Hackathon supporting the Sentinel Application Platform (SNAP)

In the framework of the EO Open Science 2.0 conference, ESA is organising the first Hackathon event bringing together volunteered programmers with the developers of the Sentinel Application Platform (SNAP) to intensify understanding of SNAP and to jointly develop a software using and/or extending SNAP. The SNAP Hackathon will take place on 15 Oct (9:00-19:00) and 16 Oct (9:00-14:00) in ESRIN (Frascati) just after the EO Science 2.0 conference.

Participants shall be enthusiastic developers who love solving challenging problems with a cool piece of software. Participants should have a good knowledge of the Java programming language, interest in developing tools to exploit EO data, and possibly some experience with the BEAM API before (an introduction will anyway be given to new-comers). Because of limited space we will have to select candidates based on their motivation.

Agenda for EO Science 2.0 Hackathon Event

ESRIN, 15./16.10.2015

Day 1, Part 1 (Introduction, SNAP team)

- SNAP team give short introduction of Hackathon and STEP & SNAP

Day 1, Part 2 (NASA WorldWind, NASA WorldWind Development Team)

- NASA WorldWind Development Team provide an inside look for how to get the most from this 4D visualization 'web app' platform
- WorldWind Q&A

Day 1, Part 3 (Presentation & Demos, SNAP team)

- SNAP team continue STEP & SNAP introduction, present project status and community platform, provide an outlook
- SNAP team introduce SNAP software architecture and show applications, the most important application programming interfaces (APIs), and the documentation

Day 1, Part 2 (Question round, SNAP team and participants)

- Occasion for participants to ask SNAP team general "How to...?" and "Can I...?" questions
- SNAP team is happy to receive your questions before the Hackathon

Day 1, Part 3 (Hackathon, SNAP team and participants)

- Participants agree upon 2 or 3 considerable-sized programming tasks
- Together, SNAP team and participants work out high-level solutions in the first step
- In the second step, do "Aquarium Programming", where participants watch SNAP developers write code on the big screen, while following them in their own development environment

Day 2, Part 4 (Hackathon ctd., SNAP team and participants)

- Continue and finish work of day 1
- Reap the benefits! Run and play with the newly developed tools

Day 2, Part 5 (Close Hackathon)

- Gather ideas for future ESA hackathons and/or prize-giving coding challenges
- Gather feedback regarding the current state of the SNAP application, its APIs and libraries
- Discuss other possible applications and use-case scenarios of SNAP and SNAP APIs
- Discuss further evolution of SNAP, the Sentinel Toolboxes, and its potential adaptation to other missions

Set up a development environment before the Hackathon:

- Install SNAP 2.0 beta 8 (from http://step.esa.int/) with Sentinel Toolboxes (will be released before Hackathon)
- Install Python (64-bit) with numpy
- Install an IDE (IntelliJ IDEA highly recommended)
- Install Apache Maven
- Install git (https://git-scm.com/)
- `git clone https://github.com/senbox-org/snap-examples.git`