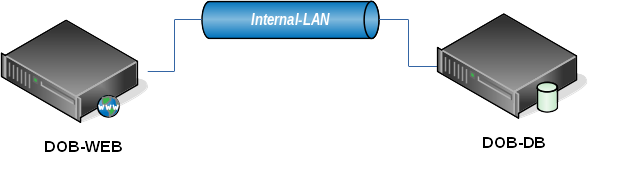
# Practice: Module 1

The lab environment has the following structure:



The following tasks are executed on different machines. It is stated clearly on which machine a task is being executed.

## Part 1: VirtualBox

#### On Host (install VirtualBox)

* Open a terminal session

wget http://download.virtualbox.org/virtualbox/rpm/rhel/virtualbox.repo

sudo mv virtualbox.repo /etc/yum.repos.d/

sudo yum update -y

sudo yum install -y gcc make kernel-headers kernel-devel

sudo yum install -y VirtualBox-5.1

sudo usermod -a -G vboxusers devops

* Log-out and log-on again
* Check that VirtualBox is correctly installed

## Part 2: Manual approach

#### On Host (import two VM templates)

* Start VirtualBox
* Import CentOS-7-Fresh.ova as DOB-WEB machine
* Import CentOS-7-Fresh.ova as DOB-DB machine
* Set networking mode of both machines to Bridged
* Start both machines

#### On DOB-WEB (install software)

* Log-on to DOB-WEB with **devops** user and **Password1**
* Change the hostname to dob-web by executing

**sudo hostnamectl set-hostname dob-web**

* Log-out and log-on again
* Install Apache, PHP, and Git

**sudo yum install httpd php php-mysql git**

* Configure Apache to start automatically and start it

**sudo systemctl enable httpd**

**sudo systemctl start httpd**

* Check that we have connectivity
* We can adjust the firewall in one of the following ways:
  + Stop and disable it

**sudo systemctl stop firewalld**

**sudo systemctl disable firewalld**

* + Or open the appropriate port or service

**sudo firewall-cmd --add-service=http --permanent**

**sudo firewall-cmd --reload**

* We can check again

#### On DOB-WEB (clone the project)

* Go to home folder
* Execute **git clone** [**https://github.com/shekeriev/dob-2017-oct-w1**](https://github.com/shekeriev/dob-2017-oct-w1)
* Copy all files from **dob-2017-oct-w1/web** to **/var/www/html**
* Try to open the page on the host

#### On DOB-DB (install software)

* Log-on to DOB-DB with **devops** user and **Password1**
* Change the hostname to dob-db by executing

**sudo hostnamectl set-hostname dob-db**

* Log-out and log-on again
* Install MariaDB client and server components

**sudo yum install mariadb mariadb-server**

* Enable and start the service

**sudo systemctl enable mariadb**

**sudo systemctl start mariadb**

* Do some initial configuration

**sudo myql\_secure\_installation**

#### On DOB-DB (configure database)

* Copy DB setup script from the other host

**scp** [**devops@IP:/home/devops/dob-2017-oct-w1/db\*.sql**](mailto:devops@IP:/home/devops/dob-2017-oct-w1/db*.sql) **.**

* Examine the script
* Execute the script against the database

**mysql -u root -p < db\_setup.sql**

* Log-on and check that the data is there
* Modify the firewall state:
  + Disable it:

**sudo systemctl stop firewalld**

**sudo systemctl disable firewalld**

* + Or allow port:

**sudo firewall-cmd --add-port=3306/tcp --permanent**

**sudo firewall-cmd --reload**

#### On DOB-WEB (configure the application)

* Check the **index.php** script if there is a need to change connection parameters
* Open browser and check the final result
* In case of connectivity error execute

**sudo setsebool -P httpd\_can\_network\_connect=1**

* Other option is to modify SELinux mode (/etc/sysconfig/selinux)

## Part 3: Vagrant

#### On Host (install Vagrant)

* First we download the package locally

**wget https://releases.hashicorp.com/vagrant/2.0.0/vagrant\_2.0.0\_x86\_64.rpm**

* Then we install it

**sudo rpm -ivh vagrant\_2.0.0\_x86\_64.rpm**

* Then we check that it is working

**vagrant version**

#### On Host (our first machine)

* Create folder **Vagrant/dob-1**
* Go there
* Execute

**vagrant init shekeriev/centos-7-64-minimal**

* Examine the created **Vagrantfile**
* Power-on the machine

**vagrant up**

* Start ssh session to the machine

**vagrant ssh**

* Browse the machine
* Exit the session
* List all local machines

**vagrant global-status**

* List all boxes

**vagrant box list**

* Destory the machine

**vagrant destroy --force**

#### On Host (our first machine)

* Create folder **Vagrant/dob-2**
* Extract files from **DOB-W1.zip**
* Examine the **Vagrantfile**
* Modify the settings if needed
* Check the sub-folders
* Execute

**vagrant up**

* Open browser
* Destroy the machines

**vagrant destroy --force**