

Devops

This book describes the process of deploying HIS systems.

- EMR Deployment
 - Deployment using a server image

EMR Deployment

Deployment using a server image

Step By Step Guide on Deployment of New Server Image

Backing up databases

Backup Procedure

1. Backup All Databases on the Old Server

Execute the provided script to back up all necessary databases.

2. Synchronize couchdb Database

For nlims_db, sync it to your local machine.

3. Blis Drivers

Copy iBlis Drivers that are found in the Server

PM2 Show

PM2 List

4. Backup all iblis drivers available on the server

Recloning/restoring image

- Reclone server with new image using your clonezilla bootable device. Refer to the document on setting up clonezilla

NB: Make sure you have a copy of any old image to revert to in case the new image fails

- Test the server, test all applications and services

Restoration of New image

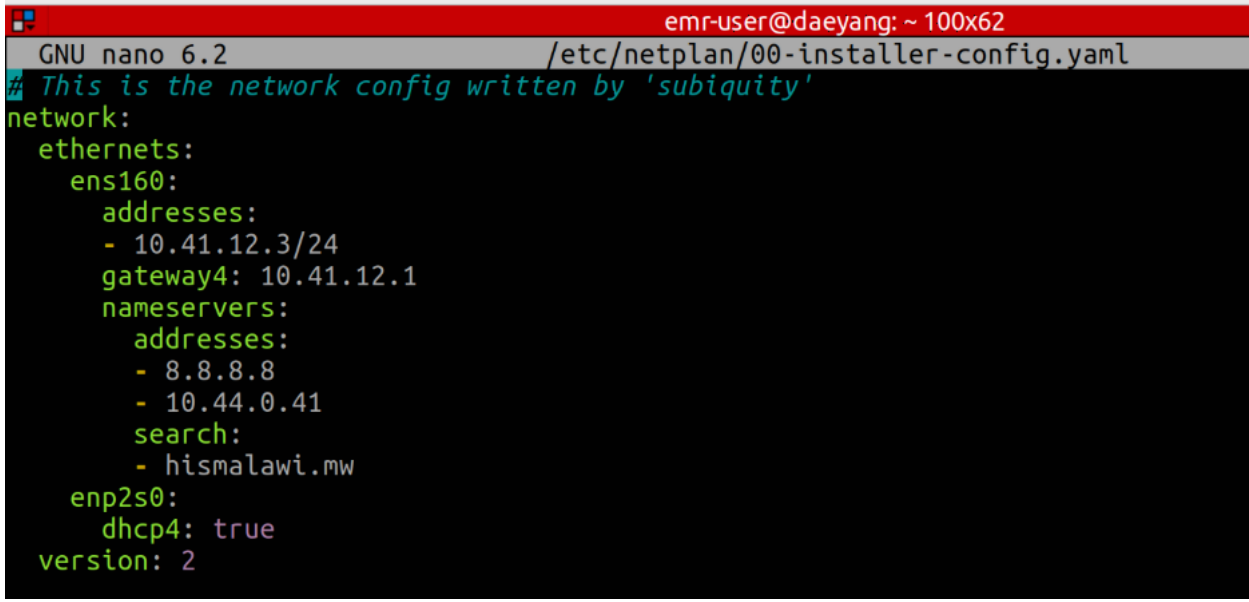
1. Change Server Name to Site Name in `/etc/hostname` . This sets the system's hostname and contains only the hostname of the machine.



2. Add site name in `/etc/hosts`. This file is used for hostname-to-IP address mapping and helps in local name resolution.

```
127.0.1.1      Area18HC
# The following lines are desirable for IPv6 capable hosts
::1          localhost ip6-localhost ip6-loopback
ff02::1     ip6-allnodes
ff02::2     ip6-allrouters
~
```

3. Change IP Address to Facility's IP address in /etc/netplan/. See example below:



```
emr-user@daeyang: ~ 100x62
GNU nano 6.2 /etc/netplan/00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernets:
    ens160:
      addresses:
        - 10.41.12.3/24
      gateway4: 10.41.12.1
      nameservers:
        addresses:
          - 8.8.8.8
          - 10.44.0.41
      search:
        - hismalawi.mw
    enp2s0:
      dhcp4: true
  version: 2
```

Apply

changes by running netplan apply

Restore all databases

- Nlms_db sync to server from local machine
- Restore configurations
- Restore Databases (Use tmux to manage your sessions and it will also allow you to remotely monitor)
- Before you restore your databases, make sure you make changes to mysql configuration in /etc/mysql/mysql.conf.d/mysqld.cnf

Set "innodb_strict_mode = 0"

```
# Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
#
# The MySQL Server configuration file.
#
# For explanations see
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html

[mysqld]
pid-file           = /var/run/mysqld/mysqld.pid
socket             = /var/run/mysqld/mysqld.sock
datadir            = /var/lib/mysql
log-error          = /var/log/mysql/error.log
innodb_strict_mode = 0
```

```
~
~
~
~
~
```

NB: Skipping the step above may result in encountering the error below:

ERROR 1118 (42000) at line 3483: Row size too large (> 8126). Changing some columns to TEXT or BLOB may help. In current row format, BLOB prefix of 0 bytes is stored inline.

- Load metadata in the fresh database before restoring the new database
- Run `./bin/update_art_metadata.sh production`

Testing

- Ensure all applications are functioning properly.
- Verify that all syncing cron jobs are operating correctly.
- Confirm remote accessibility via VPN.
- Test all EBNs and J2s to ensure they are working properly and can pull the application

Things to Note

- Most apps running using services and the service files are in `/etc/systemd/system`
- `Emr-api.service`
- `Nlims-controller.service`
- `Nlims-data-synchronizer.service`
- `Mlab-api.service`
- `Lims-websocket`
- BHT-EMR-API in `/var/www` directory has been changed to just EMR-API.
- Database for EMR-API is running in Production mode.
- This means that you need to specify production mode when running initialization script, migration/metadata scripts
- Old Iblis DB still uses mysql 5.6 is running on docker and can be accessed on port 3307

If other implementing partners are using the server make sure you contact them for them to do their backups.