# Gaboto

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# Gaboto the Ideal

Gaboto is designed to answer queries of the form "Which department occupied this building in 1952".

# Temporal Logics - here be dragons

Non-Monotonic Logics are not Monotonic.
This means that true axioms cannot be relied upon to remain true when new axioms are added.
A Monotonic logic cannot contain contradictory statements

- Fred is alive
- Fred is not alive

# Frame based logics

- At Time T1 Fred is alive
- At Time T2 Fred is not alive

# Yale Shooting Problem

Steve Hanks and Drew McDermott (1987)
Critique of naive frame-based temporal logics.
Minimisation of change rule fails.
Solved problem: situation calculus, fluent calculus and action description languages.

# Further Reading


- Nonmonotonic logic and temporal projection. Artificial Intelligence 33, no.3, pp. 379–412
- http://www.stanford.edu/~laurik/fsmbook/examples/YaleShooting.ht
- Tim Fernando, Entailments in finite state temporality


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# Gaboto as Implemented

Gaboto was implemented in a very short time by Arno Mittelbach.
Arno chose to implement Gaboto using Named Graphs for Jena.
Gaboto also provides a number of domain specific utilities.

# Jena

Jena provides RDF, OWL and SPARQL.
Jena includes a rule-based inference engine.
Jena allows for the addition of new types and properties without the overhead of traditional RDBMSen.

# Named Graphs for Jena

Jena stores all triples within a single graph.
This makes Jena only useful to store sentences of Monotonic logics.
NG4J enables multiple, named graphs to be stored within a single store.
This enables Gaboto to implement a timeframe based query engine.

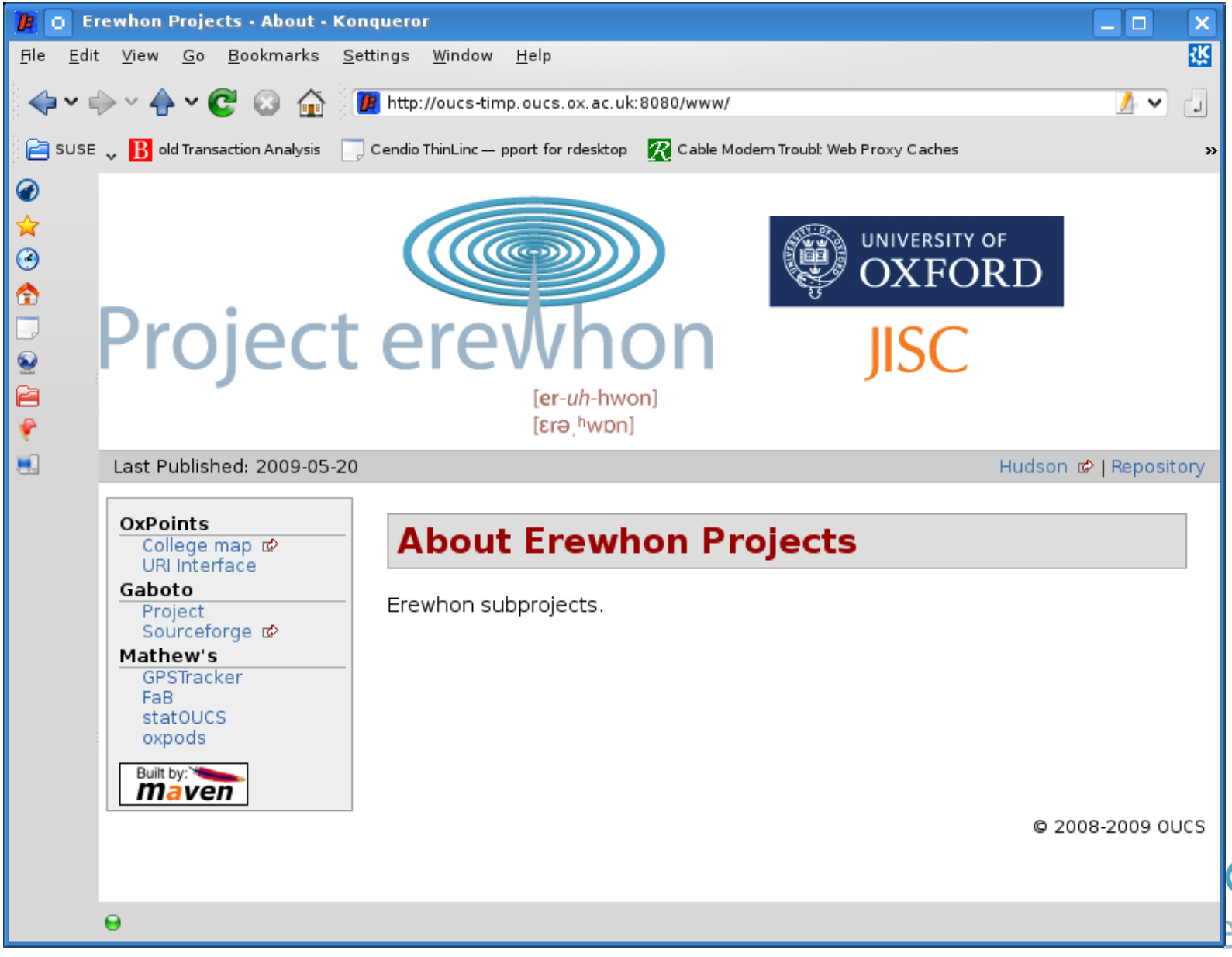
# Converting Faithware to Software

You should be able to change software without risk.
Unchangeable software is not soft.
Tame change with a repeatable build process, then repeat it.
Establish contract between design and implementation.

# Build : Maven

Maven is the most popular Java build system.
Ant is not a Build system.
Maven introduces convention to the build process.

# Maven Site


Erewhon Projects - About - Konqueror
File Edit View Go Bookmarks Settings Window Help
http://oucs-timp.oucs.ox.ac.uk:8080/www/
SUSE
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UNIVERSITY OF OXFORD
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Gaboto
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FaB
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Built by: maven
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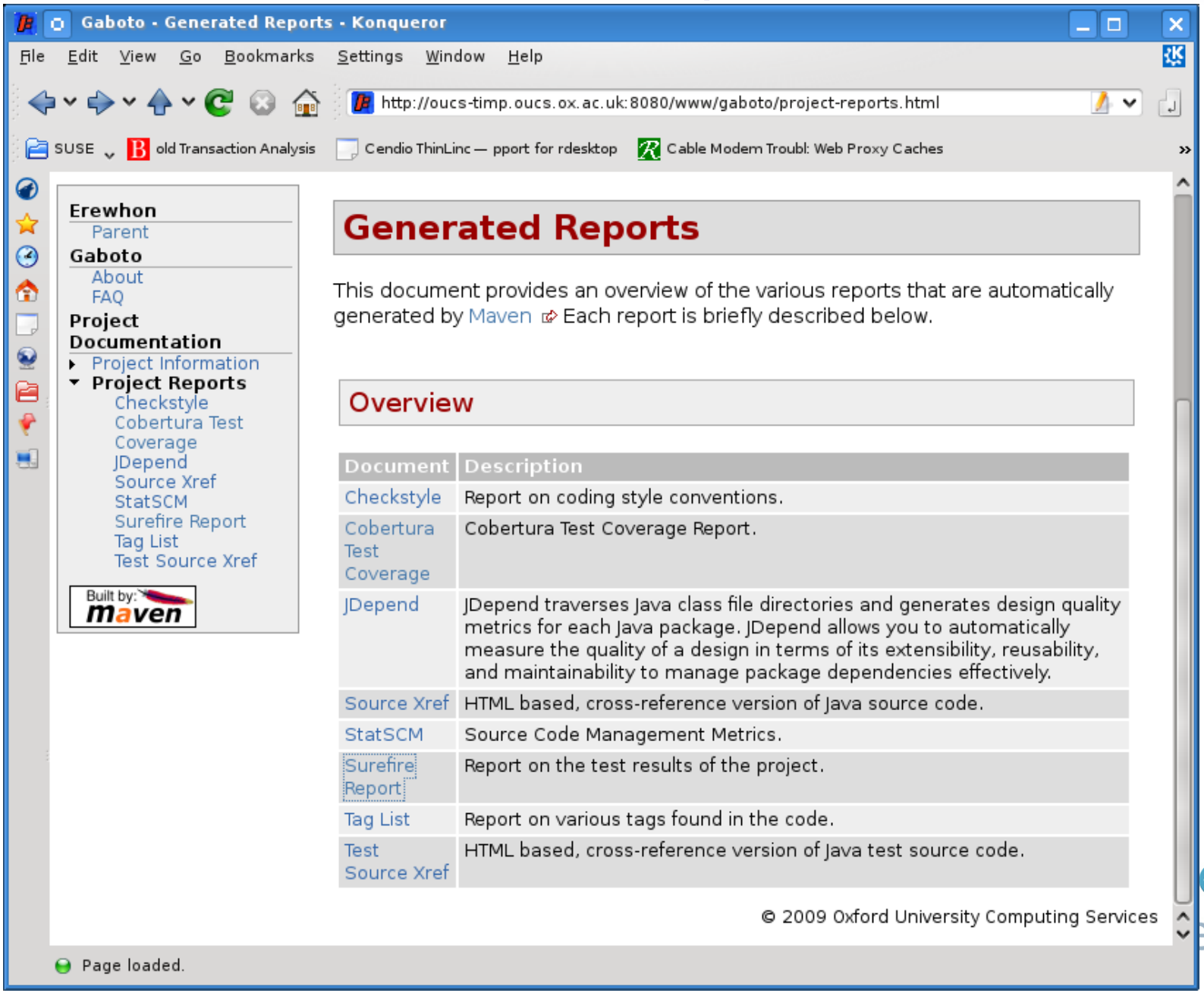
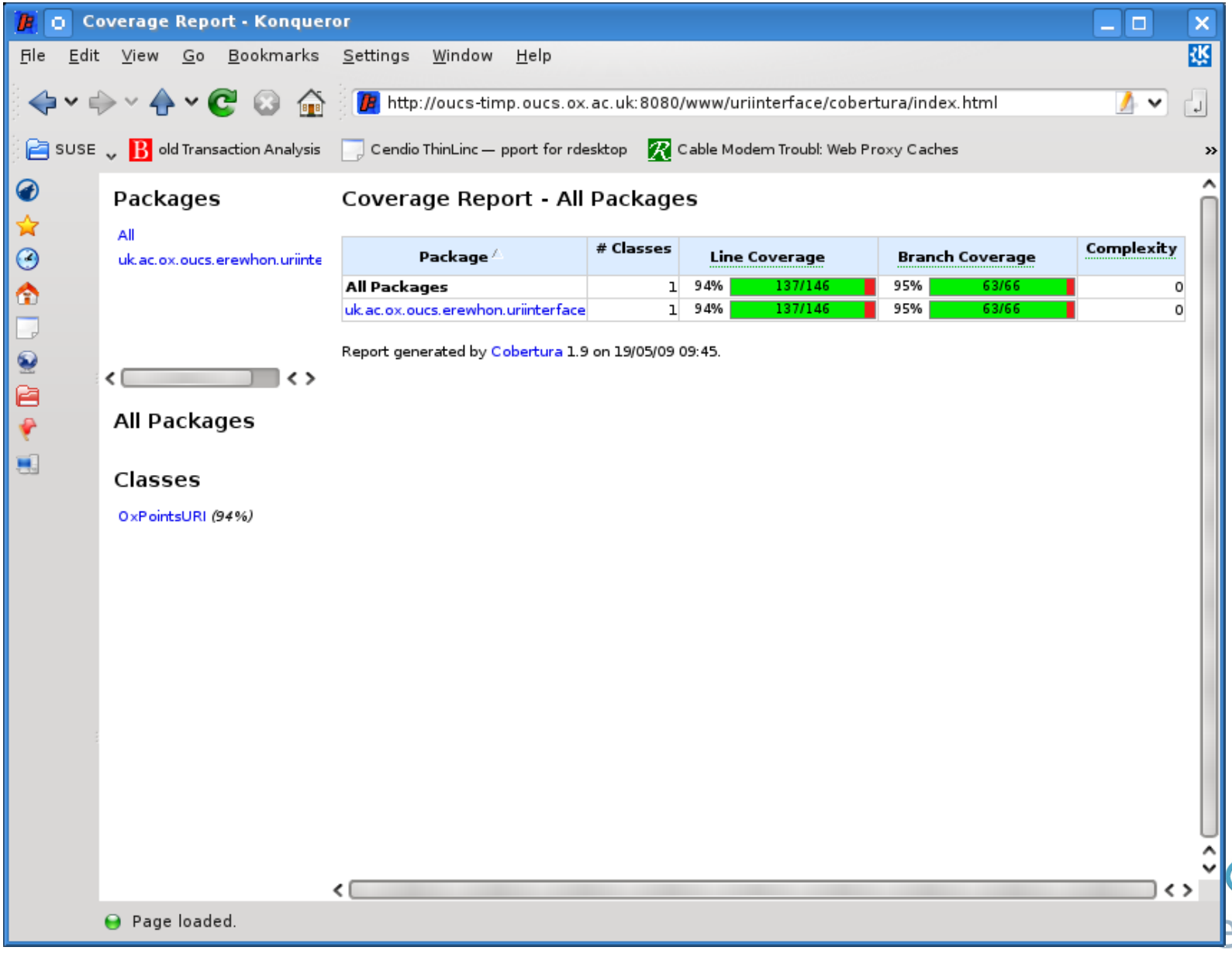
# Maven Reports



# Coverage


Coverage Report - Konqueror
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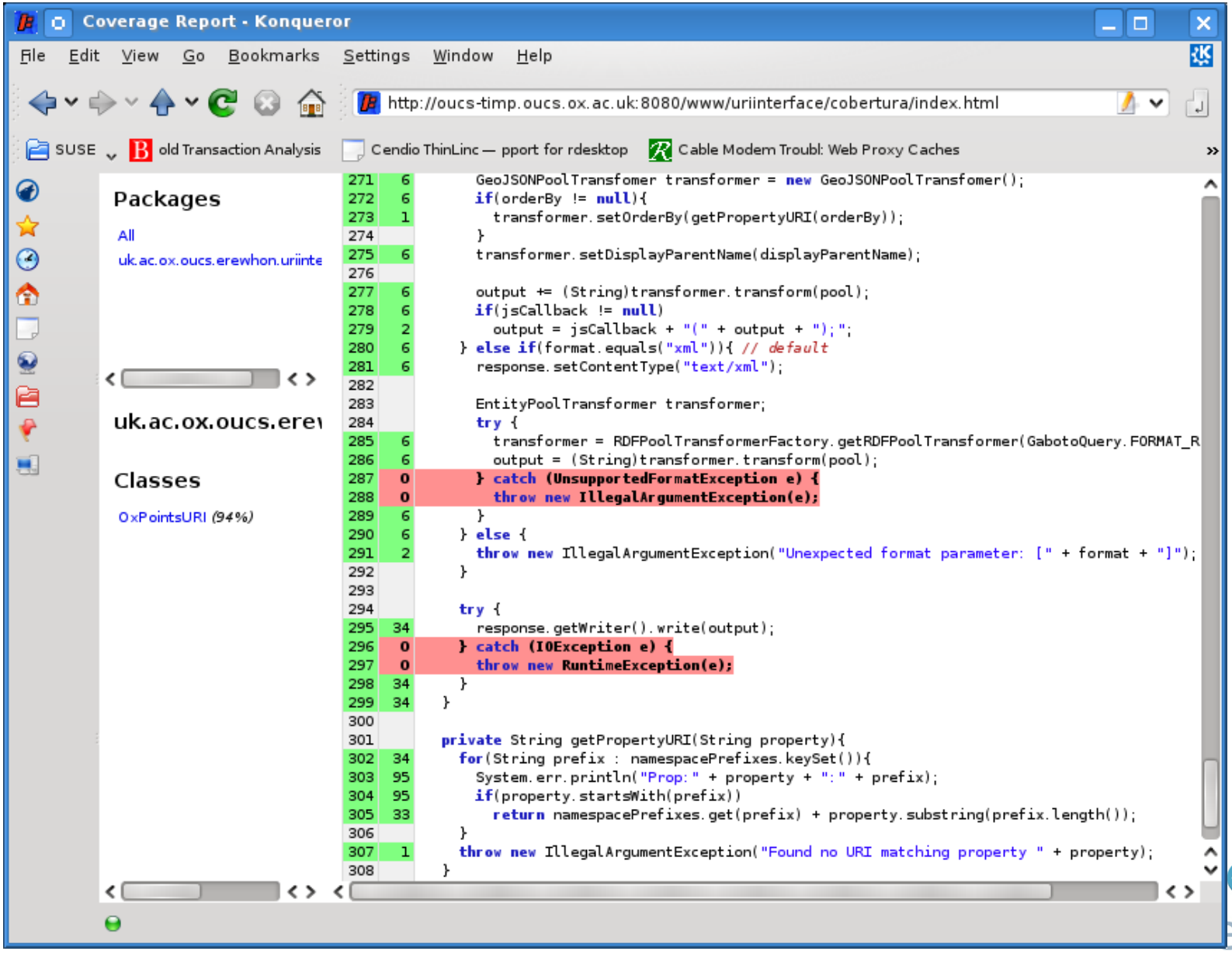
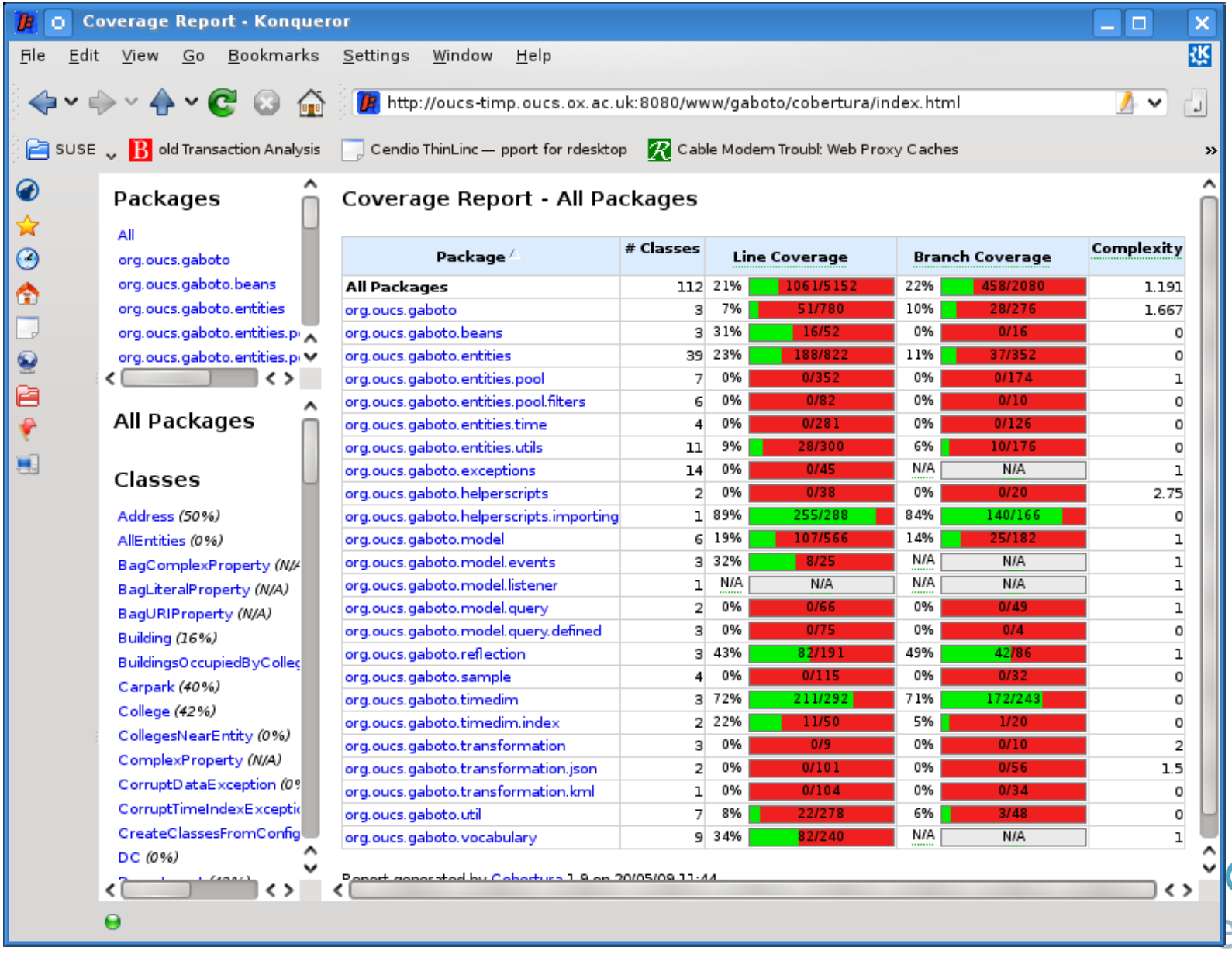
http://oucs-timp.oucs.ox.ac.uk:8080/www/uriinterface/cobertura/index.html
SUSE
old Transaction Analysis
Cendio ThinLinc — pport for rdesktop
Cable Modem Troubl: Web Proxy Caches
Packages
All
uk.ac.ox.oucs.erewhon.uriinte
Coverage Report - All Packages
Package
# Classes
Line Coverage
Branch Coverage
Complexity
All Packages 1 94% 137/146 95% 63/66 0
uk.ac.ox.oucs.erewhon.uriinterface 1 94% 137/146 95% 63/66 0
Report generated by Cobertura 1.9 on 19/05/09 09:45.
All Packages
Classes
OxPointsURI (94%)
Page loaded.

# Coverage Exceptions



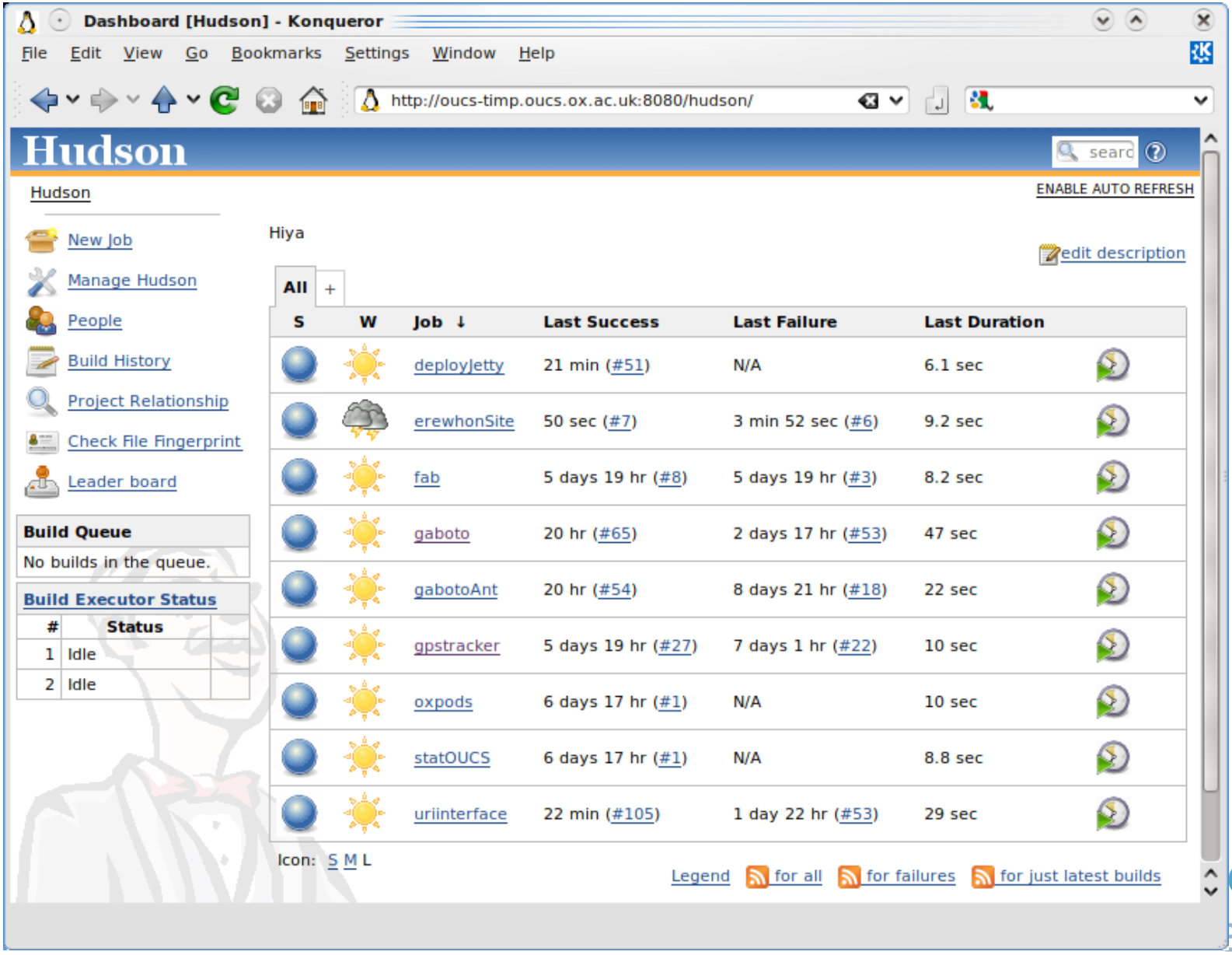
# Current Gaboto Coverage



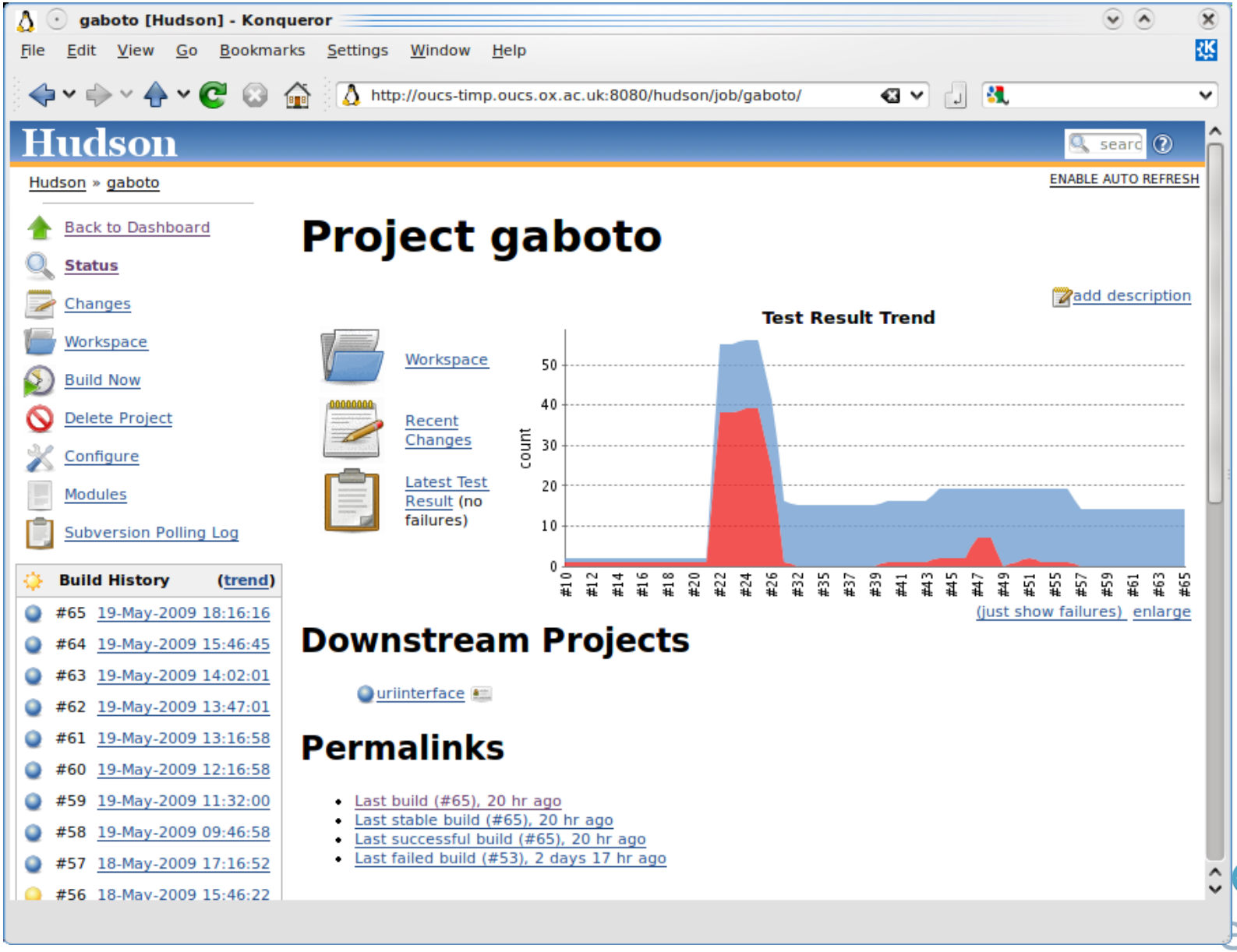
# CI :Hudson

You are using CI, aren't you?
Just works
Try it.

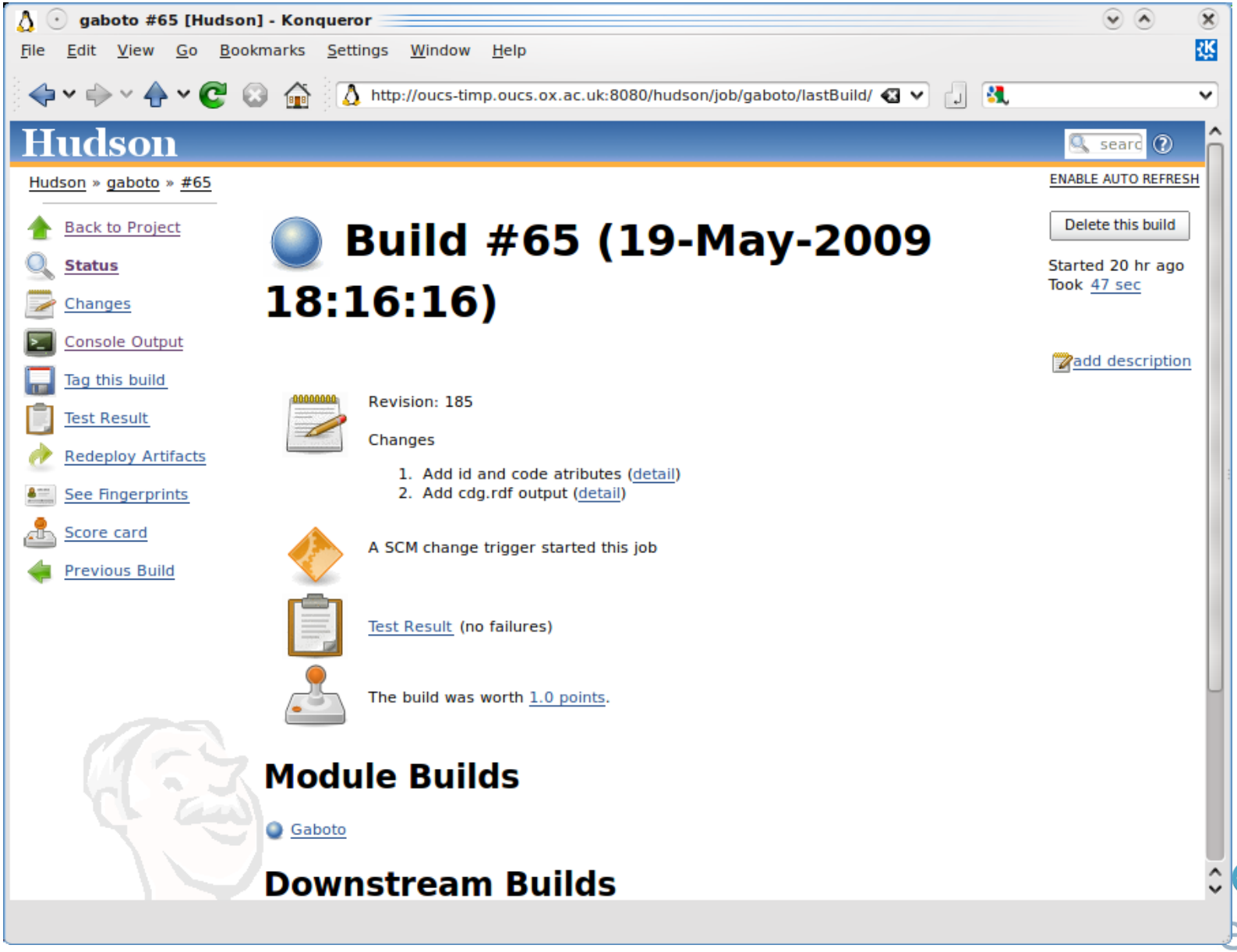
# Hudson Dashboard



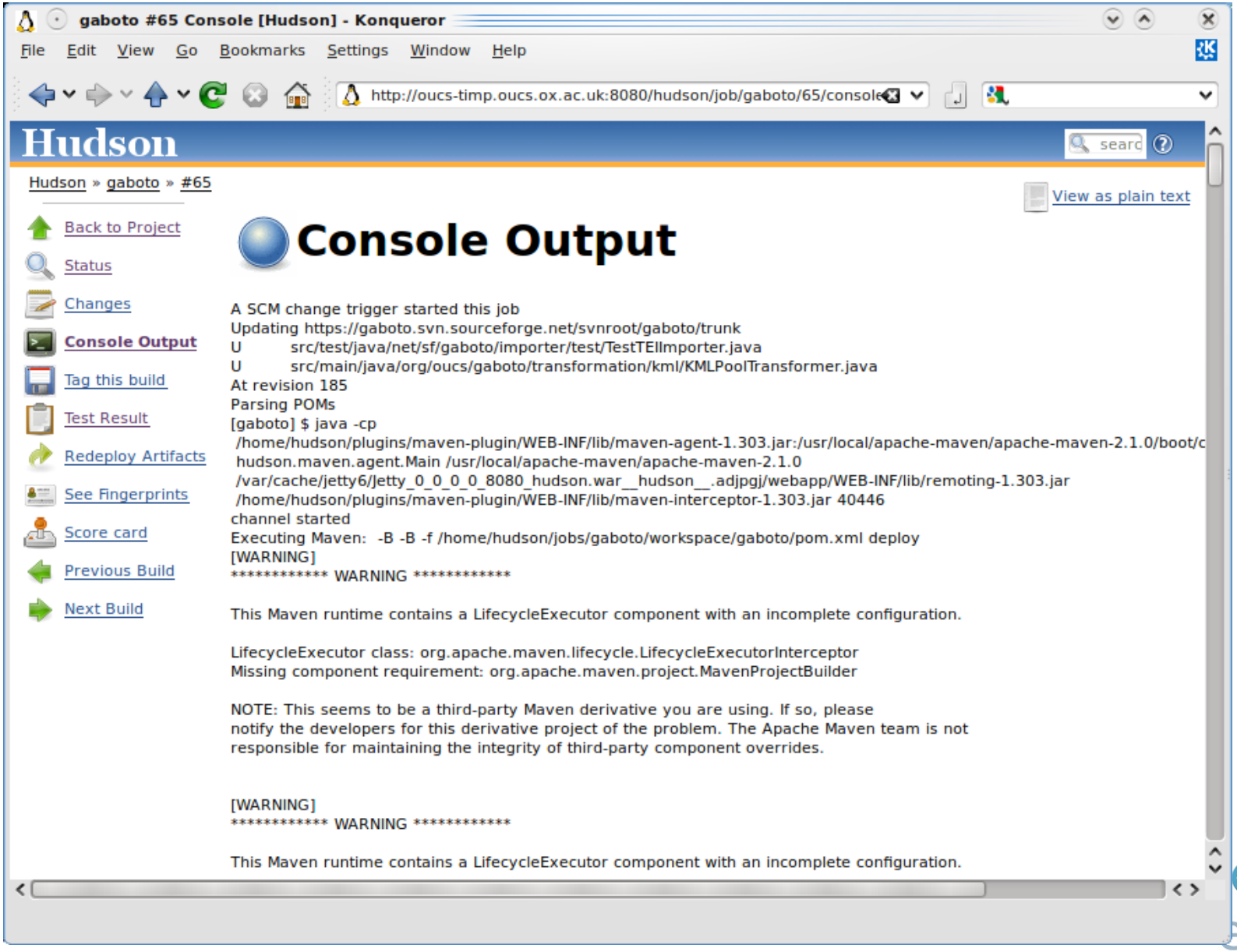
# Hudson Gaboto Project



# Hudson Gaboto Build



# Hudson Gaboto Build Console



# A Reiified Contract

The continuously run Gaboto build guarantees that it conforms to its ideal.
There is no role for faith in engineering.