

SELF HOSTED VPN

¹ S.Ranjan

ABSTRACT

A virtual Private network (VPN) provides you on-line privacy and obscurity. VPNs mask your net protocol (IP) address thus your on- line actions square measure just about untraceable. knowledge security is very vital once employing a public Wi-Fi network, as a result of it prevents anyone else on the network from eavesdropping on your net activity. While not a VPN, your net service supplier will understand your entire browsing history .

You have a distinct benefit when you host your own private VPN solution, you can trust yourself. You understand how data is treated, who has access to VPN data when it is relayed, and how to guarantee its accuracy, reliability, and confidentiality. The majority of users will host their VPN on a VPS (Virtual Private Server).

Using a third-party hosting approach does require some confidence, since companies are technically obligated to do so. You can also use VPS for data storage and scaling your needs. By the use of VPS you can add more features for yourself like AD blocker ,Self hosted windows machine and cloud storage etc.

Amazon Web Services has a free tier of service. We'll use it to run a free OpenVPN server on it. The unlicensed version provides for two simultaneous connections.

Keywords: VPN : virtual private network , VPS :Virtual Private Server ,AWS:Amazon Web Services

1. Introduction:

A virtual Private network (VPN) provides you on-line privacy and obscurity by making a non-public network from a public net affiliation. VPNs mask your internet protocol (IP) address thus your on-line actions square measure just about untraceable. most significant, VPN services establish secure and encrypted connections to produce bigger privacy than even a secured Wi-Fi hotspot.[1]

Surfing the online or transacting on associate unsecured Wi-Fi network suggests that you may be exposing your non-public data and browsing habits. That's why a virtual non-public network, higher referred to as a VPN, ought to be a requirement for anyone involved regarding their on-line security and privacy.

Think about all the days you've been on the go, reading emails whereas in line at the coffee bar, or checking your checking account whereas waiting at the doctor's workplace. Unless you were logged into a non-public Wi-Fi network that needs a login, any knowledge transmitted throughout your on-line session might be prone to eavesdropping by strangers exploitation a similar network.

The encoding and obscurity that a VPN provides helps defend your on-line activities: causation emails, looking on-line, or paying bills. VPNs conjointly facilitate keep your internet browsing anonymous.

VPNs basically produce a knowledge tunnel between your native network associated an exit node in another location, that might be thousands of miles away, creating it appear as if you're in another place. This profit permits on-line freedom, or the power to access your favorite apps and websites whereas on the go.

Here's a more in-depth explore however a virtual non-public network works. VPNs use encoding to scramble knowledge once it's sent over a Wi-Fi network. encoding makes the info undecipherable. knowledge security is very vital once employing a public Wi-Fi network, as a result of it prevents anyone else on the network from eavesdropping on your net activity.

There's another aspect to privacy. while not a VPN, your net service supplier will understand your entire browsing history. With a VPN, your search history is hidden. That's as a result of your internet activity are related to the VPN server's scientific discipline address, not yours. A VPN service supplier could have servers everywhere the planet. meaning your search activity may seem to originate at anyone of them. confine mind, search engines conjointly track your search history, however they'll associate that data with associate scientific discipline address that's not yours. Again, your VPN can keep your on-line activity non-public.[2]

The Amazon Web Site, or AWS for short, has a free tier of service. Some free tiers have usage limitations that are restricted to 12 months, while other services only have a usage cap.[7]

A VPN can help shield your computers from prying eyes, like your desktop computer, notebook, mobile, and smartphone. When you access the internet, your computers can be a prime target for cybercriminals, particularly if you're using a public Wi-Fi network. In short, a VPN encrypts the data you send and receive on your computers, making it impossible for hackers to track your every breath.[6]

2. Configuration :

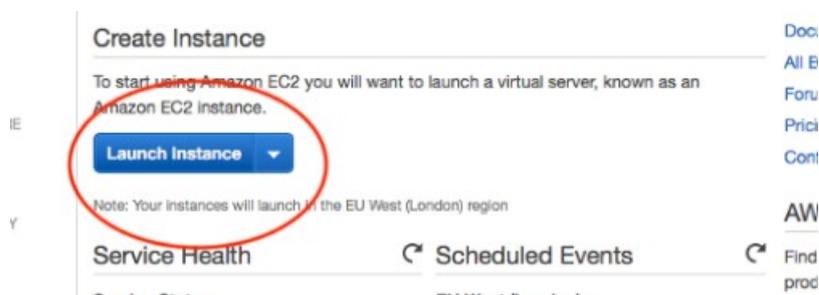
2.1 Overview/Specifications:

VPNs mask your net protocol (IP) address thus your on-line actions square measure just about untraceable. The Amazon Web Site, or AWS for short, has a free tier of service. Some free tiers have usage limitations that are restricted to 12 months, while other services only have a usage cap.

We'll use it to run a free OpenVPN server on it. OpenVPN Access Server's unlicensed version provides for two simultaneous connections.

2.2 Setup:

- Sign into your AWS account
- Choose the area where the VPN endpoint can exit.
- Click the Launch Instance button.



- In the AWS Marketplace, look for OpenVPN. This will start an OpenVPN-enabled server.

OpenVPN Access Server

OpenVPN Access Server
 OpenVPN Access Server is a full featured SSL VPN software solution that integrates OpenVPN server capabilities, enterprise management capabilities, simplified OpenVPN Connect UI, and OpenVPN Client software packages that accommodate Windows, MAC, and Linux, mobile OS (Android and iOS) environments. OpenVPN Access Server supports a wide range of...
[More info](#)
[View Additional Details in AWS Marketplace](#)

Bring Your Own License (BYOL)

Hourly Fees

Instance Type	Software	EC2	Total
R4 16 Extra Large	\$0.00	\$4.992	\$4.992/hr
M4 Extra Large	\$0.00	\$0.222	\$0.222/hr
High I/O Quadruple Extra Large	\$0.00	\$1.448	\$1.448/hr
T2 Large	\$0.00	\$0.106	\$0.106/hr
C4 Double Extra Large	\$0.00	\$0.478	\$0.478/hr
T2 Double Extra Large	\$0.00	\$0.422	\$0.422/hr
T2 Extra Large	\$0.00	\$0.211	\$0.211/hr
C4 Eight Extra Large	\$0.00	\$1.902	\$1.902/hr
M4 Quadruple Extra Large	\$0.00	\$0.928	\$0.928/hr
T2 Medium	\$0.00	\$0.052	\$0.052/hr
C4 Large	\$0.00	\$0.119	\$0.119/hr
T2 Small	\$0.00	\$0.026	\$0.026/hr
R4 Extra Large	\$0.00	\$0.312	\$0.312/hr
C4 Quadruple Extra Large	\$0.00	\$0.95	\$0.95/hr
C4 Extra Large	\$0.00	\$0.237	\$0.237/hr
R4 Eight Extra Large	\$0.00	\$2.496	\$2.496/hr
R4 Five Extra Large	\$0.00	\$0.624	\$0.624/hr

Cancel **Continue**

- Continue by pressing the enter key.

- Choose an instance type that qualifies for the free tier.

General purpose	t2.nano	1
General purpose	t2.micro	1

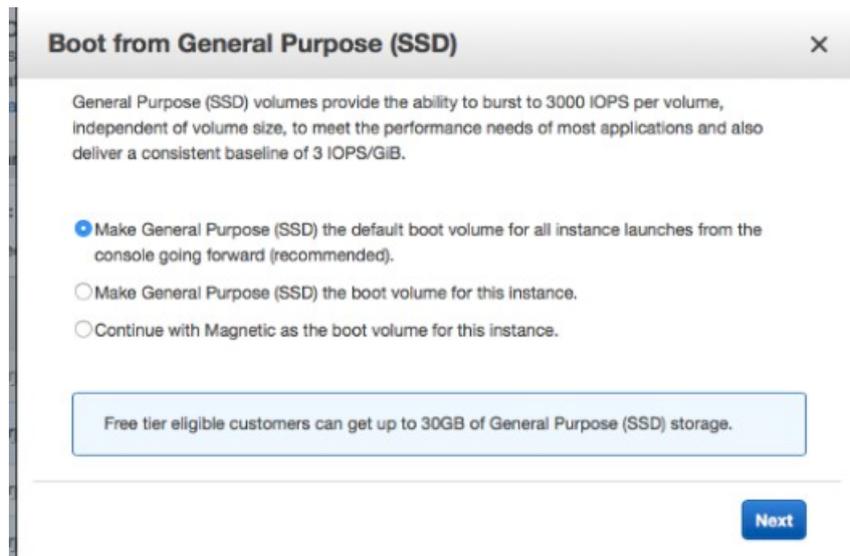
- After that, choose Review and Launch.

1	EBS only	-	Low to Moderate	Yes
2	EBS only	-	Low to Moderate	Yes
4	EBS only	-	Low to Moderate	Yes

Cancel Previous **Review and Launch** Next: Configure Instance Details

- Continue to press the blue keys.

- Create a new key pair and save it to your computer. SSH access to the server is needed.



- The server should be up and running.
- Remove the.txt extension from the downloaded file and rename it.
- SSH into the server and copy the IP address of the new instance to the clipboard.
- Accept the terms and conditions of OpenVPN.
- To gain access to the Web UI, create an admin username and password.
- Copy and paste the relation from the SSH into the admin UI.
- Log in using the credentials you provided via SSH.

The image shows a screenshot of an "Admin Login" form. It has a light blue background. At the top, it says "Admin Login". Below that, there are two input fields: "Username" and "Password". Below the "Password" field is a green "Sign In" button.

3.LITERATURE SURVEY:

3.1 PRICE ANALYSIS

It's tempting to decide on your VPN supplier supported worth. After all, we tend to all need to pay as very little as we will every month. But focusing solely on worth might be a slip. you wish your VPN supplier to guard your on-line privacy and code the information you send and receive. you wish it to be reliable. And you wish quick connections. All of those factors square measure even as necessary — if less thus — than worth.[4,5]

That being aforementioned, most suppliers of VPN services charge similar costs, typically starting from \$9.99 to \$12.99 a month, with some exceptions. once watching costs, though, confirm to grasp what you're obtaining.[3]

A provider, as an example, may charge you as low as \$4.99 a month to supply VPN protection on one device. it would charge \$9.99 a month, though, to supply an equivalent service for ten devices. you would possibly even be ready to cut back your monthly rate by language up for a extended term. You'll generally pay less on a monthly basis if you sign in for a long VPN set up than if you choose to pay on a month-by-month basis.

VPN costs (comparing one month plans):

1. Norton Secure VPN – \$4.99/mo, \$7.99/mo, \$9.99/mo
2. Prices vary based mostly upon the quantity of synchronic connections supported

3. PureVPN – \$10.95/mo
4. PVanish – \$11.99/mo
5. CyberGhost – \$12.99/mo
6. Hotspot shield – \$12.99/mo
7. VyprVPN – \$12.95/mo
8. Private net Access – \$9.95/mo
9. StrongVPN – \$10/mo
10. Surfshark – \$12.95/mo
11. NordVPN – \$11.95/mo
12. ExpressVPN – \$12.95/mo
13. TorGuard – \$9.99/mo
14. Encrypt.me – \$12.99/mo
15. Safer VPN – \$12.95/mo
16. HMA – \$59.88/year (only annual plans available)
17. Tunnel Bear – \$9.99/mo

4. Conclusion and Future Scope of the Project :

You have a distinct benefit when you host your own private VPN solution, you can trust yourself. You understand how data is treated, who has access to VPN data when it is relayed, and how to guarantee its accuracy, reliability, and confidentiality. The majority of users will host their VPN on a VPS (Virtual Private Server).

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Some key features of self hosted VPNs:

- **Affordability**
- **The number of devices are not limited**
- **Data Privacy**
- **Not bound to one server or VPN provider**
- **Highly customized**
- **Best for small enterprise/private use as it is free for first year.**

5. REFERENCES

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