Hybris setup in Linux for Amway India

This document explains the series of steps needs to be performed to do the Hybris code setup for Amway India.

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| Vivek kumar sad | 1.1 | June 4th 2020 |

Use this link https://www.youtube.com/watch?v=BkXit-KHVsE

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# Getting the virtual machine installed and memory and processor core allocation.

For the code setup in Amway we would use Oracle Virtual box and would run Ubuntu 20.04 inside it.

1. Raise a Kayako ticket to install Virtual Box 6.1.4 and Ubuntu 20.04 inside it. Mae sure to install the user interface version of Ubuntu and not the cli version.
2. Allocate at least 8 GB of RAM and 6 processor cores to VM. I have found 8.8 GB to be optimal allocation.
3. If you have disk memory available allocate 40GB to VM else allocate atleast 20GB as disk space.
4. The OS installation process is pretty straight forward. In case of any issues the IT team should be able to help.
5. After the OS installation rest of the steps needs to be performed by the person directly.

Oracle Virtual box is chosen because it is open source and does not require a licence for commercial use. If you are familiar with any other virtualization software and want to use that please check licence requirement with the IT team.

Ubuntu 20.04 is mentioned as it is the latest version of Ubuntu. However, if you are comfortable with any other Linux distribution then check the license requirement before using. The commands in this document to install dependent software are tested on Ubuntu 20.04, they might vary based on the Linux version and distribution used.

# Installing dependencies

## Install java

Open the terminal window in Ubuntu and run the following command in sequence.

1. sudo apt-get update
2. sudo apt-get install openjdk-8-jdk
3. java -version – this is to verify the version installed.

## Install javafx

openJdk 1.8 does not come with javafx 8 so javafx needs to be installed manually. Few classes in lynxpayment require this library for code compilation.

1. Open sources.list file. Run the following command
   1. cd /etc/apt
   2. sudo nano sources.list
   3. Paste this into the file and save and close: deb http://de.archive.ubuntu.com/ubuntu/ bionic universe
2. Run these commands inside the terminal.
   1. sudo apt-get update
   2. sudo apt install openjfx=8u161-b12-1ubuntu2
   3. sudo apt install libopenjfx-java=8u161-b12-1ubuntu2
   4. sudo apt-mark hold libopenjfx-java

If javafx installation fails or the code does not compile after installing it, see issue #1 at the end of the document for another approach.

## install node js and nvm.

We need to install the exact package as installing the latest version throws error. Run the following command to complete the installation. If you face copy paste issue between windows and linux see the fix for common issue section for a solution.

1. sudo apt-get update
2. sudo apt-get install build-essential libssl-dev
3. curl -sL [https://raw.githubusercontent.com/creationix/nvm/v0.33.8/install.sh -o install\_nvm.sh](https://raw.githubusercontent.com/creationix/nvm/v0.33.8/install.sh%20-o%20install_nvm.sh)
   1. if curl is not installed then run
   2. sudo apt-get install curl
4. bash install\_nvm.sh
5. source ~/.profile
6. nvm install 8.9.4
7. nvm use 8.9.4
8. now verify the version by running "node -v" and "npm -v"

## install git

run the following command in a terminal window inside Linux.

1. sudo apt-get install git

the above mentioned version install the git command but does not offer any graphical user interface. If you desire a GUI for git then there are few option available which you can install.

## install GlobalProtect

1. Copy the attached deb file into the linux OS at your place of choosing. 
2. Run the below command to install globalprotect
3. dpkg -i my.deb
4. run the following command and use your already configured VPN credentials to connect to vpn. You need to have VPN access beforehand.
5. globalprotect connect --portal mfa-portal.amwayconnect.com

## configure host entry

1. Goto root: cd /
2. run nano etc/hosts
3. add amway.in.local against 127.0.0.1 and press ctrl+x, then y for yes and enter to save in the same file and exit.

## Install eclipse

Install the desired version of eclipse by downloading it from the eclipse official website.

Download the package from: <https://www.eclipse.org/downloads/download.php?file=/technology/epp/downloads/release/2020-03/R/eclipse-java-2020-03-R-linux-gtk-x86_64.tar.gz>

In case you face any issue: <https://askubuntu.com/questions/695382/how-to-install-eclipse-using-its-installer>

# Hybris code setup.

1. Refer the attached document for installing Hybris.



Check the repository URL in the git clone command before downloading the repository to your loc al machine.

1. The process to do git clone via git bash is exactly sae on Linux as it is on Windows.
2. now navigate to the platform directory and run
3. . ./setantenv.sh
4. ant clean all
5. ./hybrisserver.sh debug

# Common issues and fix.

## Copy paste not working between windows and Linus inside Virtual box.

* 1. To enable copy pasting on virtuabox, install the virtualbox guest additions and run the command “sudo ./VBoxLinuxAdditions.run” without quotes. You can refer the first link for complete set of steps. Refer second link to do it manually if first do not work. After enabling clipboard sharing between Host and guest OS the drag and drop of files works perfectly however copy paste was hit and miss.
  2. <https://www.tecmint.com/install-virtualbox-guest-additions-in-ubuntu/>
  3. <https://askubuntu.com/questions/22743/how-do-i-install-guest-additions-in-a-virtualbox-vm>

If above step does not work, try below: if the guest additions are not installed then the you might get error for the first three commands, those can be ignored.

apt-get remove -y virtualbox-guest-x11  
apt-get remove -y virtualbox-guest-dkms  
apt-get remove -y virtualbox-guest-utils  
reboot  
wget https://download.virtualbox.org/virtualbox/6.1.2/VBoxGuestAdditions\_6.1.2.iso  
mkdir /media/iso  
mount VBoxGuestAdditions\_6.1.2.iso /media/iso -o loop  
/media/iso/VBoxLinuxAdditions.run   
yes  
reboot

## Build failure - Not able to connect to Maven repository.

From this year maven does not allow unsecured connection over http to download dependencies. Check the URL endpoint you are trying to download the dependency from.

Easiest fix is to copy the .m2 folder from windows and paste it in your home directory in Ubuntu. If you have never done theH ybris installation on windows before then you can copy the folder from any of your teammates machine. On windows the .m2 folder is present in “C:\Users\<username>\.m2”

Direct copying the folder sometimes does not copy the files inside it. To avoid this zip the folder in windows and then unzip it inside Ubuntu with sudo privileges.

## Build failure – javafx related libraries are not found. Lynxpayment fails because of this.

copy the jfxrt.jar from windows to “/usr/lib/jvm/java-8-openjdk-amd64/jre/lib” in linux. In windows the file is present in “ ..\Java\jre1.8.0\_201\lib\ext\jfxrt.jar”. Copy the file from windows to some folder in Linux first and then copy to the target directory from terminal using sudo, else you will get permission denied.

## Build failure – some nodejs or grunt or less related issues.

* 1. Install python : it is needed as a dependency for some of the modules below.
     1. Run sudo apt-get install python
  2. goto /Hybris/bin/ext-content/npmancillary/resources/npm and run the below commands:
     1. npm install [grunt@~0.4.1](mailto:grunt@~0.4.1)
     2. npm install [ajv@5.0.0](mailto:ajv@5.0.0)
     3. npm install ui-select

## Build failure – some jaxb related jars are not found

add jersey jar(jersey-bundle-1.9.1.jar) dependency in the lynx dam integration extension by modifying the classpath and adding jar into that extension. I faced the issues with lyxdam integration extension, you can do this in any extension which is built before the failing extension.

## How do I merge file in case of conflict in git

If you do not have a git GUI installed in Linux then merging files in git in case of conflict using a command line interface can prove to be extremely difficult and error prone. Personally, I would recommend doing the merging on windows and push the code to remote repo and then take a pull in Linux, this is easy as most of us have a repository clone in windows already.

## System is running slow.

It may be because of lack of RAM memory available to the OS. If windows is running slow and hanging then open task manager and check the memory utilization there. If the Memory utilization is over 95% then close some application which you do not need now and this should improve the performance. Do the same think if processor utilization is 100% and any application which you do not use is taking considerable processor time.

Same thing with Ubuntu as well, if Ubuntu is responding very slow then try to close the applications you are not using and see the improvement.

Memory shortage is inevitable as 16GB is a little tight to run 2 OS simultaneously, but it is not a showstopper if you keep track of the open applications and keep only the required applications open.