Codar

Software Version: 1.7

Quick Start Guide

Hewlett Packard
Enterprise

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Contents

Overview

Hewlett Packard Enterprise Codaris an application release and continuous delivery automation tool. Application deployment is one of the core capabilities of this tool. The main purpose of this guide is to provide steps that will help you deploy a sample application called "Pet Clinic" using Codar. Pet Clinic is deployed on the Tomcat server and uses MySQL as the database. This document explains only Codar deployment and does not include any description about the other features present in the product.

For detailed information about installing and using Codar, see the Installation Guide.

Prerequisites to using the Pet Clinic application

The following are the prerequisites required to use the Pet Clinic application:

- In order to use this guide, Codar 1.7 must already be installed.

- You must have Ubuntu operating system version 12.04 or later for the Pet Clinic application to be deployed successfully. Ensure that your Ubuntu systems are clean and do not have Tomcat or MySQL installed.

- The application design to deploy the sample Pet Clinic application requires two Ubuntu systems.

- You can use the "admin" user role in Codar to perform all the steps in deploying the Pet Clinic application.

Downloading files

Perform the following steps to download the files and software required to deploy the Pet Clinic application:

1. Download the onboarding kit. The onboarding kit contains the necessary scripts to install software like Tomcat, MySQL and deploy the Pet Clinic application.

   > The OnboardingKit can also be downloaded from HPLN. To access this link, you must register and sign in to an HPE Passport account. In some cases, access to the documentation is restricted and requires you to have an active HPE support agreement ID (SAID) in addition to an HPE Passport account.

2. Extract the downloaded `OnboardingKit.zip` file in to a folder using WinZip or WinRAR software. This zip file contains the scripts to install Tomcat and MySQL software, to configure MySQL, and deploy the application on the Tomcat server. The URL to download Tomcat and MySQL server is available in this guide and these two software can be placed under the `software` directory inside the `OnboardingKit` extracted folder.

3. Download the Apache HTTP Server. The Apache HTTP Server is used to host the extracted artifact files. The Apache HTTP Server link which will refer to these artifacts is used to configure the parameters inside the Codar application design components. If you have any HTTP Server basedrepository, skip steps 4 to 8. Ensure that you place the downloaded files under the `HTTP` directory.

4. Extract the downloaded `httpd-2.4.12-win64-VC11.zip` file to a folder using WinZip or WinRAR software.

5. Open the `httpd-2.4.12-win64-VC11\Apache24\conf\httpd.conf` file.

6. Modify the `httpd.conf` file with the following steps to host the content of the folder you downloaded in step 1.

   a. Replace the value of `ServerRoot "c:/Apache24"` with the extracted Apache HTTP Server location. For example, `ServerRoot "C:\httpd-2.4.12-win64-VC11\Apache24"`.

   b. Replace the value of `DocumentRoot "c:/Apache24/htdocs"` with the location of the sample folder that you downloaded in step 1. For example, `DocumentRoot "C:/OnboardingKit"`.

   c. Replace the value of `Directory "c:/Apache24/htdocs"` with the location of the onboarding kit folder that you downloaded in step 1. For example, `Directory "C:/OnboardingKit"`.

    d. In the same `Directory` tag, change `AllowOverride None` to `AllowOverride All` and `Require all denied` to `Require all granted`.

7. Start the Apache HTTP Server by running the following commands:

    a. `<installation_drive>\httpd-2.4.12-win64-VC11\Apache24\bin\httpd.exe -k install`

    b. `<installation_drive>\httpd-2.4.12-win64-VC11\Apache24\bin\httpd.exe -k start`

    where *<installation_drive>* is the drive in which the Apache the HTTP Server must be installed. For example, C:, E:

8. Launch the http://localhost:80/ URL and the following folders and files are displayed:

9. Download MySQL and Tomcat from the following locations and copy them to the `Software` folder inside the `OnboardingKit` folder.

Software	Location
MySQL	http://ftp.kaist.ac.kr/mysql/Downloads/MySQL-5.6/ Download `mysql-server_5.6.22-1ubuntu12.04_amd64.deb-bundle.tar` or the latest version If you want to install the latest MySQL server, modify the `OnboardingKit/scripts/install_mysql.sh` script so that it contains the changed name and version of the MySQL server package.
Tomcat	http://tomcat.apache.org/download-70.cgi Download `apache-tomcat-7.0.56.tar.gz` or the latest version If you want to install the latest Tomcat server, modify the `OnboardingKit/scripts/install_tomcat.sh` script so that it contains the changed version and name of the Tomcat server package.

10. Ensure that you have two Ubuntu systems with the following packages installed in them:

- JDK 1.7

- libaio1

- unzip

- zip

Accessing the application design

The application design helps in deploying the Pet Clinic sample application after installing tomcat & mysql server on the Ubuntu server. Please use the scripts inside OnboardingKit to install and deploy the application.

1. Login to the Codar application portal at http://<*codarmc.mydomain*.com>:<codarport>/csa

2. Navigate to **Designs** -> **Topology** -> **Designer**.
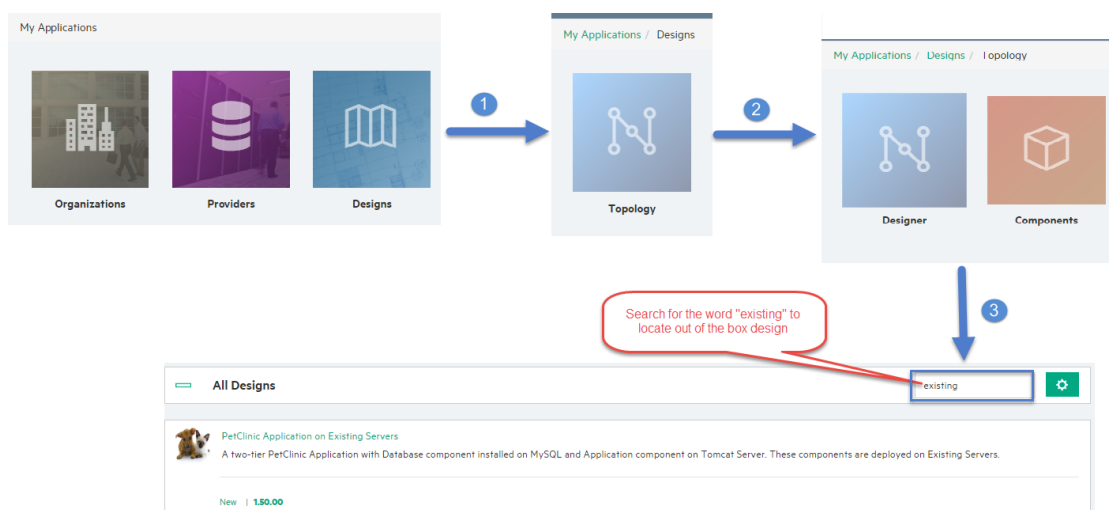
3. To import the designs click on "Import Design" inside the gear box and click the import button to import the service blue print design
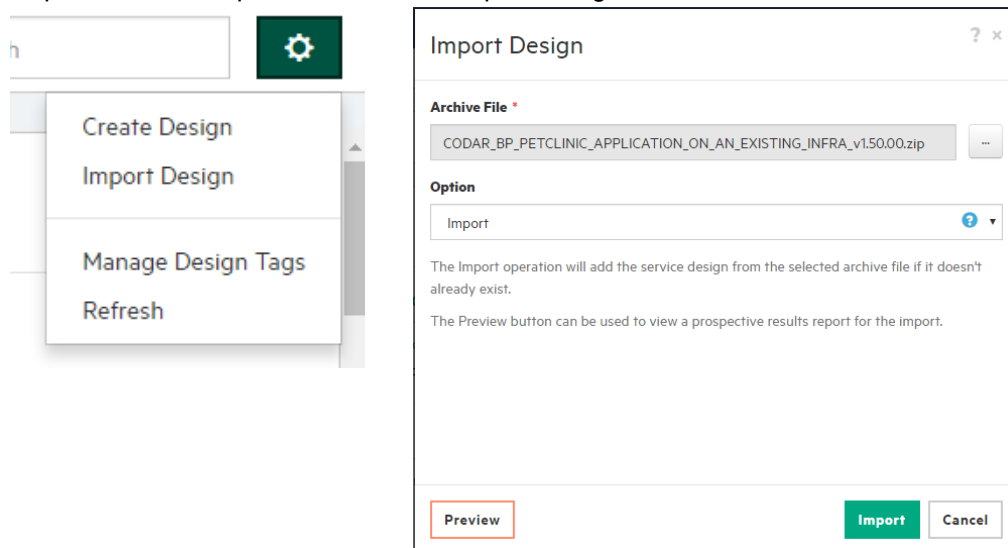
4. Click the application version, for example **1.50.00**, to configure the components.

5. Select each of the components and customize by specifying the required values for each of the components.

   The application design has six components:

   ○ Existing server 1 that can be used as the database server

   ○ Existing server 2 that can be used as the application server

   ○ MySQL database

   ○ Tomcat

   ○ PetClinic DB Conf - this component creates the database and configures it for the Pet Clinic application to run

   ○ PetClinic Application

A database connection relationship is created between PetClinic DB Conf and the PetClinic Application components. The application design deploys the Pet Clinic application by performing the following steps:

1. Accesses the IP address of the existing servers

2. Deploys MySQL and Tomcat on the existing servers

3. Configures the Pet Clinic database on MySQL

4. Deploys the Pet Clinic application on the Tomcat application server

Customizing components

This topic explains how to customize the application design components in "Accessing the application design".It is assumed that you are *not* working in a virtual environment.

Customizing the existing server
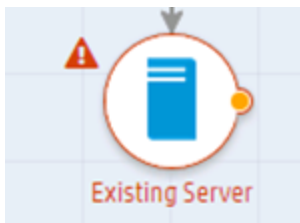
Perform the following steps to customize the existing server component:

1. Click the existing server component.

2. On the **Properties** tab, enter the following information:

Field	Description
Name	Name of the server. This is typically the name of one of the two Ubuntu systems specified in Prerequisites.
HOST-FQDN	Complete FQDN name of the server
Modifiable during service creation	Select this check box if you want to update the FQDN during deployment. For more information about this, see the Codar online help.
IP ADDRESS	IP address of the Ubuntu system
PASSWORD	Password of the Ubuntu system
SSH PORT	Port number for the application server and database to connect to this Ubuntu system. The default port is 22.
PRIVATE KEY	Private key for secure SSH access

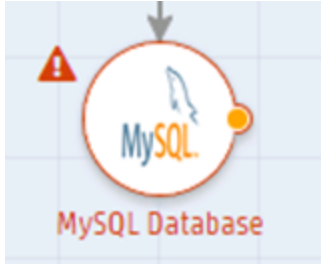| Field	Description
USER NAME	User name for whom SSH access must be granted to this Ubuntu system. For example, root

Customizing the second existing server

Perform the following steps to customize the application server component:

1. Click the existing server component.

2. On the **Properties** tab, enter the following information:

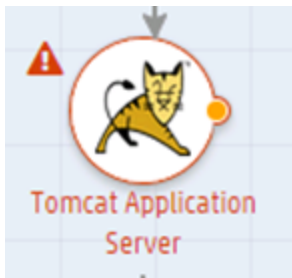| Field	Description
Name	Name of the server. This is typically the name of the second Ubuntu systems specified in Prerequisites.
HOST-FQDN	Complete FQDN name of the server
Modifiable during service creation	Select this check box if you want to update the FQDN during deployment. For more information about this, see the Codar online help.
IP ADDRESS	IP address of the second Ubuntu system
PASSWORD	Password of the second Ubuntu system
SSH PORT	Port number for the application server and database to connect to this Ubuntu system. The default port is 22.
PRIVATE KEY	Private key for secure SSH access
USER NAME	User name for whom SSH access must be granted to this Ubuntu system. For example, root

Customizing MySQL

Perform the following steps to customize the MySQL component:

1. Click the MySQL component.

2. On the **Properties** tab, enter the following information:

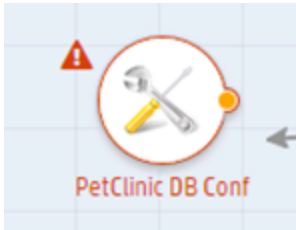| Field	Description
Name	Name of the database.
artifactPassword	Enter the password for accessing the HTTP location. This is an optional field.
Modifiable during service creation	Select this check box if you want to update the password during deployment. For more information about this, see the Codar online help.
artifactURL	HTTP location where the MySQL database is located. That is, the location where `mysql-server_5.6.22-1ubuntu12.04_amd64.deb-bundle.tar` is located
artifactUsername	Name of the user who accesses the HTTP location
configurationUrl	HTTP location in which `install_mysql.sh` is located. For example, http://localhost:80/scripts/install_mysql.sh
installPath	Path in which MySQL or Tomcat is installed. This is an optional field.
privatekeyPath	Key to connect to MySQL. This is an optional field.
remoteFilePath	Remote file path in which the files must be copied to the Ubuntu server.
serviceCommand	sh install_mysql.sh
sshPort	Enter 22 as the SSH port number.

Customizing Tomcat

Perform the following steps to customize the Tomcat component:

1. Click the Tomcat component.

2. On the **Properties** tab, enter the following information:

Field	Description
Name	Name of the Tomcat server.
artifactPassword	Enter the password for accessing the HTTP location. This is an optional field.
Modifiable during service creation	Select this check box if you want to update the password during deployment. For more information about this, see the Codar online help.
artifactURL	HTTP location where the Tomcat server is located.
artifactUsername	Name of the user who accesses the HTTP location
configurationUrl	HTTP location in which `install_tomcat.sh` is located. For example, http://localhost:80/scripts/install_tomcat.sh
installPath	Path in which MySQL or Tomcat is installed. This is an optional field.
privatekeyPath	Key to connect to Tomcat. This is an optional field.
remoteFilePath	Remote file path in which the files must be copied to the Ubuntu server.
serviceCommand	sh /tmp/install_tomcat.sh
sshPort	Enter 22 as the SSH port number.

Customizing the PetClinic DB Conf component

Perform the following steps to customize the PetClinic DB Conf component:

1. Click the PetClinic DB Conf component.

2. On the **Properties** tab, enter the following information:

| Field	Description
Name	Name of the component. That is, Pet Clinic DB Conf
artifactPassword	Enter the password for accessing the HTTP location. This is an optional field.
Modifiable during service creation	Select this check box if you want to update the password during deployment. For more information about this, see the Codar online help.
artifactURL	HTTP location where the PetClinic DB Conf is located.
artifactUsername	Name of the user who accesses the HTTP location
configurationUrl	HTTP location in which `install_tomcat.sh` is located. For example, http://localhost:80/scripts/install_tomcat.sh
installPath	Path in which MySQL or Tomcat is installed. This is an optional field.
privatekeyPath	Key to connect to Tomcat. This is an optional field.
remoteFilePath	Remote file path in which the files must be copied to the Ubuntu server.
serviceCommand	sh /tmp/install_tomcat.sh
sshPort	Enter 22 as the SSH port number.

Customizing the Pet Clinic Application component

1. Click the Pet Clinic Application component.

2. On the **Properties** tab, enter the following information:

Field	Description
Name	Name of the component. That is, Pet Clinic Application
artifactPassword	Enter the password for accessing the HTTP location. This is an optional field.
Modifiable during service creation	Select this check box if you want to update the password during deployment. For more information about this, see the Codar online help.
artifactURL	HTTP location in which `petclinic.war` is located
artifactUsername	Name of the user who accesses the HTTP location
configurationUrl	HTTP location in which `petclinic_jdbc_conf.sh` is located http://localhost:80/scripts/petclinic_jdbc_conf.sh
localfilepath	Path in which `petclinic.war` is located. This is an optional field.
port	Enter 22 as the port number.
privatekeyPath	Key to connect to `petclinic.war`. This is an optional field.
remoteFilePath	`/tmp`
serviceCommand	`sh /tmp/petclinic_jdbc_conf.sh`

Deploying the application design

After customizing the components in the application design, you can deploy it and start working with the Pet Clinic application. The application design is saved automatically after every change. Perform the following steps to deploy the application design:
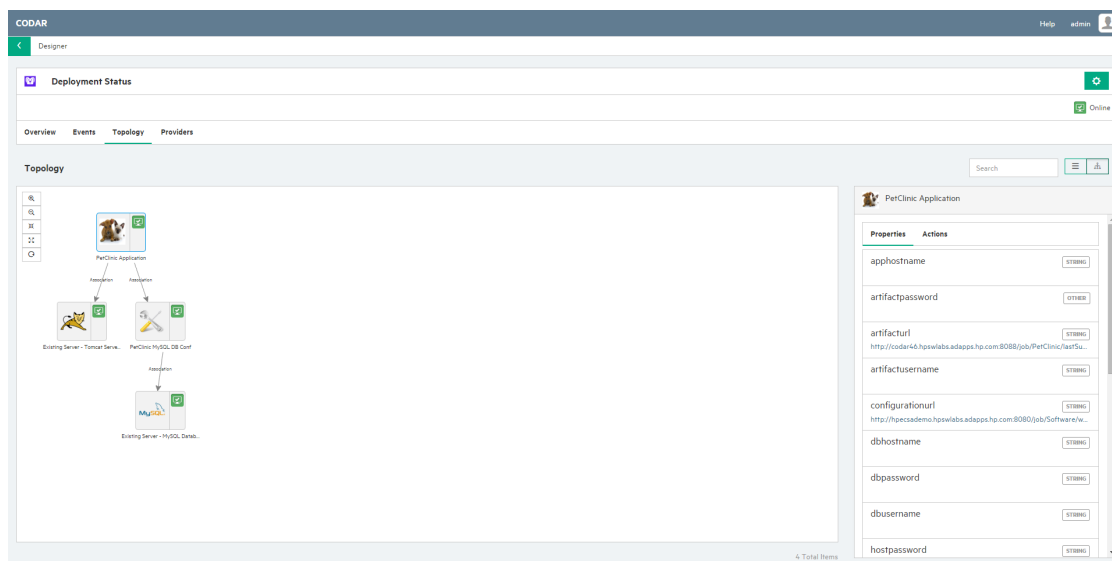
1. Click the **Test** tab and click **Test Run** to install the software and deploy the application on the Tomicat server. Ensure that Tomcat and MySQL are not already installed in Ubuntu systems 1 and 2.

2. In the Test Run dialog box, in the **Name** field, enter a name for the application. You can enter any name, for example, Test Run <application_name>.

3. Click **Finish**.

4. Click the **Test** tab to to see the status of the deployment. The status is first displayed as **Deploying** and then **Online**. An **Online** status indicates a successful deployment.
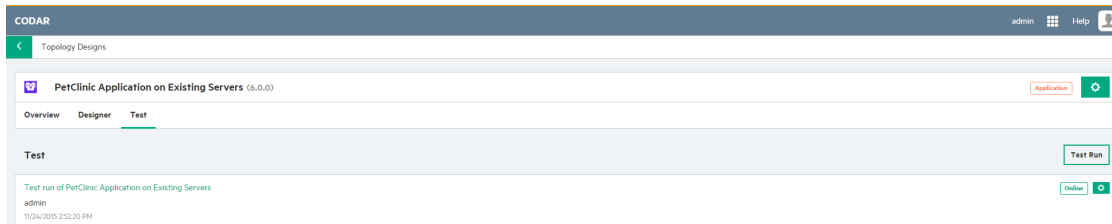

5. To see the summary of the application, click the <application_name> link and the click the **Topology** tab. The screen displays the structure of the application and also displays which components were successfully executed and which components have failed.

6. Launch the application URL to check for the successful deployment of the application. The application URL is in the form http://<IP_address of the Tomcat server>/petclinic. For example, http://10.1.155.58:8080/petclinic
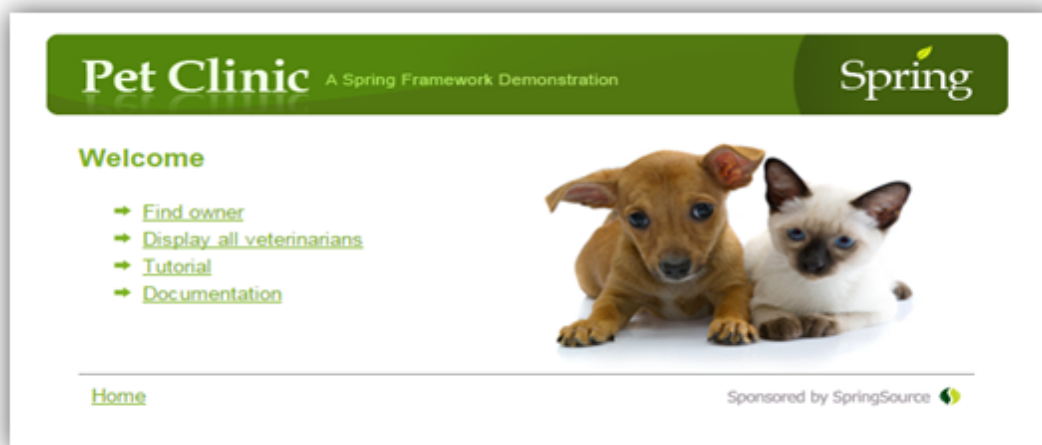
Troubleshooting

This topic explains some troubleshooting steps in case you encounter errors or problems while launching the Pet Clinic application.

If you are not able to launch the application, perform the following checks:

- Ensure that you have used the right version of Ubuntu (version 12.04 or later).

- Ensure that the dependent libraries mentioned at step 9 in the "Downloading files" topic are installed.

- Verify that port numbers 8080 and 1521 are open and available for Tomcat and MySQL respectively.

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