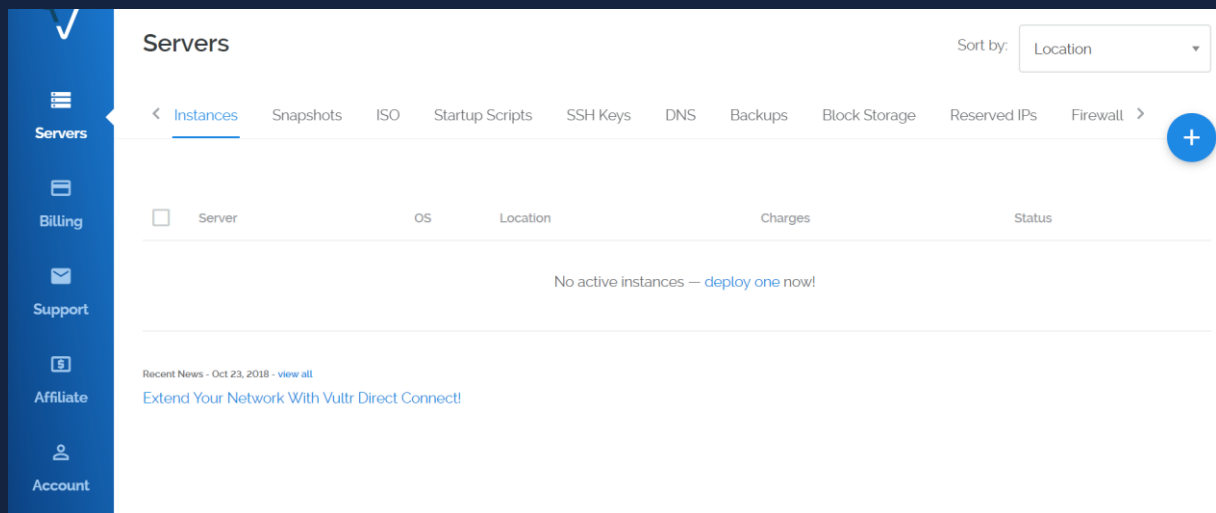


Masternode Setup in VPS server

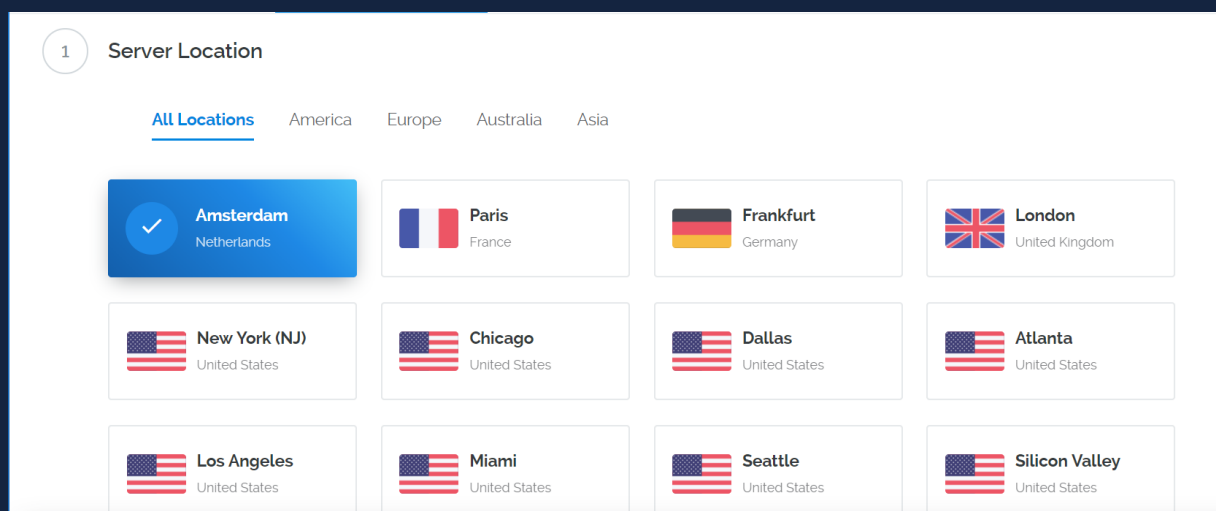
In order to start up MasterNode and Sentinel, the user must possess at least 10000 PSC

You can use any VPS Server (10 GB HDD/1 CPU/512MB Memory) or better. As an example, we will use Vultr.

1. Firstly, go to Vultr and create an account:
<https://www.vultr.com/?ref=7574637>
2. Click on the + to deploy new server.



3. Indicate your “Server Location” by choosing the closest place to you.



- Choose “**Server Type**”, then choose “**Ubuntu 16.04 X64 (recommended)** or **Ubuntu 18.04 X64**”

Server Type selection interface. The Ubuntu box is highlighted, showing versions 18.10 x64, 18.04 x64, 16.04 x64, and 14.04 x64. Other options include CentOS, CoreOS, Debian, Fedora, FreeBSD, OpenBSD, and Windows.

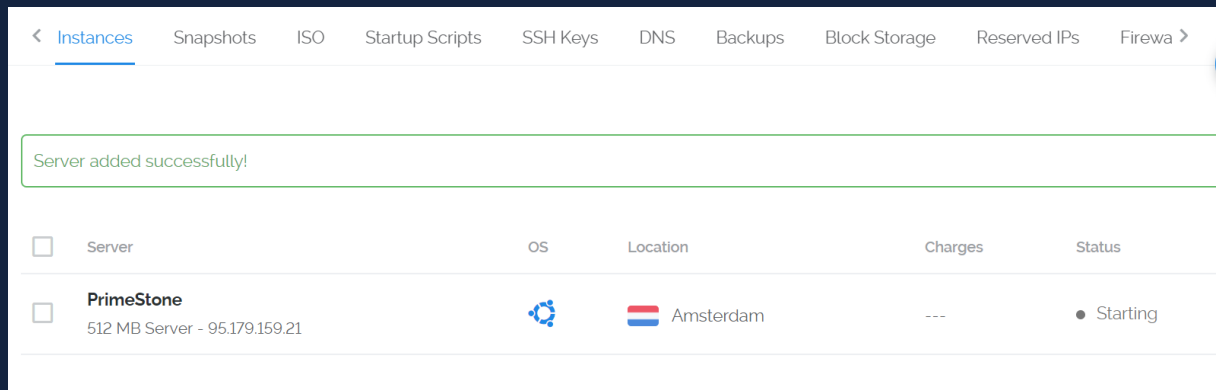
- Choose “**Server Size**”, usually the most basic size will do, choose “**20 GB SSD/1 CPU/512MB Memory/500GB Bandwidth**”.

Server Size selection interface. The 20 GB SSD plan is highlighted, showing 1 CPU, 512MB Memory, and 500GB Bandwidth. Other plans range from 20 GB SSD to 300 GB SSD.

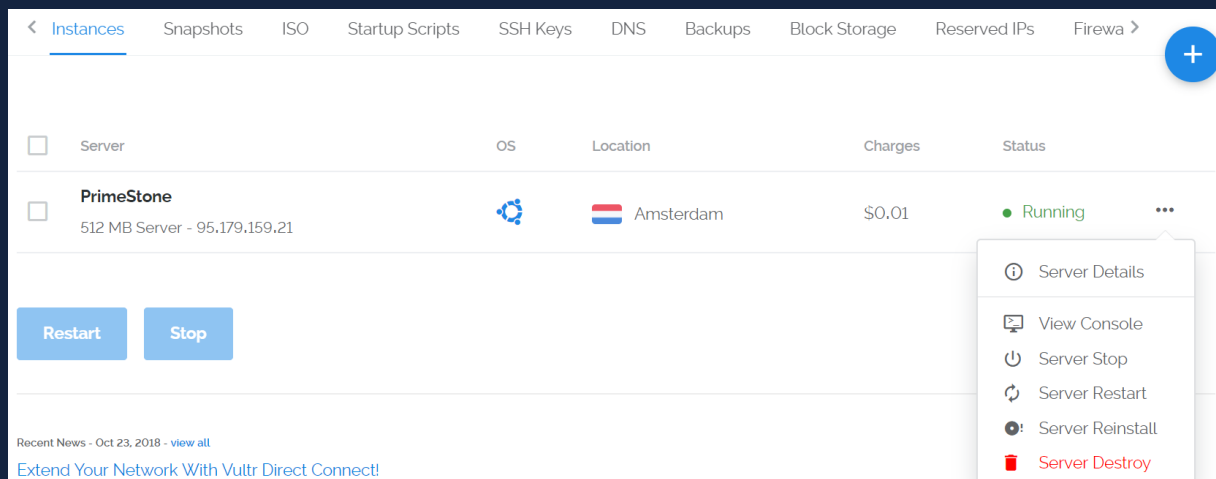
- On “**Server Hostname & Label**”, put the name you want for your VPS and click “**Deploy Now**”.

Server Hostname & Label configuration page. The server hostname and label are both set to "PrimeStone". The summary shows a price of \$3.50/mo for 1 server.

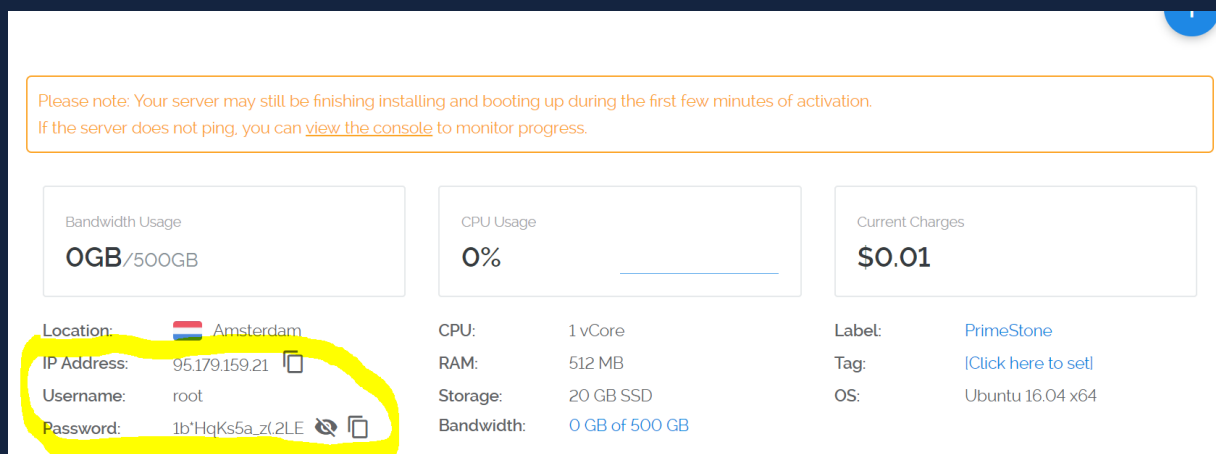
7. If everything is done properly, you should have such a window in front of you:



8. Click "Server Details"



9. Save the following data, you will need it later:



10. In order to connect to the server, make use of Putty (download: <https://www.putty.org/>). In the field "Host Name" you need to enter an IP address of a created server, then click **Open**.

The screenshot shows the PuTTY Configuration window. On the left, the 'Category' list has 'Session' selected. The main area is titled 'Basic options for your PuTTY session'. Under 'Specify the destination you want to connect to', the 'Host Name (or IP address)' field contains '95.179.159.21' and the 'Port' field contains '22'. The 'Connection type' section has radio buttons for 'Raw', 'Telnet', 'Rlogin', 'SSH' (which is selected), and 'Serial'. Below this, the 'Load, save or delete a stored session' section shows a list of 'Saved Sessions' (currently empty) and a 'Default Settings' section (also empty). To the right of these sections are 'Load', 'Save', and 'Delete' buttons. At the bottom, the 'Close window on exit' section has radio buttons for 'Always', 'Never', and 'Only on clean exit' (which is selected). At the very bottom, there are 'About', 'Help', 'Open' (highlighted with a blue border), and 'Cancel' buttons.

11. To log in to the server, data from the point 9 need to be entered (in Ubuntu, while entering your password, nothing appears).

12. After the correct logging, such a window should appear:

```

root@PrimeStone: ~
login as: root
root@95.179.159.21's password:
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.4.0-127-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

107 packages can be updated.
57 updates are security updates.

root@PrimeStone:~#

```

13. Paste the following command in the open window, then confirm with [Enter] key:

For IPv4:

`apt-get update -y && cd ~/ && sudo apt-get install curl -y && bash <(curl -s
http://scripts.primestone.global/prime_IPv4.sh) | tee ~/prime_masternode_installation.log`

For IPv6:

`apt-get update -y && cd ~/ && sudo apt-get install curl -y && bash <(curl -s
http://scripts.primestone.global/prime_IPv6.sh) | tee ~/prime_masternode_installation.log`

ATTENTION! Some users have a problem with copying data from a PDF document opened in a browser. Download the document and open it with any PDF view EXCEPT your browser

The installation will start.

```

root@PrimeStone: ~
..
Unpacking libminiupnpc10:amd64 (1.9.20140610-2ubuntu2.16.04.2) ...
Selecting previously unselected package libminiupnpc-dev.
Preparing to unpack .../libminiupnpc-dev_1.9.20140610-2ubuntu2.16.04.2_amd64.deb
...
Unpacking libminiupnpc-dev (1.9.20140610-2ubuntu2.16.04.2) ...
Selecting previously unselected package libsodium18:amd64.
Preparing to unpack .../libsodium18_1.0.8-5_amd64.deb ...
Unpacking libsodium18:amd64 (1.0.8-5) ...
Selecting previously unselected package libzmq5:amd64.
Preparing to unpack .../libzmq5_4.1.4-7_amd64.deb ...
Unpacking libzmq5:amd64 (4.1.4-7) ...
Selecting previously unselected package libzmq3-dev:amd64.
Preparing to unpack .../libzmq3-dev_4.1.4-7_amd64.deb ...
Unpacking libzmq3-dev:amd64 (4.1.4-7) ...
Processing triggers for libc-bin (2.23-0ubuntu10) ...
Processing triggers for man-db (2.7.5-1) ...
Setting up libminiupnpc10:amd64 (1.9.20140610-2ubuntu2.16.04.2) ...
Setting up libminiupnpc-dev (1.9.20140610-2ubuntu2.16.04.2) ...
Setting up libsodium18:amd64 (1.0.8-5) ...
Setting up libzmq5:amd64 (4.1.4-7) ...
Setting up libzmq3-dev:amd64 (4.1.4-7) ...
Processing triggers for libc-bin (2.23-0ubuntu10) ...

```

14. In the next step, you need to confirm that you are installing the PSC masternode to this VPS server for the first time. Press y and then confirm with [Enter] key.

```

root@mn100: ~
PSC V1.3 SETUP

Tue Jan 15 22:15:42 MSK 2019

Good day. This is automated cold masternode setup for Primestone project. Auto installer was tested on specific environment. Don't try to install masternode with undocumented operating system!

Installation content:
primestone core v1.3

Setup can be launched only once
Do you agree?
y/n?
y

```

15. In the next step, you need check your VPS IP, if he is correct press y and then confirm with [Enter] key.

```

root@mn100: ~
Tue Jan 15 22:41:38 MSK 2019

Good day. This is automated cold masternode setup for Primestone project. Auto installer was tested on specific environment. Don't try to install masternode with undocumented operating system!

Installation content:
primestone core v1.3

Setup can be launched only once
Do you agree?
y/n?
y





Looks like your OS version is not Ubuntu 18.04 Bionic // Maybe Ubuntu 16.04 Xenial? - Checking...

Hit:1 http://us.archive.ubuntu.com/ubuntu xenial InRelease
Get:2 http://us.archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Fetched 216 kB in 2s (103 kB/s)
Reading package lists...

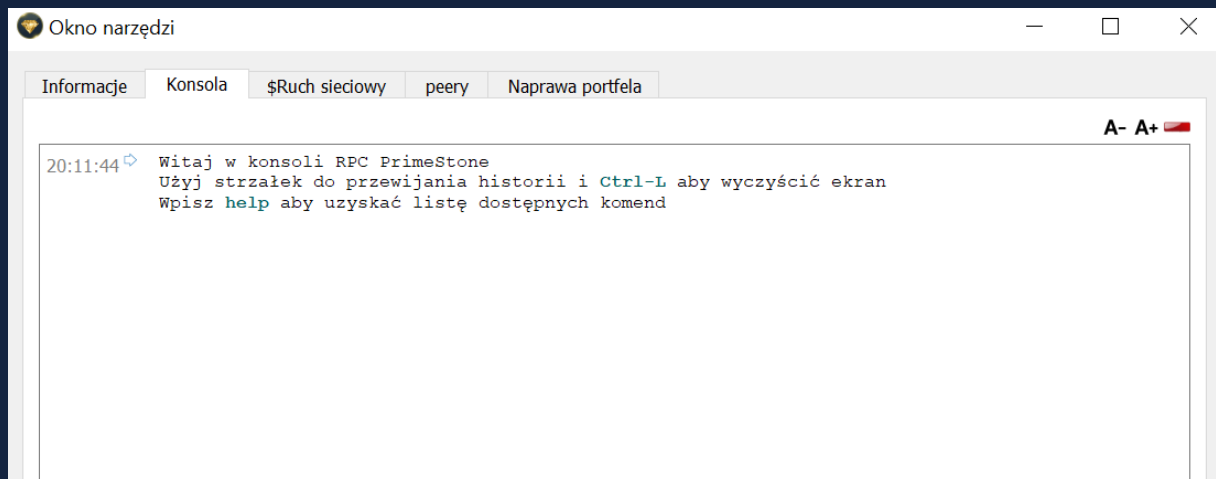
Your external IP is 95.179.159.21 y/n?
y

```

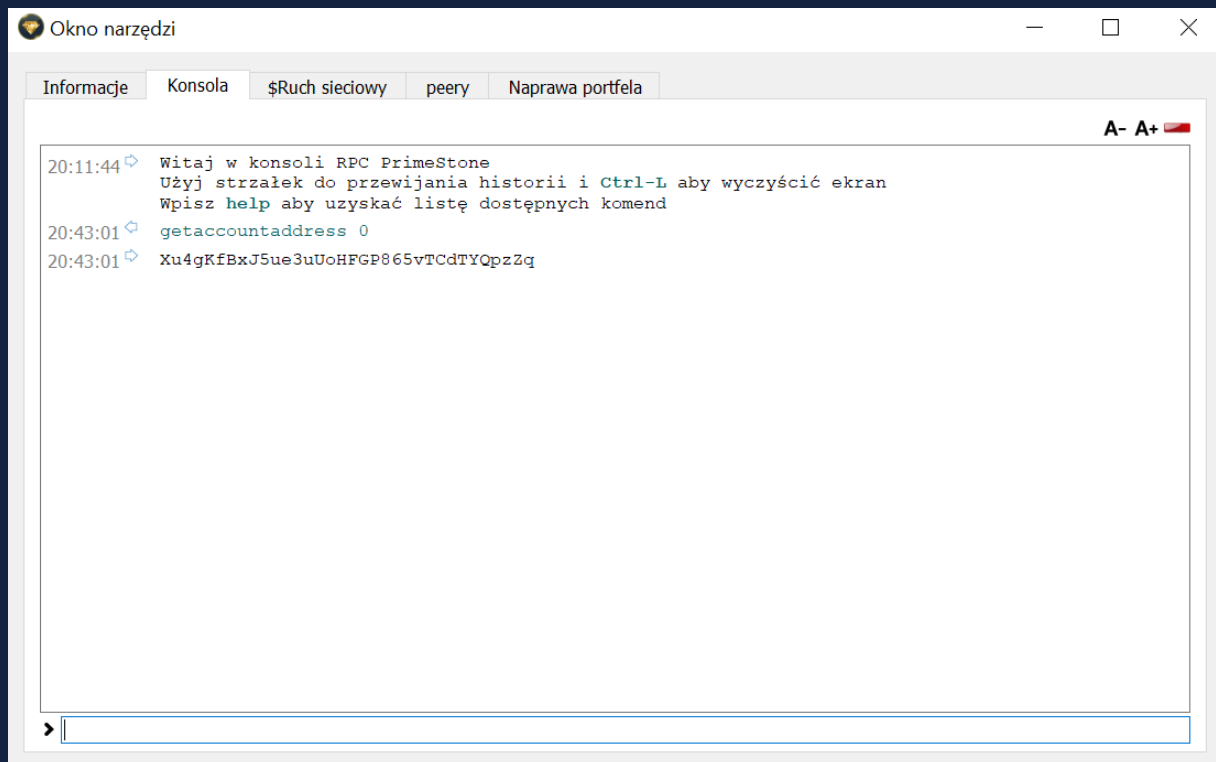
16. Now, we can move to MasterNode configuration. We must come back to our main computer and download a PrimeStone Wallet. Source: <https://primestone.global/whitepaper-applications/>
When this file is downloaded and unzipped launch **primestone-qt**

Nazwa	Data modyfikacji	Typ	Rozmiar
 primestone-cli	08.09.2018 17:50	Aplikacja	4 568 KB
 primestoned	08.09.2018 17:50	Aplikacja	15 236 KB
 primestone-qt	08.09.2018 17:50	Aplikacja	43 277 KB
 primestone-tx	08.09.2018 17:50	Aplikacja	5 654 KB

17. Run console, for this we choose Tools – Debug Console.



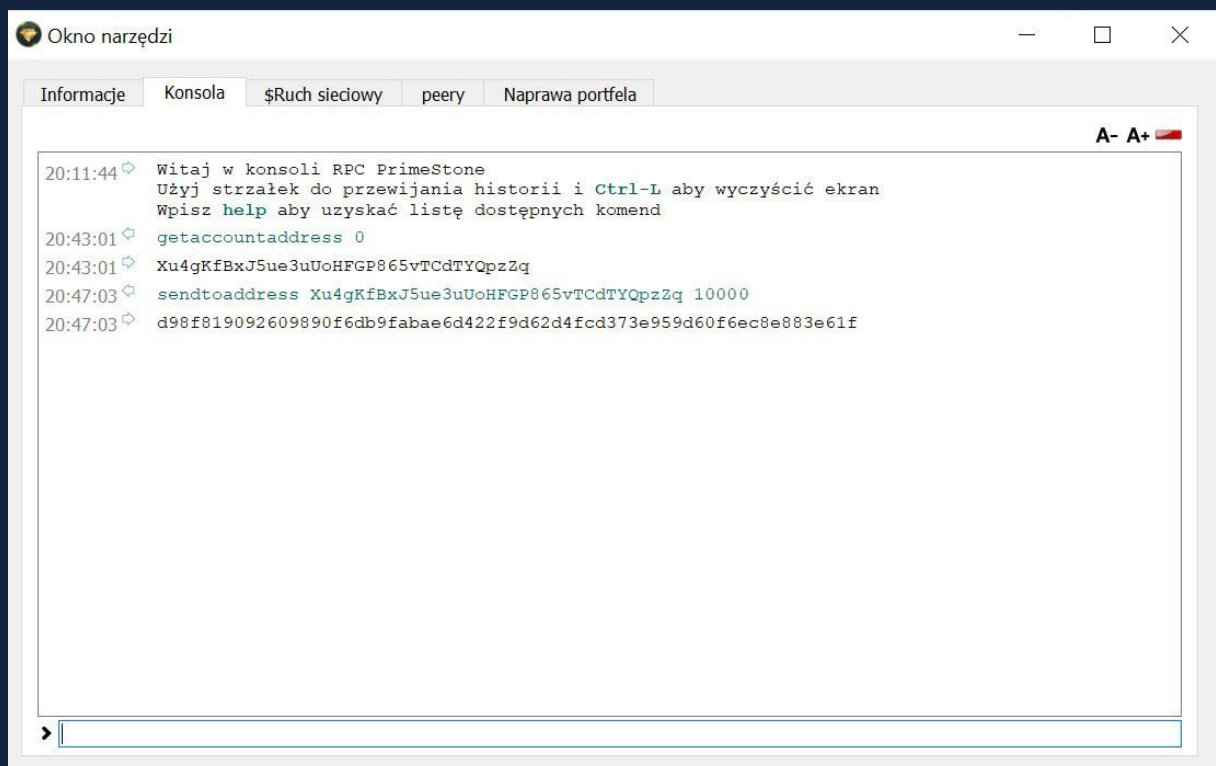
18. Enter `getaccountaddress 0`.



```

Okno narzędzi
Informacje Konsola $Ruch sieciowy peery Naprawa portfela
A- A+
20:11:44 Witaj w konsoli RPC PrimeStone
        Użyj strzałek do przewijania historii i Ctrl-L aby wyczyścić ekran
        Wpisz help aby uzyskać listę dostępnych komend
20:43:01 getaccountaddress 0
20:43:01 Xu4gKfBxJ5ue3uUoHFGP865vTCdTYQpzZq
  
```

19. Then transfer 10000 PSC on the address from the point 18. For this enter the command:
`sendtoaddress [Address from point 19] 10000`

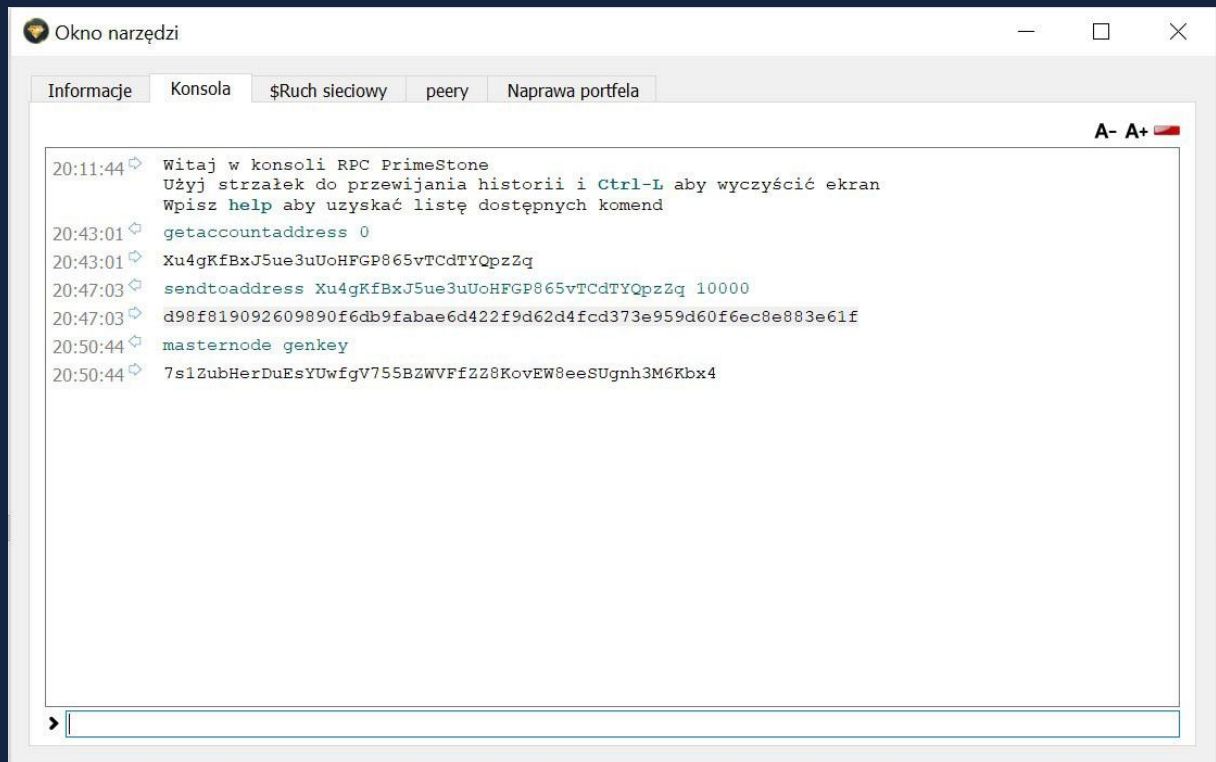


```

Okno narzędzi
Informacje Konsola $Ruch sieciowy peery Naprawa portfela
A- A+
20:11:44 Witaj w konsoli RPC PrimeStone
        Użyj strzałek do przewijania historii i Ctrl-L aby wyczyścić ekran
        Wpisz help aby uzyskać listę dostępnych komend
20:43:01 getaccountaddress 0
20:43:01 Xu4gKfBxJ5ue3uUoHFGP865vTCdTYQpzZq
20:47:03 sendtoaddress Xu4gKfBxJ5ue3uUoHFGP865vTCdTYQpzZq 10000
20:47:03 d98f819092609890f6db9fabae6d422f9d62d4fcd373e959d60f6ec8e883e61f
  
```

20. Save **TX** – that is viewed when the command (point 20) has been successfully accomplished. In our case it is: **`d98f819092609890f6db9fabae6d422f9d62d4fcd373e959d60f6ec8e883e61f`**

21. Then enter the command **masternode genkey** and save a generated key.

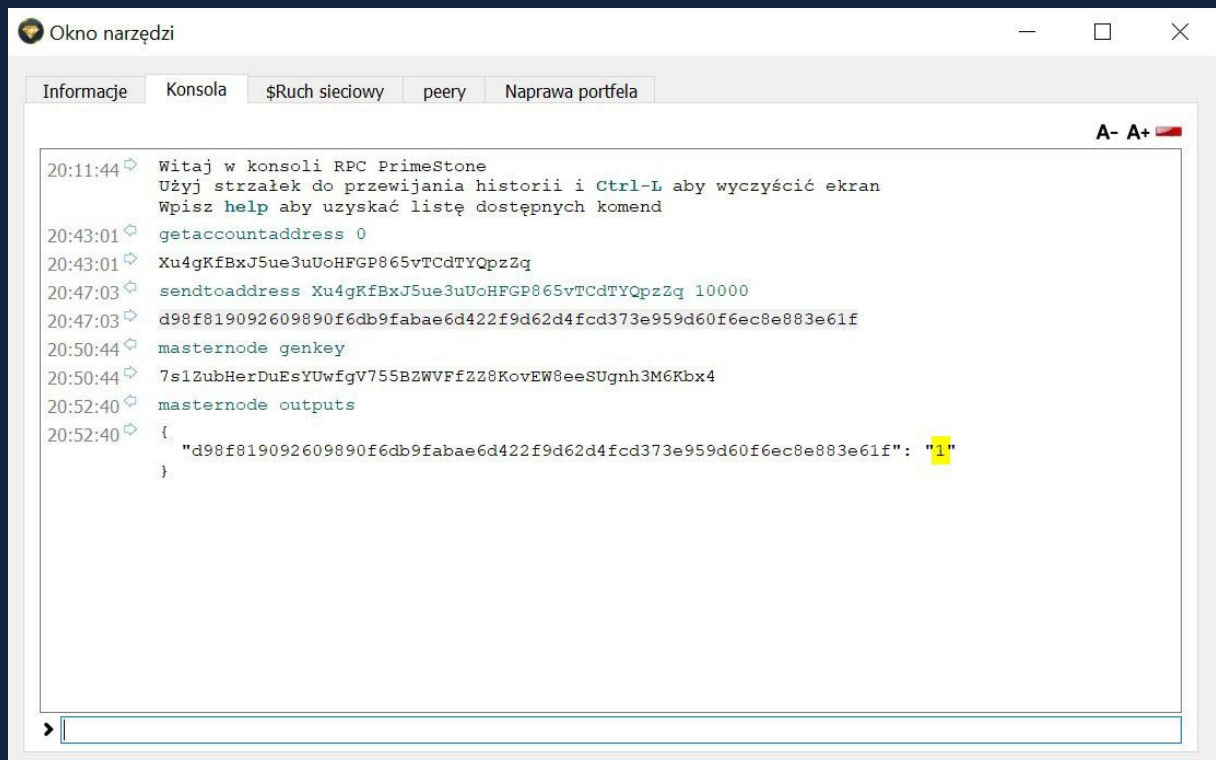


The screenshot shows a terminal window titled "Okno narzędzi" with tabs for "Informacje", "Konsola", "\$Ruch sieciowy", "peery", and "Naprawa portfela". The "Konsola" tab is active. The terminal output shows the following commands and responses:

```

20:11:44 > Witaj w konsoli RPC PrimeStone
                Użyj strzałek do przewijania historii i Ctrl-L aby wyczyścić ekran
                Wpisz help aby uzyskać listę dostępnych komend
20:43:01 > getaccountaddress 0
20:43:01 > Xu4gKfBxJ5ue3uUoHFGP865vTCdTYQpzZq
20:47:03 > sendtoaddress Xu4gKfBxJ5ue3uUoHFGP865vTCdTYQpzZq 10000
20:47:03 > d98f819092609890f6db9fabae6d422f9d62d4fcd373e959d60f6ec8e883e61f
20:50:44 > masternode genkey
20:50:44 > 7s1ZubHerDuEsYUwfgV755BZWVfZz8KovEW8eeSUgnh3M6Kbx4
  
```

22. Then enter the command **masternode outputs** and save the number marked yellow:



The screenshot shows the same terminal window as before, but with the additional command 'masternode outputs' and its output. The output is a JSON object where the value '1' is highlighted in yellow:

```

20:50:44 > 7s1ZubHerDuEsYUwfgV755BZWVfZz8KovEW8eeSUgnh3M6Kbx4
20:52:40 > masternode outputs
20:52:40 > {
                "d98f819092609890f6db9fabae6d422f9d62d4fcd373e959d60f6ec8e883e61f": "1"
            }
  
```

23. Edit the file **masternode.conf**, for this click Tools – Open MasterNode Configuration File

24. Enter the following text in the open file:

```
[masternode_name] [vps_ip_address]:34124 [masternode_key(point 21)] [TX (point 20)]
[output_index(point 22)]
```

In our case it looks like this:

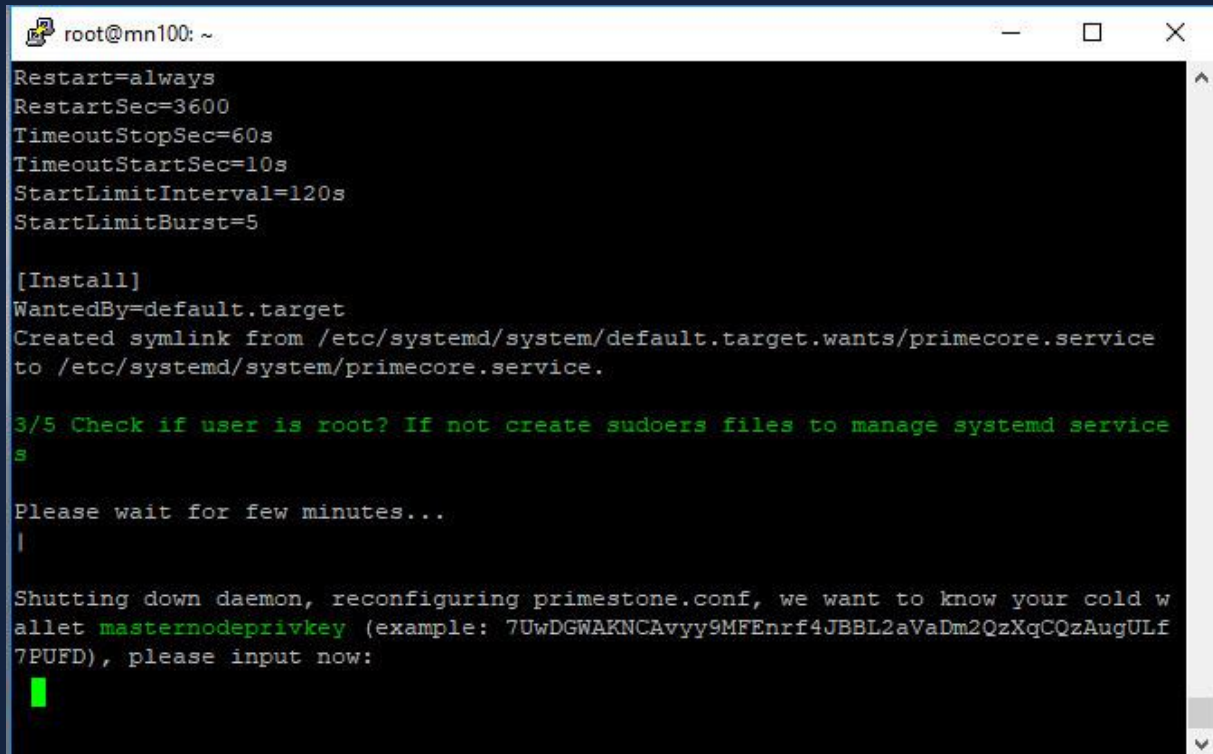


```
masternode.conf - Notatnik
Plik Edycja Format Widok Pomoc
# Masternode config file
# Format: alias IP:port masternodeprivkey collateral_output_txid collateral_output_index
# Example: mn1 127.0.0.2:34124 93HaYBVUCYjEMeeH1Y4sBGLALQZE1Yc1K64XiagX37tG8DQL8Xg 2bcd3c84c84f87eaa86e4e56834c92927a07f9e18718810b92e0d0324456a67c 0
mn1 95.179.159.21:34124 7s1ZubHerDuEsYUwfgV755BZWVfZZ8KovEW8eSugnh3M6Kbx4 d98f819092609890f6db9fabae6d422f9d62d4fcd373e959d60f6ec8e883e61f 1
```

25. Save the file and close the wallet.

26. Come back to VPS. If the installation is complete you will see a request, paste **MASTERNODE KEY** (point 21) and then confirm with [Enter] key.

In our case it looks like this:



```
root@mn100: ~
Restart=always
RestartSec=3600
TimeoutStopSec=60s
TimeoutStartSec=10s
StartLimitInterval=120s
StartLimitBurst=5

[Install]
WantedBy=default.target
Created symlink from /etc/systemd/system/default.target.wants/primecore.service
to /etc/systemd/system/primecore.service.

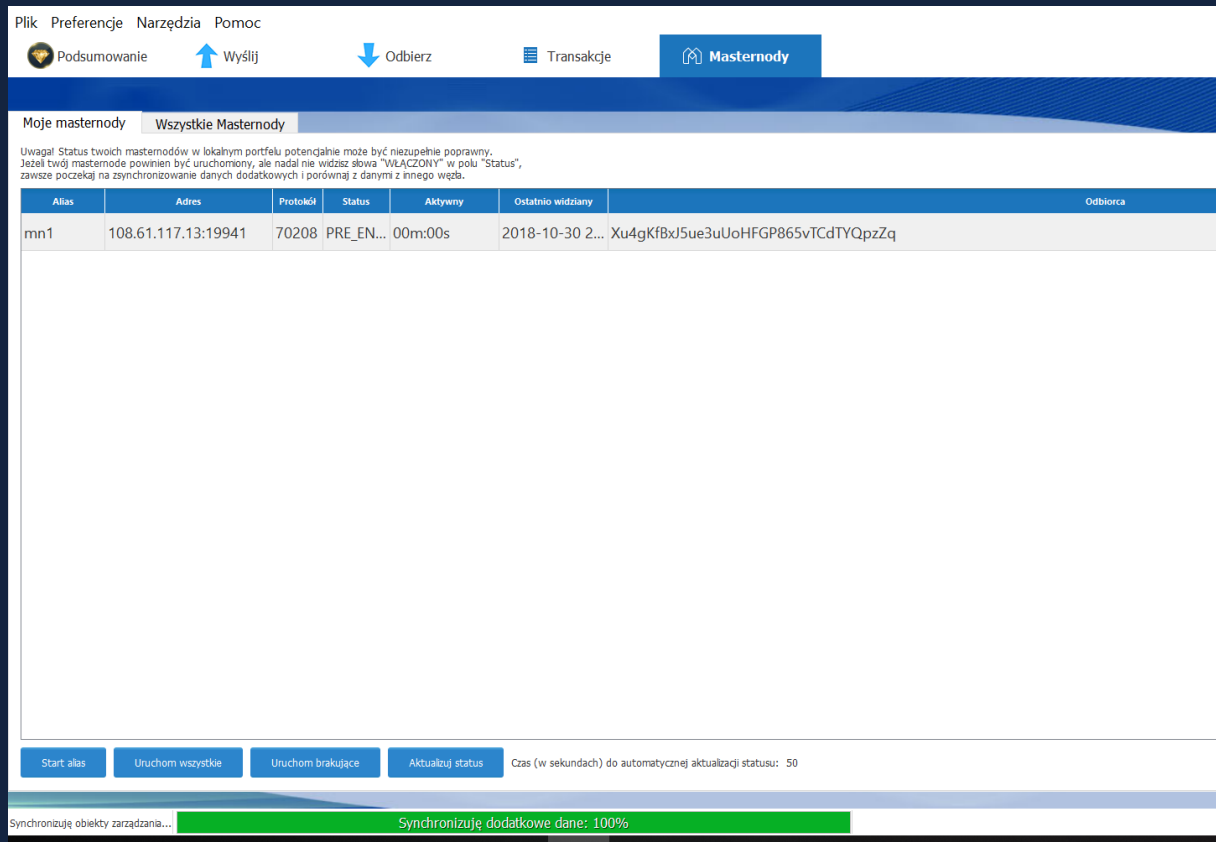
3/5 Check if user is root? If not create sudoers files to manage systemd service
s

Please wait for few minutes...
|

Shutting down daemon, reconfiguring primestone.conf, we want to know your cold w
allet masternodeprivkey (example: 7UwDGWAKNCAvyy9MFEEnrf4JBBL2aVaDm2QzXqCQzAugULf
7PUFD), please input now:
█
```

27. After a few seconds, the script will complete the installation and display the basic information.

28. Start a wallet on your computer and move to the MasterNode Tab, and then click **start all**. Remember, to make it work the wallet must be synchronised with network.



Uwaga! Status twoich masternodów w lokalnym portfelu potencjalnie może być niezupełnie poprawny. Jeżeli twój masternode powinien być uruchomiony, ale nadal nie widzisz słowa "WŁĄCZONY" w polu "Status", zawsze poczekaj na zsynchronizowanie danych dodatkowych i porównaj z danymi z innego węzła.

Alias	Adres	Protokół	Status	Aktywny	Ostatnio widziany	Odbiorca
mn1	108.61.117.13:19941	70208	PRE_EN...	00m:00s	2018-10-30 2...	Xu4gKfBxJ5ue3uUoHFGP865vTCdTYQpzZq

Start alias Uruchom wszystkie Uruchom brakujące Aktualizuj status Czas (w sekundach) do automatycznej aktualizacji statusu: 50

Synchronizuję obiekty zarządzania... Synchronizuję dodatkowe dane: 100%

29. After 15 minutes, open VPS window and check primestoned daemon. Command:

primestone-cli masternode status

If everything is done, you should have status: "Masternode successfully started"

CONGRATULATIONS! Your masternode is fully configured.

Necessary commands

primestone-cli masternode status

primestone-cli getinfo

primestone-cli getblockcount

primestone-cli mnsync status