MassVaxx Deployment Instructions

Single Server (Ubuntu/Docker)

**Todd Jensen**

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# Purpose and Scope

The purpose of this document is to provide instructions to set up a minimal installation of MassVaxx with all components running on one Linux-based server for experimentation.

## Intended Audience

This document is primarily for MassVaxx developers and system administrators.

# Resources

This section has some pointers for sourcing a test system to run your MassVaxx setup.

## Cloud providers for Linux server

Multiple cloud providers, including Amazon Web Services and Microsoft Azure, allow you to spin up an Ubuntu VM. Most offer free accounts for experimenting. I've had good luck with Linode and a $100 credit can be obtained using the signup link at <https://www.linode.com/docs/guides/getting-started/>. The minimal system will cost $20/month.

## Getting a domain/subdomain

If you need a (sub)domain for testing, do not own a domain, or do not know how to add a subdomain to your domain configuration, then try FreeDNS (<http://freedns.afraid.org/subdomain/>). You can easily create a subdomain piggybacking on an existing domain (e.g., mymassvaxx.mooo.com) and map it to your IP address.

# Prerequisites

Some minimal prerequisites are below.

## Hardware (or Virtual Equivalent) Specifications

A minimal system for testing: 2 CPUs, 4GB RAM, 80GB storage.

## Operation System (OS)

A base Ubuntu 20.04 LTS installation has been performed, network access is available, and the root account is setup with ssh or other access.

## Configuration Settings

The following table can be used to define the values for a specific installation that will be required later in the setup instructions.

|  |  |  |
| --- | --- | --- |
| Setting | Description | Value |
| FQDN | Fully qualified domain name, e.g., demo.massvaxx.com. |  |
| Public IP Address | Static IP address for DNS resolution of FQDN. |  |
| Internal IP Address | IP address for access on VPN. |  |

### DNS Records

The domain record must be configured to add an A type record mapping the FQDN to the public IP Address.

# Ubuntu Setup

For each section below, the user account to be used is noted in the section heading. Commands to be run from an ssh shell or Terminal command prompt are prefaced with the dollar sign character ($). If a command requires more input, that will be noted in the following lines. If a command is optional or an alternative for testing, it will also be prefaced with the hashtag character (#$). If a step requires editing a file, it will be prefaced by a hastag (>).

## Create admin account (user=root)

# Best practices is to not use root for administrating system, so create another user for that.

$ useradd -s /bin/bash -d /home/admin/ -m -G sudo admin

$ passwd admin

<enter password>

<re-enter password>

## Apply updates

$ sudo apt update

$ sudo apt upgrade -y

## Set timezone

$ sudo timedatectl set-timezone "America/Chicago" # or another from timedatectl list-timezones

$ timedatectl # should list current local and universal times

## Set up Docker

$ sudo apt install -y docker.io

$ sudo usermod -aG docker admin

$ exec su -l $USER # or logout and log back in to refresh group memberships

## Enable firewall (user=admin)

$ sudo systemctl enable ufw

$ sudo ufw allow ssh

$ sudo ufw allow http

$ sudo ufw allow https

$ sudo systemctl start ufw

$ sudo ufw enable

## Fix Docker/ufw interaction (user=admin)

<https://docs.docker.com/network/iptables/>

# Docker should not update iptables for exposed ports

$ echo "{

\"iptables\": false

}" > /etc/docker/daemon.json

$ sudo systemctl restart docker

## Set up Docker Compose

<https://docs.docker.com/compose/install/>

$ sudo curl -L "https://github.com/docker/compose/releases/download/1.28.0/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose

$ sudo chmod +x /usr/local/bin/docker-compose

$ docker-compose –version # should echo version to console if installed correctly

### Setup MassVaxx

# Get MassVaxx source code (replace Development with branch name if needed).

$ sudo apt install -y unzip

$ sudo curl -L <https://github.com/david-fraley/MassVaccinationSystem/archive/Development.zip> -o /tmp/massvaxx.zip

$ cd /var/local

$ sudo unzip /tmp/massvaxx.zip

$ sudo mv Development massvaxx

# Follow instructions in /var/local/massvaxx/sandbox/README.md or https://github.com/david-fraley/MassVaccinationSystem/tree/Development/sandbox (summarized below)

$ cd /var/local/massvaxx/sandbox

$ sudo cp env.template .env

$ sudo cp hapi.properites.template hapi.properties

# Edit .env and hapi.properties to change default passwords (i.e., change values of BROKER\_DB\_PASSWORD and HAPI\_DB\_PASSWORD).

$ sudo chmod 440 .env hapi.properties

$ sudo chgrp docker .env hapi.properties

$ docker-compose -p massvaxx up -d

# Refer to instructions in /var/local/massvaxx/sandbox/README.md or <https://github.com/david-fraley/MassVaccinationSystem/tree/Development/sandbox> for URLs and other information such as how to get a real certificate for your subdomain to avoid browser warnings/errors.

# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Initiated by** | **Description of Changes** |
| 1.0 | January 20, 2021 | Todd Jensen | Initial version |
| 1.1 | February 1, 2021 | Todd Jensen | Edits for latest sandbox. |