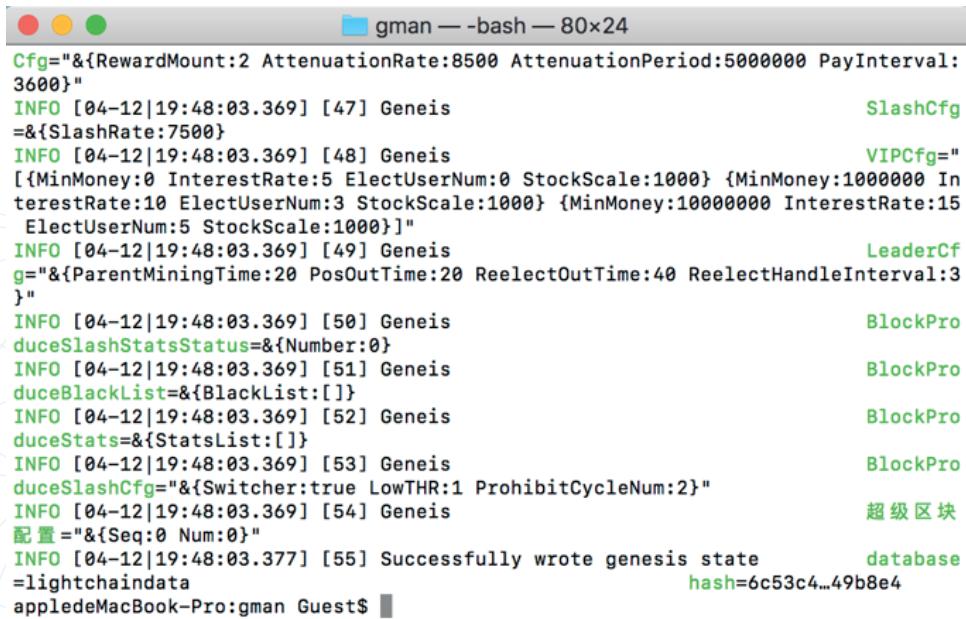


3. Type "**chmod 777 gman**" in your Terminal. Click Enter.
4. Copy "**./gman --datadir ./chaindata/ init ./MANGenesis.json**", while omitting the apostrophes.
Paste it in the Terminal window.



MATRIX BASIC NODES

5. Press Enter. A string of data should appear after a few seconds.



```
Cfg=&{RewardMount:2 AttenuationRate:8500 AttenuationPeriod:5000000 PayInterval:  
3600}"  
INFO [04-12|19:48:03.369] [47] Geneis  
=&{SlashRate:7500}  
INFO [04-12|19:48:03.369] [48] Geneis  
SlashCfg  
INFO [04-12|19:48:03.369] [49] Geneis  
VIPCfg="  
[{MinMoney:0 InterestRate:5 ElectUserNum:0 StockScale:1000} {MinMoney:1000000 In  
terestRate:10 ElectUserNum:3 StockScale:1000} {MinMoney:1000000 InterestRate:15  
ElectUserNum:5 StockScale:1000}]"  
INFO [04-12|19:48:03.369] [49] Geneis  
g=&{ParentMiningTime:20 PosOutTime:20 ReelectOutTime:40 ReelectHandleInterval:3  
}  
INFO [04-12|19:48:03.369] [50] Geneis  
duceSlashStatsStatus=&{Number:0}  
INFO [04-12|19:48:03.369] [51] Geneis  
duceBlackList=&{BlackList:[]}  
INFO [04-12|19:48:03.369] [52] Geneis  
duceStats=&{Statslist:[]}  
INFO [04-12|19:48:03.369] [53] Geneis  
duceSlashCfg=&{Switcher:true LowTHR:1 ProhibitCycleNum:2}"  
INFO [04-12|19:48:03.369] [54] Geneis  
配置=&{Seq:0 Num:0}"  
INFO [04-12|19:48:03.377] [55] Successfully wrote genesis state  
=lightchaindata  
hash=6c53c4...49b8e4  
appledeMacBook-Pro:gman Guest$
```

6. If your Terminal looks anything like the above image, you have successfully primed your computer. Congratulations!

STEP 3: LAUNCH GMAN

1. After successfully priming your computer, the following:

```
./gman --datadir ./chaindata --networkid 1 --outputinfo 1  
--syncmode 'full'
```

2. Click Enter. If successfully, you will receive a congratulatory message.

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STEP 4: VIEW YOUR BASIC NODE

1. To view the status of your node, open a new Terminal window. Ensure that the Terminal is engaging with the “gman(mac)” folder. If it isn’t, type “cd ” then drag your “gman(mac)” folder into the Terminal window to automatically fill in the filepath.



2. Copy and paste the following into the Terminal.

`./gman attach ./chaindata/gman.ipc`

3. You can enter a variety of commands here. To see what commands are available to you, enter “man.” while omitting the apostrophes then click the tab-button. For example, if you would like to query to current block height, select man.blockNumber.
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