

Please make sure to always prepare your answers and solutions in a way that you are able to present them to your classmates and discuss your solution process effectively. Remember to always list any used material and references.

Outlook

Practice sheets 3 to 7 will deal with the different phases of actively participating in an OSS project by submitting a patch for an issue (bug or feature).

Roadmap for the next 5 weeks:

| No. & Time span | Tasks | Content of the tutorial |
|-----------------------|---|---|
| PS 3 by 02.11.2015 | Find an interesting OSS project and pick an issue (bug or feature) to work on. | Present your project and issue. |
| PS 4 by 09.11.2015 | Develop solution approach for issue and present it to the project's community | Discuss emails with solution approaches and address possible reactions of the community. |
| PS 5 by 16.11.2015 | Revise or refine solution approach with respect to the input from the community. Write test case for issue. | Look at the development process of the solution approach and the test case. |
| PS 6 by 23.11.2015 | Implement and present the patch to the OSS project. | Your experience with submitting your patch. |
| PS 7 by 30.11.2015 | Get your patch reviewed and accepted. | Talk about process, progress, success, problems and experience concerning the patch submission and acceptance by the community. |

The participation processes vary from project to project, and thus the steps described in the practice sheets may not fit all open-source projects equally well. Note that the project's own guidelines for participation have *precedence* over the steps described in the practice sheets.

Therefore, make sure to get in touch with the community to understand the way your OSS projects works, apply common sense while making your decisions. Along the way, discuss the aptness of the procedure described in the practice sheets for your particular OSS project.

Task 3-1: Identify an Open-Source Project

The aim of this task is to identify an open source project you are interested in and you can contribute code to.

1. Search for an OSS project that sounds interesting to you. The project must meet the following criteria:
 - a) It must be an **active project**, this means it should have
 - at least 2 active committers,
 - at least one commit during the last week,
 - at least 20 commits during the last month, as well as
 - at least two mails on the developer mailing list during the last week.
 - b) It must be written in a **programming language** you are skilled in
 - c) It should be **not too big** and should be well **modularized**.
2. Subscribe to the relevant mailing list(s) of the project.
3. Check out the project's source code for development.
4. Look into the project's documentation.

There are several ways to find open-source projects.

- Hosts of OSS projects:
 - SourceForge: <http://sourceforge.net>
 - GitHub: <https://github.com>
- Umbrella organizations for OSS projects:
 - Apache Software Foundation: <http://www.apache.org>
 - Mozilla Foundation: <http://www.mozilla.org>
 - The Eclipse Foundation: <http://www.eclipse.org>
- Saros, an open-source project started by our research group:
<http://www.saros-project.org>

In addition, you might want to take a look at Apache's hints on how to get involved:
<http://www.apache.org/foundation/getinvolved.html>

Task 3-2: Identify an Issue (Bug or Feature)

The aim of this task is to find an issue (bug or feature request) in the tracker of the OSS project you chose in Task 3-1.

1. Familiarize yourself with the project's process for contributing code (from outside).
2. Go to the issue tracker of the project and search for an issue you want to implement during the next three weeks.

Hints for identifying an adequate issue:

 - The error description is understandable and comprehensible.
 - You can reproduce the error in the source code version you already checked out.
 - Other developers may have already commented on this problem, hinting to possible approaches. This is ok for you, as long as they do not completely anticipate the solution.
3. Now have a closer look at the issue. Understand its error message (possibly look into the documentation). Go to the code and look for the affected classes/methods. Are there already (unit) tests for these?

Task 3-3: Present Project and Issue

The aim of this task is to present your OSS project and the selected issue to your fellow students.

- 1.** Prepare to present your project and selected issue in the tutorial. Pay attention to the following points:
 - a) Introduce the project:
 - kind of software, functionality, target group (users)
 - project activity, committers and contributors, mailing lists, programming language, process of contributing code, ...
 - b) Your motivation to pick this project.
 - c) Describe the issue you selected:
 - Which functional areas are concerned?
 - Explain the problem behind the error message in detail.
 - Describe the affected classes.
 - Are there unit tests for these classes? Why do they not report any failure?
- 2.** Create a page in the Wiki and write down the relevant characteristics about your project and your issue.

This page needs to be complete **before 02.11.2015, 8:00 am.**