SEMESTER 1 2017

HIT3311 - Software Deployment and Evolution

Assignment 1 - Team Assignment, Due: Week 7, Worth: 15%

Team Size: The size of the team can be 1, 2 or 3 students. The assignment task size increased with team size (see Task section for more information)

Task

The assignment task is to:

(a) Rigorously apply the software deployment model to analyse the deployment process of

JavaBB and Eclipse IDE.. Rank the software systems based on the quality and depth of the deployment.

Or

(b) Evaluate the RPM tool and related processes widely used in Linux using the deployment model,

specifically which aspects of the model do these tools support and are there any limitations.

Or

(c) Define *ideal* deployment requirements for the final year project taking into consideration all issues that arise during deployment planning. Assume you have no time and resource constraints while defining these requirements.

Software Deployment Model

For this assignment you must use the Carzaniga software deployment model (see Figure below) as covered during the lectures. You are also expected to apply additional aspects covered in the references presented in the lecture notes, specifically, Dearl 2007 and Slinger 2006.

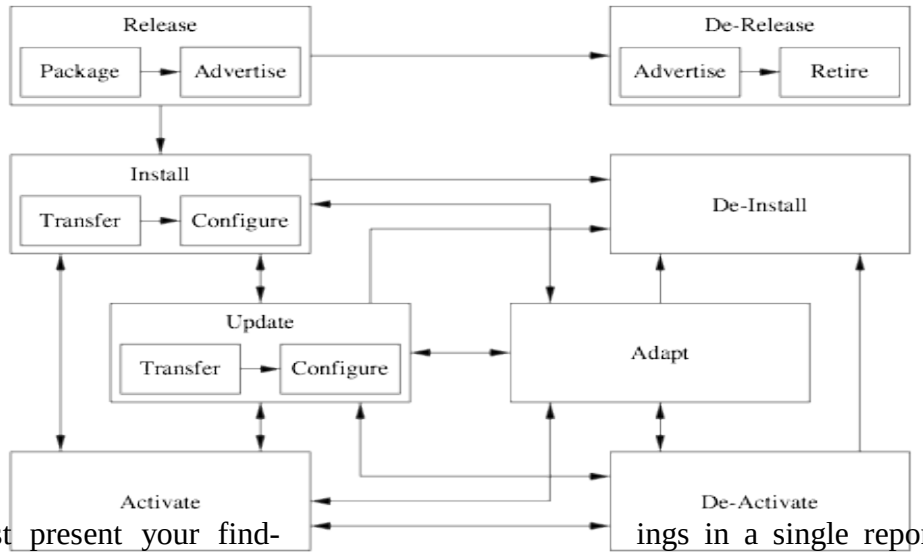

Figure 1: Activities of the Software Deployment Process.

Report

You must present your findings in a single report. The report must use a readable font (12-point is ideal) and must be no longer than 20 pages, excluding references and appendices.

The report must contain the following broad sections:

1. Report Overview: A brief summary of what this report contains, including a summary of your main findings -- max. 1 page
2. Software Deployment Model: This section must explain what a deployment model is and why such models are needed -- max. 1 page
3. Analysing Deployment Process of a Software System: This section should indicate the method used for analysis -- that is, how you analysed each software system. You must provide a brief rationale for all steps in your analysis process. The supporting handout provides the set of questions that you must answer at a minimum -- max. 4 pages
4. Deployment Analysis Findings and Discussion: Use sub-sections for reporting the findings for each of the software systems analyzed. A short discussion should be provided reflecting on your findings. Put forward your *hypothesis* on why certain aspects of the deployment model were poorly supported, if any. You must clearly indicate the version of the products that you have analysed. Finally in a sub-section, subjectively rank the software systems based on their support for the deployment model and briefly justify this ranking. -- max. 5 pages
5. Deployment Tool Evaluation: This section must contain a brief description of the tool analysed (RPM), an outline of the requirements that you expect to find in a deployment tool followed by your findings. You are expected to repeat the analysis conducted by Carzaniga 1998 paper for RPM. Has there been any change in the last decade or have the tools remained in the same state with respect to the deployment maturity? You can also critique/reflect on the method used by Carzaniga. -- max. 4 pages
6. Deployment Requirements for Final Year Project: These requirements must be made against the deployment model considering all activities. Recommendations must be made if multiple target environments would be needed (that is, for testing/staging/development/production). Tooling and packing format must be clearly indicated, you must also state if scripts shall be used for configuration or if it shall be performed by the installation tool. Also, indicate all steps that can be manual as well as aspects that need to be automated with tools -- max. 5 pages.
7. Appendix
8. References (Citations must use the Harvard style)

Submission

A printed copy of the report must be submitted into the Assignment Box located at E Level (E201) in an A4 envelope with the subject code, convenors name, the team members names (as well as the Student IDs) on the cover sheet. The report should have a title page with the team members names and their Student IDs. All pages must be numbered. Penalties will apply for late submissions, refer to the Unit outline for details.

Virtualization

It is strongly recommended that you actually deploy the products before finalising your report as it will help you properly reflect on the process. To minimize disruption to your current working environment, you can install all three products on Ubuntu 9.04 running inside a virtual machine. Sun Microsystems provides a virtualization technology called “Virtual Box” at no cost. You can setup this virtualization software on Windows, OSX or Linux. Once Virtual Box is installed, you can setup Ubuntu inside this virtualized machine (or) download a Virtual Box Ubuntu image and run that directly. You can run another distribution of Linux as well (i.e. Suse or RedHat).

Use of virtualization is growing in a wide range of sectors, so attempting to setup a virtual machine will give you a further insight into use of this technology. However, if you are new to this concept, an overview of virtualization can be found at :

http://en.wikipedia.org/wiki/Full_virtualization

Tools and Software

You can obtain the software that you need to analyze from the following URLs:

JavaBB – https://www.javabb.org/

Eclipse IDE-https://eclipse.org/downloads/

Virtualization tools:

You can get Sun Virtual Box at: http://www.virtualbox.org

You can download Ubuntu at: http://www.ubuntu.com

Supporting Documents

There are two supporting documents provided along with this handout to help complete your assignment task.

1. Data Collection Template - This document provides a set of questions. Answering these questions will give you the raw data for your findings section.
2. Deployment Requirements - This documents provides a good starting point to complete Section 6 of the report.

References

Teams must carefully read the following references before attempting this assignment task.

1. Carzaniga, 1998: A Characterization Framework for Software Deployment Technologies, Carzaniga, A. and Fuggetta, A. and Hall, R.S. and Heimbigner, D.
2. Alan Dearle, 2007: Software Deployment, Past, Present and Future, International Conference on Software Engineering, 2007 (http://portal.acm.org/citation.cfm?id=1254724)
3. Slinger Jansen 2006: Evaluating the Release, Delivery, Deployment processes of Eight Large Product Software Vendors applying the Customer Configuration Update Model, Published at the WISER 2006 conference.
4. Red Hat Package Manager - http://en.wikipedia.org/wiki/RPM_Package_Manager
5. Harvard Style Citations - http://www.swinburne.edu.au/lib/researchhelp/harvard_style.html

