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Versiooniuuenduse raamistik
kasutades skriptimiskeelt Bash
Bakalaureusetöö (6 EAP)

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Versiooniuuenduse raamistik kasutades skriptimiskeelt Bash

Lühikokkuvõte:

Võtmesõnad:

Bash skript, versiooni uuendus

Thesis title

Abstract:

Keywords:

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Sissejuhatus

- teema valiku põhjendus (teema aktuaalsus ja uudsus)
- töö eesmärk
- uuritav probleem (vajadusel püstitatud hüpotees(id), uurimisküsimus(ed), uuringu objekt)
- töö struktuuri kirjeldus peatükkide kaupa. Samuti tutvustakse lühidalt lisasid, sh kaasapandud materjalide sisu.

1 Probleemi püstitus

Süsteemi arhitektuur

Nõuded lahendusele

keskkondade arv (8 nendest productions): 26 + VM-s ja local machines

Tomcat 8 serverite arv: 29 + VM-s ja local machines

WebLogic 12 serverite arv: 2

2 Võimalikud lahendused

Tarkvara	Hind aastas
Atlassian Bamboo	\$0*
Chef	\$127/node
Jenkins	\$0
Ansible	\$14,000
Bash	\$0

2.1 Atlassian Bamboo

[6]

2.2 Chef

[7]

2.3 Jenkins

[8]

2.4 Ansible Tower

[9]

2.5 Puppet

[10]

2.6 Bash skriptimine

[1] Bash skriptimiskeel - mis on selle eelised?

3 Lahendus

3.1 Skripti arhitektuur ja tööpõhimõte

3.2 Skripti paigaldus

3.3 Skripti kasutus

3.4 Dokumentatsioon

4 Mõju projekte

4.1 Statistika

Module Name	Script Time (sec)	Manual Time (sec)
admin	27.245	80.45
treatment	61.101	112.71
reception	38.538	100.19

[11]

4.2 Kolleegide tagasiside

Martin Rakver, Hosting Services and Application Manager

I have not been using the script very much, because I rarely update modules nowadays. But what I can say is that it is definately in the right place – automating activities that testers would need do to on daily basis each time when deploying a new module. Come to think about it, there are actually quite many activites related to new module deployment – would be interesting to compare the time it takes to deploy a module manually vs using script + calculate about how much time we as a team are saving daily,monthly,yearly (and get to do more important things with that time). I also like that scalability has been considered when writing the script + many optional features have been implemented which can be used if one desires to do so.

Kalle Jagula, QA Specialist

I personally think that version-update script has significantly improved the speed of version update. Especially with the settings for bulk-update, which improves the speed of modules' version update and manageability of test/demo environments.

Tanel Käär, System Architect

Version updater script has standardized the way our environments are updated, reducing learning curve for new people performing the task. Downside is that people are unaware, what happens in the background and can't handle simple errors in the process anymore.

Klaus-Eduard Runnel, Senior Programmer

I have mostly used the scripts to perform quick module and dependency updates in specific test environments when deploying quick fixes or debugging problems in the modules I'm responsible for. Deployment of artifacts is secondary task in such scenarios. The scripts allowed me to conveniently perform the updates while letting me concentrate on solving the primary problems and not leaving the environment containing all necessary information.

In some cases it was necessary to deploy custom-built experimental (unversioned) war-files. In these cases the scripts could not be used. They would have been useful though if such experiments would have been committed to feature branches and published as feature branch artifacts. (As of today, we are better prepared for such circumstances.)

The scripts were also useful to deploy predefined sets of modules to temporary test environments living on reusable virtual machine images. It is important to note that a module update triggers launching a set of associated sql scripts to bring a database schema up to date. In that way the version update scripts let us automate most of a process of setting up updated environment from virtual machine images.

It would be helpful if the scripts were adapted to perform changes on remote machines and to perform changes on multiple environments simultaneously.

5 Lahenduse perspektiivid

Kokkuvõte

Kokkuvõttes tuuakse selgelt välja töö põhilised saavutused. Ei tohi sisse tuua uusi väiteid, põhjendusi ja analüüse, mida töö põhiosas ei ole käsitletud. Mõistlik on viidata eesmärgile ja sõnastada kokkuvõte nii, et on näha eesmärgi saavutamine ning ka autori panus.

Kokkuvõttes võib lühidalt esile tuua töö edasiarendamise võimalikke teid ja perspektiive.

Kokkuvõtte tekstis on soovitatav kasutada lihtmineviku umbisikulist tegumoodi, näiteks "Töös toodi välja . . . , kirjeldati . . . , leiti lahendus . . . ", aga ka olevik on vastuvõetav.

Kasutatud materjalid

- [1] <https://www.gnu.org/software/bash/manual/bashref.html>
- [2] <https://tomcat.apache.org/tomcat-8.0-doc/manager-howto.html>
- [3] <https://help.ubuntu.com/community/CronHowto>
- [4] <https://www.mercurial-scm.org/guide>
- [5] <https://wiki.centos.org/FrontPage>
- [6] <https://www.atlassian.com/software/bamboo>
- [7] <https://www.chef.io>
- [8] <https://jenkins-ci.org>
- [9] <https://www.ansible.com>
- [10] <https://puppet.com>
- [11] <http://pubs.opengroup.org/onlinepubs/9699919799/utilities/time.html>

Lisad

- Skripti manuaal: <https://iriiiina.gitbooks.io/version-updater-manual/content/>
- Skripti kood: <https://github.com/iriiiina/version-updater>
- BPMN diagramm ühe mooduli uuenduse kohta Tomcat-i peal (update-version-tomcat.sh): <https://github.com/iriiiina/bachelors-thesis/blob/master/thesis/pictures/BPMN-diagram-one-module-tomcat.png>