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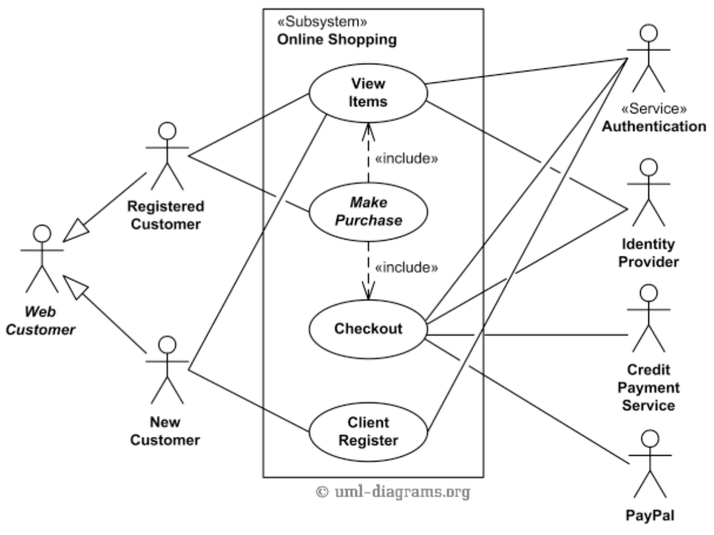
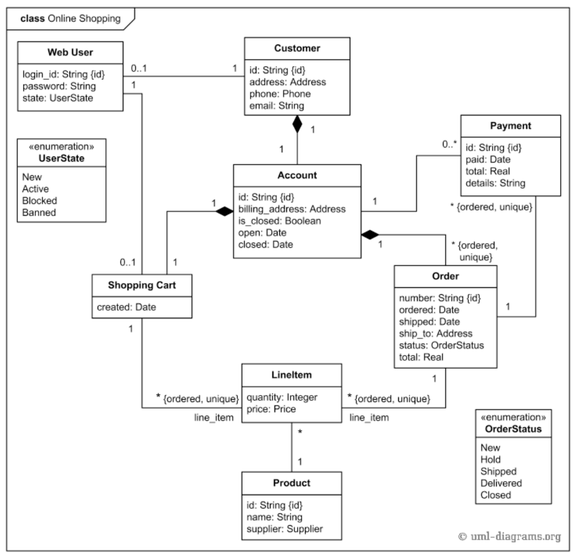
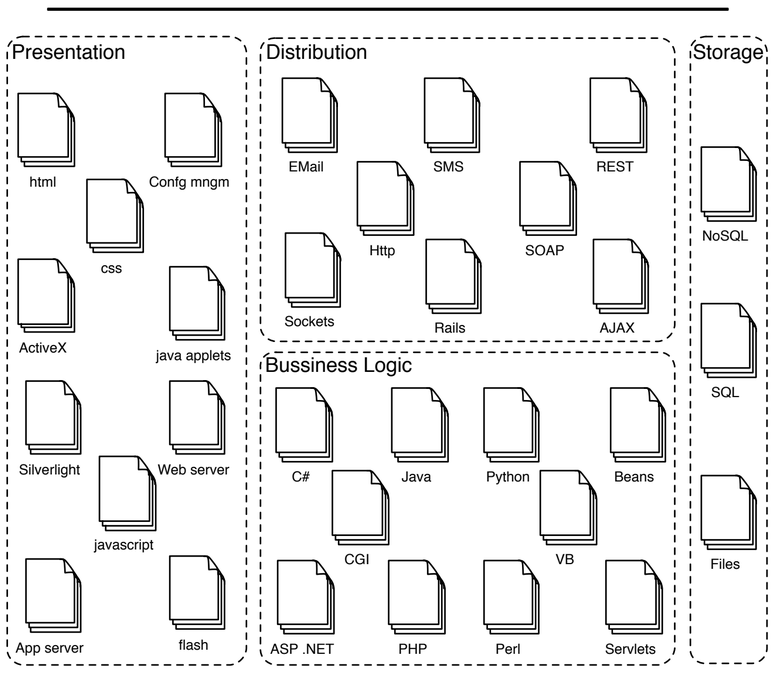
MaTraCa: Maintaining Traceability Changes

Research on Tracing changes

Traceability





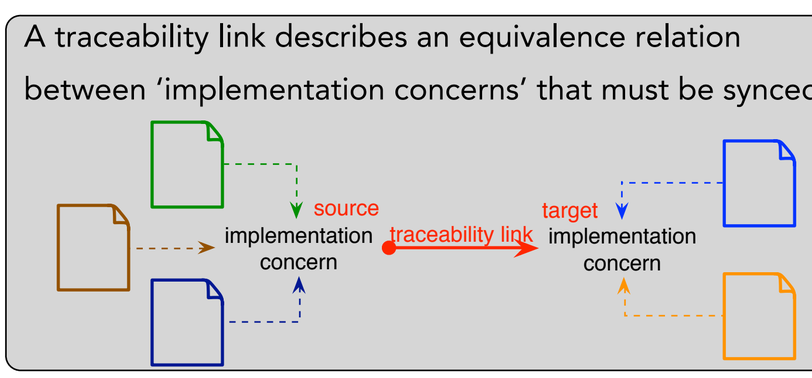


- ✓ There is a wide variety of software artefacts created along the development process.
- ✓ Maintaining their internal consistency is a time-consuming and error-prone task.
- ✓ Traceability allows you to link related artefacts.
- ✓ Maintaining traceability links can ensure the correct and complete propagation of changes (i.e., co-evolution).
- ✓ Research in vertical traceability (i.e., across artefacts at different layers of abstraction) focuses on reverse engineering these links, but this extraction is not always cost-effective (especially at a fine granularity level).

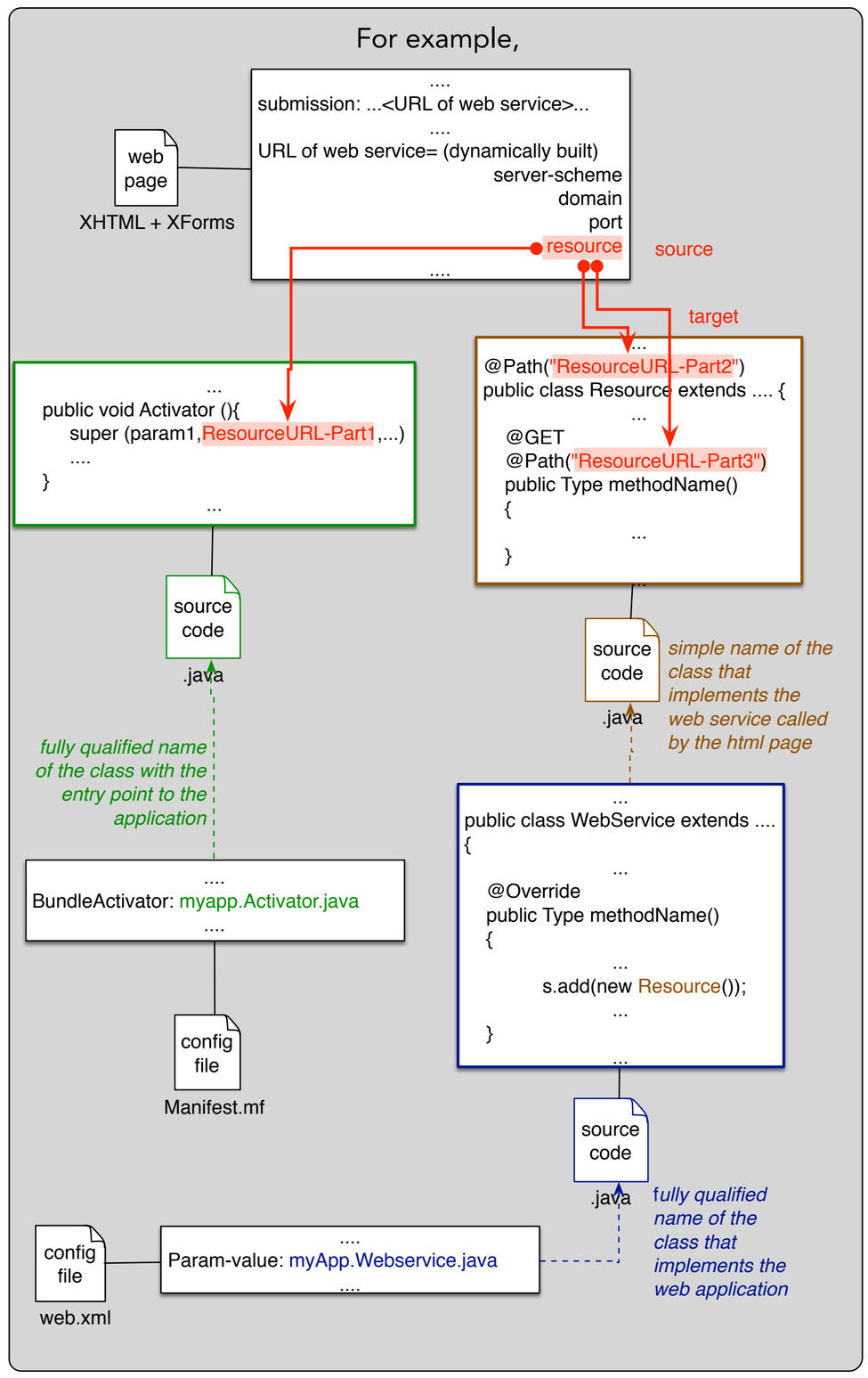
Horizontal traceability (i.e. across artefacts at the same level of abstraction) could provide a cost-effective mechanism to evolve complex applications.

Defining one traceability link

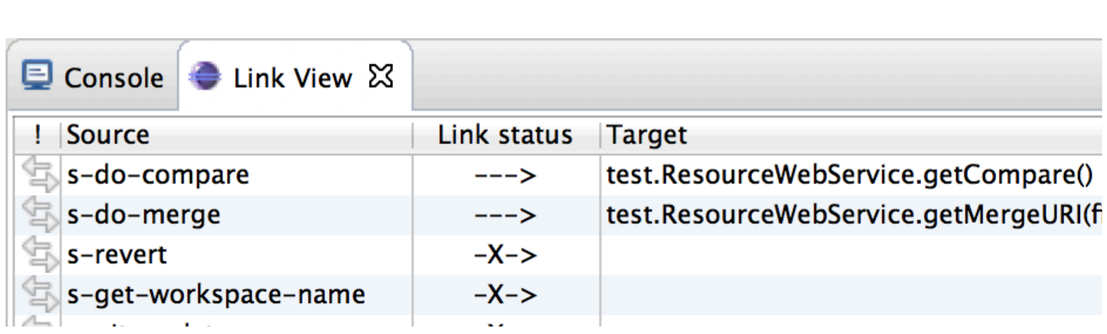
A traceability link describes an equivalence relation between 'implementation concerns' that must be synced.



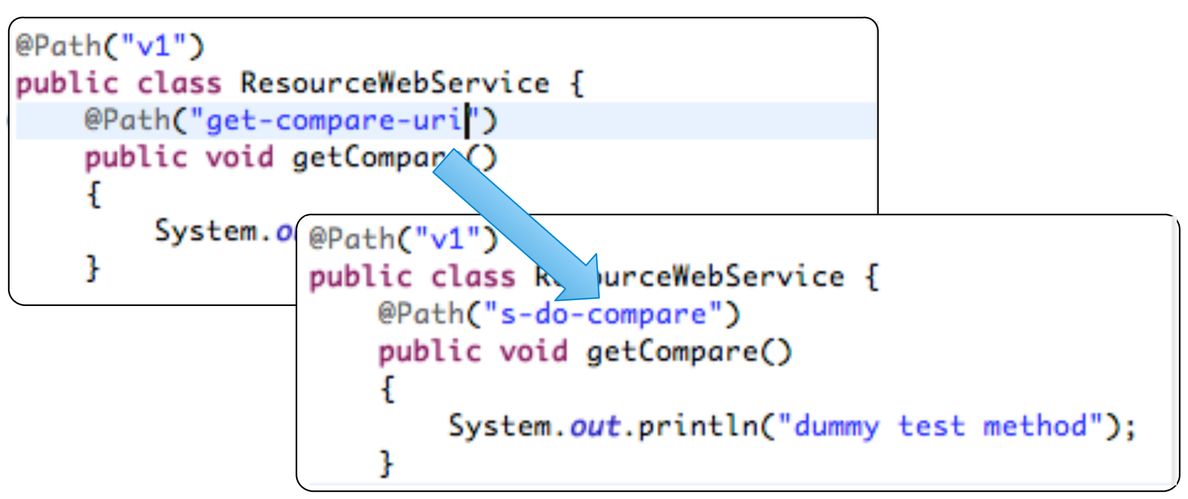
For example,



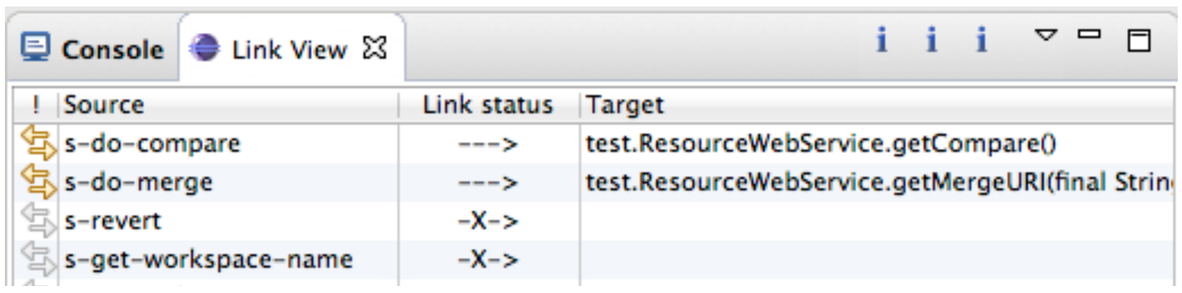
Detecting source & target concerns

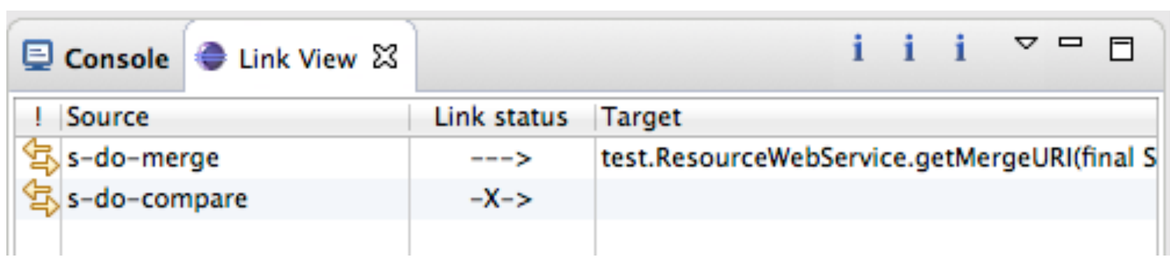


Validating links



Choosing interesting links





http://soft.vub.ac.be/chaq

Explaining Why Methods Change Together
A. Lozano, C. Noguera, and V. Jonckers
Proc. of IEEE Int'l Working Conference on Source Code Analysis and Manipulation SCAM, pp. 185 - 194. 2014.

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