Student ID: 35579732

Name: Jack Warnock

3CX Hosted on AWS EC2 Documentation

1. Launch an AWS Instance

Required minimum specifications for 3CX Debian Instance:

Instance Specification	
Memory	**2 G**
Storage (GP3) General Purpose 3	**30 G**
CPU	**2**
Operating System	**Debian Linux**

1.1: Lauch a AWS EC2 Instance with the specifications provided above – Please store your private key for later use

*Use RSA encryption and request a .pem file

1.2: Open the following Inbound firewall ports on AWS:

Protocol	Port	Port Name	Reason
TCP	443	HTTPS	Used for 3CX NGNIX Webserver
TCP	80	HTTP	Used for 3CX NGNIX Webserver
TCP	22	SSH	Used to Remote into Instance
TCP	5015	N/A	Used to 3CX Web Interface

1.3: Assign Elastic IP Address (Static IP Adress)

Open the Elastic IP tab on AWS EC2 and create an elastic IP Adress

Associate the IP Address with your EC2 Instance

2. Connecting to your Instance via SSH using PuTTY

Pre- Requisites: Have puTTY installed on your personal device

2.1: Open puTTY on your device entering the IP address of your server in the host name field

2.2: In the credentials field located in the Auth SSH tab provide the path to you private key file (.pem)

2.3: Click "Connect" and enter the username "admin" (Default Debian Password).

3. Download 3CX onto the Instance:

Paste the following lines into your command line

3.1: sudo su
Changes the user to Root

3.2: sudo ln -fs /usr/share/zoneinfo/Australia/Perth /etc/localtime
Changes time zone to Perth Western Australia – This is important in 3CX to set up office hours

(Buzdar, 2024)

3.3 sudo apt update
sudo apt upgrade
Upgrades the instance

3.4: wget -O- https://repo.3cx.com/key.pub | gpg --dearmor | sudo tee /usr/share/keyrings/3cx-archive-keyring.gpg
Generates the 3CX Public Key
(58VOIP, 2023)

3.5 echo "deb [arch=amd64 by-hash=yes signed-by=/usr/share/keyrings/3cx-archive-keyring.gpg] http://repo.3cx.com/3cx bookworm main" | tee /etc/apt/sources.list.d/3cxpbx.list
Adds the 3CX Repository
(58VOIP, 2023)

3.6: sudo apt update
Updates the package list

3.7: sudo apt install 3cxpbx
Installs 3CX onto the instance

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4. Setting up DNS

4.1: Navigate to AWS Route 53 and either buy a DNS or add an A Record to an existing domain name in the record section of your DNS.

Enter the Following Details:

Value: Instance Public IP	Record: A	TTL: Default

This can take up to 48 Hours to update (Usually Faster)

5. Creating an SSL Certificate

5.1: Use the following commands to download LetsEncrypt CertBot to create an SSL Certificate:
5.2 : sudo snap install --classic certbot
Installs Certbot
5.3: sudo certbot –nginx
Certbot creates a LetsEncrypt Certificate. You will be required to enter you FQDN
(Let's Encrypt, n.d.)

5. Setting up 3CX Via the Configuration Website

5.1: Paste the following link into your browser (Replacing the IP to the IP Public of your Instance)

http://[Instance IP]/?v=2

5.2: Create a 3CX account (3cx.com) or use an existing one and select *"Add self-Hosted System"*
***Note: Copy the link it provides you**

5.3: Enter your FQDN (Fully Qualified Domain Name) you will be using

5.3: Go back to *http://[Instance IP]/?v=2* and enter you're and paste in the configuration link that was copied

5.3: The System will now request a Private Certificate. The following command extracts it from your instance. You will need to copy and paste this and save it in a .pem file

cat /etc/letsencrypt/live/{dns}/priv.key
5.4: The System will now request a Public Certificate. Follow the same commands as step 4.3 however using the following command:

cat /etc/letsencrypt/live/{dns}/fullchain

(Let's Encrypt Community Support, 2023)

5.5 Now upload both certificates in separate .pem files and the system should start to build

6. Configuring 3CX (Customizable)

6.1: Log into the Web Console using the verification link sent to your set up email

6.2: To set up Extensions (Users) navigate to the admin tab

6.3 To create call flow navigate to the Inbound Rules Tab

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Referencing:

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