



Your Project

Software Engineering II
WS 2018/19

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Enterprise Platform and Integration Concepts

SWT2 Schedule



Project

- Sprint 1: 9.11. (Kick-Off) - 23.11.
- **Weekly Stand-ups!**
- Sprint 1 review & retrospective + Sprint 2 planning: 23.11.

Meetings

- Exact dates for meetings should be **negotiated** with your tutor
- Sprint reviews and plannings for next sprint can be merged

- On demand: User Research with Customer

Let's get started



POs

- Extract requirements + create user stories (GitHub tickets)
- Get an idea of the interaction workflows in the system (**mockups?**)
- Prepare Sprint plannings, inform yourselves on what the team is doing
- PO should roughly know what the team has done **before the review**

Developers

- Clone repository, get application working, **understand architecture**
- **If you were lead architect, how would you construct this?**
 - *What are some challenges with the problem domain?*
- **Play around** and try things out.
 - *Where does the system have problems?*
 - *What makes no sense to you?*

Let's get started



SMs

- Part of your job is research and retrospection
 - What is working well in the team? What isn't?
 - What are good ways of how a team meeting can be structured?
- Every team is different. **Experiment!**

Meetings

- Regular meeting + work timeslot
- We have reserved **V1.15** and "**Glaskasten**" **Fridays 11:00-17:00** for you

Tutorium in this space after the lecture

- Ask any (Ruby [on Rails]) question
- Work together



Project Infrastructure

VMware's cloud computing virtualization platform

- VMware says: "vSphere provides a powerful, flexible, and secure foundation for business agility that accelerates your digital transformation to hybrid cloud and success in the digital economy." (<https://www.vmware.com/products/vsphere.html>)
- It allows **managing VMs and resources** in an online interface
- The URL as well as the user and password were mailed to you
- The application uses a library called 'rbvmomi' to access vSphere (see the Gemfile)
- The vSphere Center is **only available within the HPI network!**

VMware vSphere



The screenshot displays the VMware vSphere Web Client interface, specifically the Update Manager section. The top navigation bar includes 'Getting Started', 'Summary', 'Monitor', 'Configure', 'Permissions', 'Hosts', 'VMs', 'Datastores', 'Networks', and 'Update Manager'. The 'Update Manager' tab is active, showing a summary of the overall compliance status as 'Non-Compliant'. Below this, there are buttons for 'Attach Baseline...', 'Scan for Updates...', 'Stage Patches...', 'Remediate...', and 'Go to Admin View'. A table lists the baselines, with one entry 'Upgrade to 6.5' under the 'Independent baselines' category, marked as 'Host Upgrade' and 'Non-Compliant'. At the bottom, a summary shows 'Compliant (0)', 'Non-Compliant (16)', 'Incompatible (0)', and 'Unknown (0)'. A detailed table below lists the objects (webappsw-51.tmlab.local to webappsw-60.tmlab.local) and their last patch scan times.

Baseline	Type	Compliance Status
Independent baselines		
Upgrade to 6.5	Host Upgrade	Non-Compliant

Object	Last Patch Scan Time
webappsw-51.tmlab.local	
webappsw-52.tmlab.local	
webappsw-53.tmlab.local	
webappsw-54.tmlab.local	
webappsw-55.tmlab.local	
webappsw-56.tmlab.local	
webappsw-57.tmlab.local	
webappsw-58.tmlab.local	
webappsw-59.tmlab.local	
webappsw-60.tmlab.local	

Communication Infrastructure



- Email lists
 - If you want: separate lists for each team (*lists.myhpi.de*)
 - Keep your teammates in the loop, add teaching team
 - Rules and filters help organizing your inbox
- <https://swt2-2018.slack.com>
- Ticket system for overview and feedback about current tasks and progress
- Wiki for lean and globally **accessible documentation**
- Telephone and personal contact for direct communication
- ... be **creative!**
(but let us know, we are interested in learning what might be useful in the future)

Time Management



Shared Calendar

- Available Everywhere
- Integration with Outlook & iCal
- Overview of team appointments
- SWT2 calendar access granted by teaching team

Project Management Tools



The Swiss army knife of software development

- Integrating tools for most common activities in **one place**
- Wiki, bug tracking, time management, project analytics, discussions, ...

- Examples:
 - Microsoft Team Foundation Server
 - Redmine, Plan.io (SaaS based on Redmine)
 - Gitlab
 - **GitHub**

Version Control System



Repository to store development artifacts

Features:

- Versioning
- Dealing with variants: **branches**
- Access control
 - Authentication, authorization
 - Locking
 - **Concurrent** development
- Reporting and communication
 - How many versions, variants, changes, persons
 - History of changes

Continuous Integration



How do you make sure your software **always works**?

Continuous Integration!

- **Connected** to version control
- Customizable run scripts
- Ideally covering all development branches
- Examples:
 - CruiseControl
 - Anthill
 - Jenkins/Hudson
 - **Travis CI**

Travis CI



Search all repositories

[My Repositories](#) [Running \(0/0\)](#) +

- ✓ [swt2-intro-exercise/rails-exercise](#) # 20
⌚ Duration: 53 sec
📅 Finished: about 2 hours ago
- ✓ [hpi-sw2/vm-portal](#) # 135
⌚ Duration: 2 min 42 sec
📅 Finished: about 10 hours ago
- ✓ [swt2-intro-exercise/rails-exercise](#) # 14
⌚ Duration: 1 min 1 sec
📅 Finished: 6 days ago
- ✓ [swt2-intro-exercise/rails-exercise](#) # 30
⌚ Duration: 1 min 1 sec
📅 Finished: 6 days ago
- ✓ [swt2-intro-exercise/rails-exercise](#) # 28
⌚ Duration: 1 min 2 sec
📅 Finished: 6 days ago

 [hpi-sw2 / vm-portal](#)  build passing

[Current](#) [Branches](#) [Build History](#) [Pull Requests](#)

✓ vm-dev 👤 Max Schneider	added storage and name fields to request and changed field order	🔗 #135 passed 🔗 c8633a6
✗ login-dev-GH-34-35-36 👤 Marius Lichtblau	Display correct error messages when login fails #35 #36	🔗 #133 failed 🔗 76c9762
✓ vm-dev 👤 Max Schneider	Merge pull request #44 from hpi-sw2/Issue/7-VM-Auflistung	🔗 #132 passed 🔗 f19aaf1
✗ login-dev-GH-34-35-36 👤 Marius Lichtblau	Display correct error messages when login fails #35 #36	🔗 #130 failed 🔗 76c9762
✓ Issue/7-VM-Auflistung 👤 Max Schneider	added rejection info, so i can give a reason why request was rejected	🔗 #128 passed 🔗 1259647
✓ login-dev 👤 Marius Lichtblau	Add login page (#45)	🔗 #127 passed 🔗 91a974d
✓ login-dev-GH-32 👤 Marius Lichtblau	Fix style issues	🔗 #125 passed 🔗 67fa404

Application Deployment



How can you always have a **running version** available?
(why would you want to?)

Deploy your application!

- Simple solution: test deployment on local machine
- Deployment on separate machine:
 - Dedicated Servers
 - Infrastructure-as-a-Service
 - Platform-as-a-Service, e.g. Heroku
- **Continuous Deployment:**
Deployment **automatically** triggered by successful CI build
 - Deployment config is part of the project
 - No extra effort


How can you ensure that the software adheres to certain **quality standards** (complexity, test coverage, etc.)?

Check for compliance

- Self-control, code reviews
- **Automatic** checks
 - Hosted tools: e.g. CodeClimate, Codefactor, Codebeat
 - Local code coverage: SimpleCov (<http://www.simplecov.org/>)
 - Can run automatically during each test run
 - coverage/index.html in your application folder
 - Local code smells: RuboCop (<https://www.rubocop.org>)

Hosted Code Quality Checks




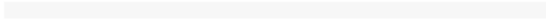
hpi-sw22/wimi-portal  ★ Starred

[Overview](#) [Progress](#) [Issues](#) [Code](#) [Trends](#) [Repo Settings](#) Last [master](#) build 3 days ago [Refresh](#)

Breakdown


161 FILES

 MAINTAINABILITY

 TEST COVERAGE

Codebase summary

MAINTAINABILITY **B** 4 days


TEST COVERAGE 

Repository stats

CODE SMELLS 29

DUPLICATION 12

OTHER ISSUES 0

 **CODE CLIMATE**
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PRODUCT	SUPPORT	COMPANY	SOCIAL
Features	Help and support	About	Blog
Pricing	Documentation	Careers	Facebook

SimpleCov Code Coverage



All Files (100.0%) Controllers (100.0%) Models (100.0%) Mailers (100.0%) Helpers (100.0%) Libraries (100.0%) Plugins (100.0%)

All Files (100.0% covered at 1.35 hits/line)

6 files in total. 41 relevant lines. 41 lines covered and 0 lines missed

Search:

File	% covered	Lines	Relevant Lines	Lines covered
🔍 app/controllers/application_controller.rb	100.0 %	5	2	2
🔍 app/controllers/job_offers_controller.rb	100.0 %	77	34	34
🔍 app/helpers/application_helper.rb	100.0 %	2	1	1
🔍 app/helpers/job_offers_helper.rb	100.0 %	2	1	1
🔍 app/models/job_offer.rb	100.0 %	2	1	1
🔍 app/models/user.rb	100.0 %	7	2	2

Showing 1 to 6 of 6 entries

Your Project



1. VMware vSphere
2. Communication infrastructure
3. Continuous Integration
4. Continuous Deployment
5. Code quality

6. Any other tools you want to add

But, your team is not the only one using it, communicate.

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