COSC349 Assignment 1: A portable Software Application Deployment Using Virtualisation

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How and why the VMs interact

Our application consists of 3 virtual machines. We have 2 web server virtual machines and a virtual database server. The first web server hosts a webpage where it asks the user for contact information input. Once this input has been submitted with the submit button, the user input is sent to our database server and stored in a database table. The database server contains a database 'contactdb' which contains a table 'contactInfo' where the data is stored. Our second webserver hosts a website which will get the contact information stored in our database servers table and display the information to the webpage.

Download volumes for builds

The first build we do is getting the vagrant box, Ubuntu/xenial64. This file is around 270mb and is stored locally. Once we have downloaded this, all future requests for the box by other virtual machines will just reuse the cached box. Subsequent builds are the two webservers and the sql database server. This involves configuring and setting up the database table and inserting some test values and also setting up the configuration of the web servers.

How to use the application?

To run the application, clone the repository to your desired directory, and then in the same directory run "vagrant up –provider virtualbox". Once the build is complete, visit the URL 192.168.34.11.

The application is rather simple in design and functionality. The home page is designed for the user to input all the details of a specific contact they would like to save. When they have completed this they can click submit and the contact and its information will be saved to the database. To view the contacts, the user simply clicks on the contacts link at the top of the page to be taken to the second webpage that displays a list of all of the user's saved contacts.

Modifications to make

One modification to make to the application would be to add a search feature to the contacts page, this would make finding your desired contact a lot easier. Another modification to make to the application would be to add an edit and a delete contact button to the contacts page. This would provide more functionality to the contacts list.

To make these changes clone the repository, edit the code in the www2 directory, these changes will take effect immediately once you save the file and reload the web page.

Reference:
Base code to start assignment:
https://altitude.otago.ac.nz/cosc349/vagrant-multivm

CSS used for styling the contact table:
https://www.w3schools.com/css/tryit.asp?filename=trycss_table_fancy

CSS styling for form:
https://www.w3schools.com/css/tryit.asp?filename=trycss_forms

Using PDO to submit form:
https://www.formget.com/php-data-object/