SOP FOR SERVER SETUP USING UBUNTU SERVER 12.04.3 on ML310e Gen8 SERVER

Objective:

- To successfully install Ubuntu Server on ML310e Gen 8 server.
- To deploy KenyaEMR on Ubuntu server.
- To install Vspace software for managing the Ncomputing access terminals

Prerequisites:

- Ubuntu server 12.04.3
- Vspace L-3.2.2.27
- Internet access

Introduction

Ubuntu server is not one of the officially supported operating system from HP for the HP ProLiant ML310e Gen8 server. Their Intelligent Provision does not support Ubuntu installation hence some adjustments need to be done on the server System BIOS. You need to go into BIOS and change the SATA controller settings to **SATA AHCI SUPPORT**. This is done by pressing F9 at the initial system boot to get into BIOS, Select **System Options** -> select **SATA Controller options** -> Select **Embedded SATA Configuration** and finally select **Enable SATA AHCI Support**. Press F10 to save changes and restart the server using with the Ubuntu server CD.

Installation

1. **Installing Ubuntu Server**

i. Boot the server using the Ubuntu server CD.
ii. On the Language page, select ***English*** and press Enter.
iii. On Ubuntu page, select ***"Install Ubuntu Server"*** and press Enter.
iv. On select language page, select English and press Enter.
v. On the select location page, select other and press Enter.
vi. Select Africa and press Enter.
vii. Select Kenya and press Enter.
viii. On configure locales, select United States and press Enter.
ix. On the configure the keyboard, select yes and type the keys as instructed to configure your keyboard up to when prompted to click continue and press Enter.
x. On configure the network, on Primary Network Interface: Choose either eth0 or eth1 depending on the port you have connected the patch cord to the server. Press Enter and wait for the network to be configured.
xi. On continue without a default route? Select yes and press Enter.
xii. Type the Name Server Address as FacilityNameXXX where XXX is either SDH for Sub District Hospital or DH for District Hospital and press Enter.
xiii. Type host name as FacilityNameXXX where XXX is either SDH for Sub District Hospital or DH for District Hospital and press Enter.

xiv. Type the full names of the user as FacilityNameXXX where XXX is either SDH for Sub District Hospital or DH for District Hospital and press Enter.
xv. Leave the user name of your account as it is FacilityNameXXX where XXX is either SDH for Sub District Hospital or DH for District Hospital and press Enter.
xvi. Create a password for the account you just created as Test123 and press Enter.
xvii. Re-enter password to verify: Test123
xviii. On Encrypt your home directory, click No and press Enter.
xix. On partition disk, select Guided – Use entire disk and press Enter.
xx. Select the disk to partition, select the first disk and press Enter.
xxi. On Write changes to disk? Select Yes and press Enter.
xxii. On configure the packet manager, and select continue.
xxiii. On configure Taskel, How do you want to manage upgrades on this system? Select No automatic updates and press Enter.
xxiv. On software selection: Choose software to install: Select OpenSSH server.
xxv. On Install the GRUB boot loader on a hard disk click Yes.
xxvi. Finish the installation, Wait for the CD tray to open, remove the installation disk and press continue.
xxvii. Wait for the system to restart.

You have successfully installed the Ubuntu Server.

2. Installing KenyaEMR

Install software prerequisites (Oracle Java, MySQL and Apache Tomcat)

i. sudo apt-get install openjdk-7-jdk
ii. sudo apt-get install mysql-server (NB: Set a **strong** password for MySQL root account)
iii. sudo apt-get install tomcat6
iv. sudo apt-get install tomcat6-admin

Configure Java memory options for Apache Tomcat.

i. Open the file */etc/default/tomcat6*
ii. Insert the line: JAVA_OPTS="${JAVA_OPTS} -Xmx512m -Xms512m -XX:PermSize=256m -XX:MaxPermSize=256m -XX:NewSize=128m”

Install the OpenMRS web application

i. Download and copy the correct version of the *openmrs.war* file to */var/lib/tomcat6/webapps*
ii. Restart Tomcat: sudo service tomcat6 restart
iii. Create the directory */usr/share/tomcat6/.OpenMRS*
iv. Change the owner and group of the *.OpenMRS* directory to tomcat6: *sudo chown tomcat6:tomcat6 /usr/share/tomcat6/.OpenMRS*
v. Open your web browser and navigate to the URL *localhost:8080/openmrs* to launch OpenMRS.

For this first time the application will launch an installer.

vi. Run through the installer Wizard choosing to install a fresh copy of the database when prompted. This will require that you supply the MySQL root password. When prompted to enter a password for the application superuser account, be sure to choose a **strong** password.

vii. At the end of the wizard, log into OpenMRS and navigate to *localhost:8080/openmrs/admin* then *Maintenance -> Settings -> Scheduler*. Set the scheduler password to the superuser password you entered earlier.

Install the CIEL concept dictionary

i. Obtain the appropriate version of the CIEL dictionary SQL dump

ii. Select the OpenMRS database: USE openmrs;

iii. Run the CIEL SQL dump: source /path/to/ciel.sql

Install KenyaEMR OpenMRS modules

i. Obtain the appropriate versions of KenyaEMR OpenMRS modules.

ii. Copy all of them into the */usr/share/tomcat6/.OpenMRS/modules* directory.

Install KenyaEMR help content

i. Obtain the appropriate version of the *help* directory containing KenyaEMR help files

ii. Copy the *help* directory into the */var/lib/tomcat6/webapp* directory.

Set up backup scripts and cron jobs

i. Obtain the correct version of *openmrs-backup-tools* directory containing backup scripts and settings files.

ii. Copy the *openmrs-backup-tools* directory into the */usr/share* directory.

iii. Create the backup directory */var/backups/OpenMRS*

iv. Create a cron job to run the backup script on a daily basis by running crontab -e and adding the line *00 11,16 * * * /usr/share/openmrs-backup-tools/openmrs_backup.sh* in the text file that opens. This will run a daily backup at 1100HRS and 1600HRS every day.

Restart Tomcat: sudo service tomcat6 restart

Open your web browser and navigate to the URL *localhost:8080/openmrs* to launch KenyaEMR. The application will take some time to launch this first time because it will first install KenyaEMR metadata. At the end of the metadata installation process, the application will open and provide you with an interface to enter facility details. Do not enter anything yet. This is the end of the installation process.

You have successfully deployed KenyaEMR on Ubuntu server.

3. Installing vspace software

i. Obtain vSpace_L-3.2.2.27_Ubuntu_12.04-10.04.zip provided and copy it on the Ubuntu desktop.
ii. Unzip the vSpace software.
iii. Open the terminal and navigate to the location of the vspace software i.e cd Desktop/ vSpace_L-3.2.2.27_Ubuntu_12.04-10.04.
iv. Run the vSpace script as super user, i.e. sudo sh vspace-l_3.2.2.27.24515.241.sh
v. On Vspace End-user License Agreement, select “I accept the terms of the EULA” and click on Forward.
vi. On Customer Data for NComputing products, fill in the required information as indicated below;

   a. Name* ICT Department
   b. Company* I-TECH Kenya
   c. Country* Kenya
   d. Address*Rose Ave, off Argwings Kodhek road
   e. City* Nairobi
   f. State/Province* Kenya
   g. Zip*2614-00200
   h. Email* bills@itech-kenya.org
   i. Phone*+2540202609340
   j. Reseller/Dealer*Smoothtel & Data Solutions LTD
   k. Type of use* Healthcare

vii. When done, you will be prompted to restart the server, restart the server for the installation to complete.

You have successfully installed KenyaEMR on ML310e Gen8 server.