Metron Install on Ubuntu/Debian single-node VM with Vagrant and Ambari

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Introduction

These instructions are for an Ubuntu host, with occasional comments about how to do similar tasks in CentOS. It uses Metron's Vagrant support to launch a single-node VM installation. The Vagrant image actually uses Debian instead of Ubuntu, because that was readily available, and they are very similar. Resource requirements: These steps were tested on a Vagrant VM assigned 20 GB RAM, 100GB disk, and 2 CPUs. Installation may work with lesser resources, but insufficient RAM will require turning off some processes.

Note

As usual, remember to re-type commands, or at least be careful with cut-and-paste, as the cwiki formatter may have changed hyphens, quotes, etc., into similar-looking non-ascii characters.

Step-by-step guide

- Install pip:
  - sudo apt-get install python-pip python-dev build-essential
  - sudo pip install --upgrade pip
- Install virtual box (ubuntu, centos)
  - Edit sources.list
    - sudo vim /etc/apt/sources.list
    - Add following two lines at the end of the file (or any place you like, I prefer end):
      - `# for virtual box`
      - `deb http://download.virtualbox.org/virtualbox/debian xenial contrib`
    - Save the file and exit
  - Setup Oracle public key
    - wget -q https://www.virtualbox.org/download/oracle_vbox_2016.asc -O- | sudo apt-key add -
    - wget -q https://www.virtualbox.org/download/oracle_vbox.asc -O- | sudo apt-key add -
  - Install Oracle Virtualbox
    - sudo apt-get update (**must do**)
    - sudo apt-get install virtualbox-5.0
- Install Java
  - (For centos, see here: centos)
  - sudo add-apt-repository ppa:webupd8team/java
  - sudo apt update
  - sudo apt install oracle-java8-installer
- Install Vagrant:
  - Version issue:
    - 1.8.1 -> Plugin issue, can not download the pulgin
    - 1.8.5 -> Authentication issue while connecting to vmbox
    - Default apt-get install vagrant will give v 1.8.1
  - Download latest version from here for debian and then dpkg the package OR
    - (not tested) download any version other than 1.8.1 and 1.8.2 with:
      - wget https://releases.hashicorp.com/vagrant/1.8.x (replace x with the desired version).
- Install Maven
  - Follow instructions here or download from maven-download and untar the package (go here for centos)
- Install ansible
  - Version 2.4.0+ is supported by metron (as per the documents available online)
  - Installation instructions here
  - While installing ansible one may face errors regarding cryptography package following command should resolve that.
    - sudo apt-get install python-pip python-dev libffi-dev libssl-dev libxml2-dev libxslt1-dev libjpeg8-dev zlib1g-dev
    - For Centos this should probably solve it
      - Try following first:
        - sudo pip install -U setuptools
        - sudo pip install distribute
        - Try running the anisble installation command
      - If this doesn't work:
        - sudo yum install gcc libffi-devel python-devel openssl-devel
        - Else use:
          - yum search python | grep -i devel
          - And see what all packages can resolve the issue (hit and trial)

- Set Java and Maven Paths
  - mvn -v in terminal should show the maven path
  - Edit /etc/environments
  - Add: JAVA_HOME="java path"
  - Add: MAVEN_HOME="maven path"
- Clone project from Apache Metron repo and build the packages and launch the Vagrant VM. Run the following commands:
  - `git clone https://github.com/apache/metron.git`
  - `cd metron/metron-deployment/development/centos6`
  - `vagrant up`

    Note: If things fail, then run: vagrant provision (multiple times)
- Once the launch is successful:
  - The Vagrant VM will be running as "node1"
  - Ambari should be available in your browser at http://node1:8080/
  - Kibana should be available in your browser at http://node1:5000/
  - Monit should be available in your browser at http://node1:2812/
    - If Monit fails to work, or does not provide the expected data, then do the following:
    - vagrant ssh
    - sudo vi (or nano or vim) /etc/hosts
    - There should be a line near the top of the file that reads:
      - `127.0.0.1  localhost`
      - (this is good)
    - However, sometimes Vagrant hostmanager adds a line that says:
      - `127.0.0.1  node1  node1`
      - (this is bad)
    - If both lines exist, remove the bad line. If the good line does not exist, replace the bad line with the good line.
    - Save and exit the editor
    - The rest should work fine

Related articles

The above steps are based on:

Apache Metron TP 1 Install Instructions- Single Node Vagrant Deployment

which is also related to Metron cwiki page:

Metron 0.3.1 with HDP 2.5.0, Ambari 2.4.1, Centos 6, bare-metal install

Other useful links:

- troubleshooting missing events in Metron quick-dev-platform
- Quick-dev-platform
- Full-dev-platform
- Incubator-metron
- vagrant download
- cryptography error in ansible
- Metron-videos
- metron-tutorials