# Laporan Tugas Akhir Sistem Terdistribusi Kelompok 6

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1. Buat lxc baru dan konfigurasikan IP masing-masing lxc

```
root@MSI:/home/panca15# lxc-ls -f
NAME
              STATE
                      AUTOSTART GROUPS IPV4
                                                   IPV6 UNPRIVILEGED
LXC_DB_SERVER RUNNING 0
                                        10.0.3.59
LXC_PHP5_1
              RUNNING 0
                                        10.0.3.51
                                                        false
                                        10.0.3.36
LXC_PHP5_2
LXC_PHP7_1
              RUNNING 0
                                        10.0.3.204 -
LXC_PHP7_2
              RUNNING 0
                                        10.0.3.187 -
LXC_PHP7_3
              RUNNING 0
                                        10.0.3.241 -
LXC_PHP7_4
              RUNNING 0
                                        10.0.3.205 -
LXC_PHP7_5
              RUNNING 0
                                        10.0.3.53 -
LXC_PHP7_6
              RUNNING 0
                                       10.0.3.167 -
```

- sudo lxc-create -t download -n LXC PHP7 1 -- -d ubuntu -r focal -a amd64
- sudo lxc-create -t download -n LXC PHP7 2 -- -d ubuntu -r focal -a amd64
- > sudo lxc-create -t download -n LXC PHP7 3 -- -d ubuntu -r focal -a amd64
- sudo lxc-create -t download -n LXC PHP7 4 -- -d ubuntu -r focal -a amd64
- > sudo lxc-create -t download -n LXC PHP7 5 -- -d ubuntu -r focal -a amd64
- > sudo lxc-create -t download -n LXC PHP7 6 -- -d ubuntu -r focal -a amd64
- sudo lxc-create -t download -n LXC PHP5 1 -- -d debian -r buster -a amd64
- > sudo lxc-create -t download -n LXC PHP5 2 -- -d debian -r buster -a amd64
- sudo lxc-create -t download -n LXC DB SERVER -- -d debian -r buster -a amd64
- 2. Lakukan Langkah ini pada setiap LXC
  - sudo lxc-attach -n LXC PHP7 1 -- apt update
  - > sudo lxc-attach -n LXC PHP7 1 -- apt install -y php7.4 php7.4-fpm openssh-server
  - sudo lxc-attach -n LXC PHP7\_2 -- apt update
  - > sudo lxc-attach -n LXC PHP7 2 -- apt install -v php7.4 php7.4-fpm openssh-server

- sudo lxc-attach -n LXC\_PHP7\_3 -- apt update
- > sudo lxc-attach -n LXC\_PHP7\_3 -- apt install -y php7.4 php7.4-fpm openssh-server
- > sudo lxc-attach -n LXC PHP7 4 -- apt update
- > sudo lxc-attach -n LXC\_PHP7\_4 -- apt install -y php7.4 php7.4-fpm openssh-server
- > sudo lxc-attach -n LXC PHP7 5 -- apt update
- > sudo lxc-attach -n LXC PHP7 5 -- apt install -y php7.4 php7.4-fpm openssh-server
- > sudo lxc-attach -n LXC PHP7 6 -- apt update
- > sudo lxc-attach -n LXC PHP7 6 -- apt install -y php7.4 php7.4-fpm openssh-server
- sudo lxc-attach -n LXC\_PHP5\_1 -- apt-get install -y software-properties-common apt-transport-https lsb-release ca-certificates
- sudo lxc-attach -n LXC\_PHP5\_1 -- wget -O /etc/apt/trusted.gpg.d/php.gpg https://packages.sury.org/php/apt.gpg
- sudo lxc-attach -n LXC\_PHP5\_1 -- sh -c 'echo "deb https://packages.sury.org/php/ \$(lsb release -sc) main" > /etc/apt/sources.list.d/php.list'
- sudo lxc-attach -n LXC\_PHP5\_1 -- apt update
- sudo lxc-attach -n LXC\_PHP5\_2 -- apt-get install -y software-properties-common apt-transport-https lsb-release ca-certificates
- sudo lxc-attach -n LXC\_PHP5\_2 -- wget -O /etc/apt/trusted.gpg.d/php.gpg https://packages.sury.org/php/apt.gpg
- sudo lxc-attach -n LXC\_PHP5\_2 -- sh -c 'echo "deb https://packages.sury.org/php/ \$(lsb\_release -sc) main" > /etc/apt/sources.list.d/php.list'
- > sudo lxc-attach -n LXC PHP5 2 -- apt update
- sudo lxc-attach -n LXC\_PHP5\_1 -- apt install php5.6 php5.6-fpm php5.6-cli php5.6-json
- sudo lxc-attach -n LXC\_PHP5\_2 -- apt install php5.6 php5.6-fpm php5.6-cli php5.6-json
- sudo lxc-attach -n LXC\_DB\_SERVER -- apt update
- > sudo lxc-attach -n LXC DB SERVER -- apt install mariadb-server
- sudo lxc-attach -n LXC DB SERVER -- systematl start mariadb
- sudo lxc-attach -n LXC DB SERVER -- mysql secure installation
- sudo apt install openssh-server python
- > apt install nano

- cd /etc/ssh
- nano sshd\_config
- tambahkan
- PermitRootLogin yes
- sudo service sshd restart
- passwd
- > set passwd bebas
- exit
- ssh root@ip lxc
- 3. Dan kemudian pergi ke 'nano host' untuk mengklasifikasikan setiap lxc seperti skema di bawah

```
GNU nano 6.2
                                                                                                   hosts
  ii2_containe
LXC_PHP7_1 ansible_host=10.0.3.204 ansible_ssh_user=root ansible_pass=1203210131 LXC_PHP7_2 ansible_host=10.0.3.187 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_4 ansible_host=10.0.3.205 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_5 ansible_host=10.0.3.53 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_6 ansible_host=10.0.3.167 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_2 ansible_host=10.0.3.187 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_3 ansible_host=10.0.3.241 ansible_ssh_user=root ansible_become_pass=1203210131 LXC_PHP7_4 ansible_host=10.0.3.205 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_5 ansible_host=10.0.3.53 ansible_ssh_user=root ansible_become_pass=1203210131
[lxc_php]
LXC_PHP7_1 ansible_host=10.0.3.204 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_2 ansible_host=10.0.3.187 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_3 ansible_host=10.0.3.241 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_4 ansible_host=10.0.3.205 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_PHP7_5 ansible_host=10.0.3.53 ansible_ssh_user=root ansible_become_pass=1203210131 LXC_PHP7_6 ansible_host=10.0.3.167 ansible_ssh_user=root ansible_become_pass=1203210131
[lxc_php_5]
LXC_PHP5_1 ansible_host=10.0.3.51 ansible_ssh_user=root ansible_become_pass=1203210131 LXC_PHP5_2 ansible_host=10.0.3.36 ansible_ssh_user=root ansible_become_pass=1203210131
LXC_DB_SERVER ansible_host=10.0.3.59 ansible_ssh_user=root ansible_become_pass=1203210131
```

- cd ~/tubes/inventories
- nano hosts

## 4. Lalu membuat file

- nano install-ci.yml //for code igniter
- nano install-laravel.yml //for laravel
- nano install-wp.yml //for wordpress
- nano install-yii.yml //for yii2.0
- nano install-mariadb.yml //for phpMyAdmin

root@MSI:~/tubes/inventories# ls
hosts install-ci.yml install-laravel.yml install-mariadb.yml install-wp.yml install-yii.yml

```
GNU nano 6.2

- hosts : ci
vars:
    git_url: 'http://github.com/aldonesia/sas-ci'
    destdir: '/var/www/html/ci'
    domain : 'lxc_php5.dev'
roles:
    - app
```

```
GNU nano 6.2

---
- hosts: Laravel
vars:
    username: 'admin'
    password: '1203210131'
    domain: '10.0.3.187'

roles:
    - php
    - lv
```

```
GNU nano 6.2

- hosts: database
vars:
    username: 'admin'
    password: '1203210131'
    domain: '10.0.3.59'
roles:
    - db
    - pma
```

```
GNU nano 6.2

---
- hosts: Wordpress
vars:
    username: 'admin'
    password: '1203210131'
    domain: '10.0.3.204'
roles:
    - wp
```

```
GNU nano 6.2

---
- hosts: yii2
vars:
    username: 'admin'
    password: '1203210131'
    domain: 'lxc_php7_10.dev'
roles:
    - yii
```

- 5. Setelah selesai lakukan seperti ini
  - cd /roles/ci/tasks
  - > nano main.yml

- cd ../templates
- nano app.conf

```
GNU nano 6.2
server {
  listen 80;
  server_name {{servername}};
  root {{ destdir }};
  index index.php;
  location / {
    try_files $uri $uri/ /index.php?$query_string;
  }
  location ~ \.php$ {
    fastcgi_pass unix:/run/php/php5.6-fpm.sock;
    fastcgi_index index.php;
    fast_param SCRIPT_FILENAME {{ desstdir }}$fastcgi_script_name;
    include fastcgi_params;
  }
}
```

- > cd ../handlers
- > nano main.yml

```
GNU nano 6.2

---

- name: restart nginx
become: yes
become_user: root
become_method: su
action: service name=nginx state=restarted

- name: restart php
become: yes
become_user: root
become_user: root
become_method: su
action: service name=php5.6-fpm state=restarted
```

- > cd ../../
- cd php/tasks
- > nano main.yml

- > cd ../handlers
- > nano main.yml

```
GNU nano 6.2

---

- name: restart php
become: yes
become_user: root
become_method: su
action: service name=php7.4-fpm state=restarted
```

- > cd ../../
- cd lv/tasks

### > nano main.yml

```
coll nano 6.2

- name: delete apt chache
become: yes
become.user: root
become.user: root
become.merido: su
command: rm -vf /var/lib/apt/lists/*

- name: Download and install Composer
shell: curl -s5 https://getcomposer.org/installer | php
args:
chdir: /usr/src/
creates: /usr/local/bin/composer
warn: false
become: yes
- name: Add Composer to global path
copy:
dest: /usr/local/bin/composer
group: root
mode: '9755'
owner: root
src: /usr/src/composer.phar
remote_src: yes
- name: Ansible delete file create_project
file:
    path: /var/www/html/landing
    state: absent
- name: composer create-project
shell: /usr/local/bin/composer create-project laravel/laravel /var/www/html/landing --prefer-dist --no-interaction
- name: Composer create-project
shell: /usr/local/bin/composer create-project laravel/laravel /var/www/html/landing --prefer-dist --no-interaction
- name: Copy .env.template
template:
    src:templates/env.template
dest=/var/www/html/landing.env
```

- cd ../templates
- nano env.template

```
GNU nano 6.2
 APP_NAME=Laravel
APP_ENV=local
APP_KEY=
APP_DEBUG=true
APP_URL=http://vm.local
LOG_CHANNEL=stack
LOG_DEPRECATIONS_CHANNEL=null
LOG_LEVEL=debug
DB_CONNECTION=mysql
DB_HOST=10.0.3.59
DB_PORT=3306
DB_DATABASE=landing
DB_USERNAME=admin
DB_PASSWORD=1203210131
BROADCAST_DRIVER=log
CACHE_DRIVER=file
FILESYSTEM_DRIVER=file
QUEUE_CONNECTION=sync
SESSION_DRIVER=file
SESSION_LIFETIME=120
MEMCACHED_HOST=127.0.0.1
REDIS_HOST=127.0.0.1
REDIS_PASSWORD=null
REDIS_PORT=6379
MAIL_MAILER=smtp
MAIL_HOST=mailhog
MAIL_PORT=1025
MAIL_USERNAME=null
MAIL_PASSWORD=null
MAIL_ENCRYPTION=null
MAIL_FROM_ADDRESS=null
MAIL_FROM_NAME="${APP_NAME}"
```

```
AWS_ACCESS_KEY_ID=
AWS_SECRET_ACCESS_KEY=
AWS_DEFAULT_REGION=us-east-1
AWS_BUCKET=
AWS_USE_PATH_STYLE_ENDPOINT=false

PUSHER_APP_ID=
PUSHER_APP_KEY=
PUSHER_APP_SECRET=
PUSHER_APP_CLUSTER=mt1

MIX_PUSHER_APP_KEY="${PUSHER_APP_KEY}"
MIX_PUSHER_APP_CLUSTER="${PUSHER_APP_CLUSTER}"
```

#### nano lv.conf

```
GNU nano 6.2

server {
    listen 80;
    listen [::!80;
    #log files for debugging
    access_log /var/log/nginx/vhostlaravel-access.log;
    error_log /var/log/nginx/vhostlaravel-error.log;
    #webroot directory for laravel project
    root /var/www/html/landing/public;
    index index.php index.html index.htm;

server_name {{servername}};

location / {
    try_files $uri $uri/ /index.php?$query_string;
}

location ~ \.php$ {
    try_files $uri =404;
    fastcgi.split_path_info ^(.+\.php)(/.+)$;
    fastcgi.jndex.index.php;
    fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
    include fastcgi_params;
}
}
```

- > cd ../handlers
- > nano main.yml

```
GNU nano 6.2

---

- name: restart php
become: yes
become_user: root
become_method: su
action: service name=php7.4-fpm state=restarted

- name: restart nginx
become: yes
become_user: root
become_user: root
become_method: su
action: service name=nginx state=restarted
```

- > cd ../../
- cd db/tasks
- nano main.yml

```
GNU nano 6.2
                                                                                 main.
 name: delete apt cache
 become_user: root
 become_method: su
command: rm -vf /var/lib/apt/list/*
- name: install mariadb
 become_user: root
 become_method: su
 apt: name={{ item }} state=latest update_cache=true
 with_items:
 - python
 - mariadb-server
 - python-mysqldb
 - python-pymysql
- name: Stop MySQL
service: name=mysqld state=stopped
- name: set environment variables
shell: systemctl set-environment MYSQLD_OPTS="--skip-grant-tables"
- name: Start MySQL
service: name=mysqld state=started
```

- cd ../templates
- > nano my.cnf

- > cd ../handlers
- > nano main.yml

```
GNU nano 6.2

---
- name: restart mysql
become: yes
become_user: root
become_method: su
action: service name=mysql state=restarted
```

- > cd ../../
- cd pma/tasks
- nano main.yml

```
main.yml
 name: Add Php Repository
             state: present
filename: php.list
update_cache: true
 name: wget repository php
shell: wget -0 /etc/apt/trusted.gpg.d/php.gpg https://packages.sury.org/php/apt.gpg
  name: add repository php
shell: echo "deb https://
                                                                                                                       .org/php/ $(lsb_release -sc) main" | tee /etc/apt/source.list.d/php.list
 name: wget repository
shell: wget https://files.phpmyadmin.net/phpMyAdmin/5.1.1/phpMyAdmin-5.1.1-all-languages.tar.gz
 name: tar pypmyadmin
shell: tar -zxvf phpMyAdmin-5.1.1-all-languages.tar.gz
 name: move phpadmin shell: mv pypMyAdmin-5.1.1-all-languages /usr/share/phpMyAdmin
 name: apt update
shell: apt update
 name: Copy lxc_mariabd.conf
template:
    src=templates/lxc_mariadb.conf
    dest-/etc/nginx/sites-available/{{    domain }}
 name: Synlink lxc\_mariadb.conf command: ln -sfn /etc/nginx/sites-avaiblable/{{ domain }} /etc/nginx/sites-enable/{{ domain }} /etc/nginx/sites-enable/{ domain }} /etc/nginx/sites-enable/{{ domai
             notify:
                          - restart nginx
- name: Write {{ domain }} to /etc/hosts
             lineinfile:
                          dest: /etc/hosts
                          regexp: '.*{{ domain }}$'
                          line: "127.0.0.1 {{ domain }}"
                           state: present
```

### cd ../templates

nano lxc\_mariadb.conf

```
GNU nano 6.2

server {
    listem 80;
    server_name {{servername}};
    root /usr/share/phpMyAdmin;
    index index.php;
    location / {
        try_files $uri $uri/ @phpmyadmin;
    }
    location @phpmyadmin {
        fastcgi_pass unix:/run/php/php7.2-fpm.sock; #sesuaikan dengan versi PHP

        fastcgi_param SCRIPT_FILENAME /usr/share/phpMyAdmin/index.php;
        include /etc/nginx/fastcgi-params;
        fastcgi_param SCRIPT_NAME /index.php;
}
location ~ \.php$ {
        fastcgi_pass unix:/run/php/php7.2-fpm.sock; #sesuaikan dengan versi php

        fastcgi_index index.php;
        fastcgi_param SCRIPT_FILENAME /usr/share/phpMyAdmin$fastcgi_script_name;
        include fastcgi_params;
}
```

- > cd ../handlers
- > nano main.yml

```
GNU nano 4.8
                                                         main.yml
- name: stop apache2
  become: yes
  become_user: root
  become_method: su
  action: service name=apache2 state=stopped
- name: restart nginx
  become: yes
  become_user: root
  become_method: su
  action: service name=nginx state=restarted
- name: restart php
  become: yes
  become_user: root
  become_method: su
  action: service name=php7.2-fpm state=restarted
```

- > cd ../../
- cd yii/tasks
- nano main.yml

```
GNU nano 4.8
                                                           main
 name: delete apt chache
 become: yes
 become_user: root
 become_method: su
 command: rm -vf /var/lib/apt/lists/*
 name: install php
 become: yes
become_user: root
 become_method: su
 apt: name={{ item }} state=latest update_cache=true
 with_items:
   - curl
   - nginx
   - nginx-extras
   - php7.4
   - php7.4-fpm
   - php7.4-curl
   - php7.4-xml
   - php7.4-gd
     php7.4-opcache
     php7.4-mbstring
   - php7.4-zip
   - php7.4-json
   - php7.4-cli
```

```
GNU nano 4.8
                                                                                  main.yml
  name: Download and install Composer
  shell: curl -sS https://getcomposer.org/installer | php
  args:
    chdir: /usr/src/
creates: /usr/local/bin/composer
    warn: false
  become: yes
  name: Add Composer to global path
  сору:
     dest: /usr/local/bin/composer
    group: root
mode: '0755'
    owner: root
    src: /usr/src/composer.phar
    remote_src: yes
  become: yes
  name: Ansible delete file create-project
  file:
    path: /var/www/html/basic
state: absent
 name: composer create-project
GNU nano 4.8
                                                                  main.vml
name: chmod
become: yes
become_user: root
become_method: su
command: chmod +x /usr/local/bin/composer
 name: composer
shell: cd /var/www/html/basic; /usr/local/bin/composer install --no-interaction
name: Copy yii.conf
template:
src=templates/yii.conf
dest=/etc/nginx/sites-available/{{ domain }}
vars:
   servername: '{{ domain }}'
name: Symlink yii.conf
command: ln -sfn /etc/nginx/sites-available/{{ domain }} /etc/nginx/sites-enabled/{{ domain }}
notify:
    restart nginx
 name: Write {{ domain }} to /etc/hosts
lineinfile:
  dest: /etc/hosts
   regexp: '.*{{ domain }}$'
line: "127.0.0.1 {{ domain }}"
```

- cd ../templates
- > nano yii.conf

```
GNU nano 4.8
                                                                  vii.conf
    # pass the PHP scripts to FastCGI server listening on UNIX socket
   location ~ \.php {
   fastcgi_split_path_info ^(.+\.php)(.*)$;
   #let yii catch the calls to unexising PHP files
        set $fsn /$yii_bootstrap;
        if (-f $document_root$fastcgi_script_name){
    set $fsn $fastcgi_script_name;
       fastcgi_pass unix:/run/php/php7.4-fpm.sock;
        include fastcgi_params
        fastcgi_param SCRIPT_FILENAME $document_root$fsn;
      #PATH_INFO and PATH_TRANSLATED can be omitted, but RFC 3875 specifies them for CGI
        fastcgi_param PATH_INFO
                                            $fastcgi_path_info;
        fastcgi_param PATH_TRANSLATED $document_root$fsn;
   # prevent nginx from serving dotfiles (.htaccess, .svn, .git, etc.)
   location ~ /\. {
        deny all;
        access_log off;
log_not_found off;
```

- cd ../handlers
- > nano main.yml

```
GNU nano 4.8

---

- name: restart php
become: yes
become_user: root
become_method: su
action: service name=php7.4-fpm state=restarted

- name: restart nginx
become: yes
become_user: root
become_user: root
become_method: su
action: service name=nginx state=restarted
```

- > cd ../../
- cd wp/tasks
- > nano main.yml

```
GNU nano 4.8
                                                              main.yml
 name: delete apt chache
 become: yes
 become_user: root
 become_method: su
command: rm -vf /var/lib/apt/lists/*
 name: install php
 become: yes
 become_user: root
 become_method: su
 apt: name={{ item }} state=latest update_cache=true
 with_items:
   - nginx
   - nginx-extras
   - php7.4
   - php7.4-fpm
   - php7.4-curl
   - php7.4-xml
- php7.4-gd
   - php7.4-opcache
   - php7.4-mbstring
   - php7.4-zip
   - php7.4-json
- php7.4-cli
   - php7.4-mysqlnd
```