Developer Introduction
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Learning Outcomes

- Communicate value of cross-institutional collaboration process
- Feel comfortable getting involved in development sprints
- Be able to articulate technology stack and tools
- Know where to look for more details
Sprints

- 2 weeks in length
- Scheduled in 6-month phases
- Standard Agile Scrum weekly schedule
- All community developers
Agile/Scrum Teams

- Daily stand-up
- Product and Sprint backlogs
- Scrum
- Sprint
- Sprint planning
- Sprint retrospective
- Velocity
Support Tools
Pivotal Tracker

- Bug tracking system
- Tightly tied with git commits
- Ticket flow/process
Travis-CI

- Continuous integration testing
- Run automatically via GitHub
- Basic sanity build on each commit
Jenkins

- Continuous integration build server
- Publishes snapshot build artifacts to sonatype
- Publishes code-coverage and stats to sonar
Sonar

- Dashboard of codebase health
- Test code coverage
- Code problem areas, or hotspots
- Total lines of code and complexity, etc.
The Basics
Java7 Webapp

- Fedora is a standard Java7 web-application
  - Jetty and Tomcat, or one-click
  - Deployed as a war
- Configuration via
  - Configuration files
  - System-properties
  - Repository objects/resources
Maven3

- Build tool
- Manages library dependencies, build artifacts, code formatting, integration tests, release signing and deployment, code-coverage, etc
- Release artifacts are deployed to maven-central
GitHub

- https://github.com/fcrepo4
- https://github.com/fcrepo4-labs
- Main F4 codebase: fcrepo4
Other GitHub Projects

- ontology
- fcrepo-message-consumer
- fcrepo-module-auth-rbacl
- fcrepo-module-auth-xacml
- fcrepo-build-tools
- fcrepo-sample-dataset
Git Process

● Standard
  ○ Fork the codebase
  ○ Commit to a branch
  ○ Send pull request

● Facilitates collaboration
Application Stack

- **Top - Fedora webapp**
  - Adds preservation and access sensibilities
  - Linked data, LDP abstraction
- **Middle - JCR implementation**
  - Modeshape - OSS JCR reference implementation
- **Bottom - Storage/Caching**
  - Infinispan - OSS Java caching and persistence
  - Foundation of clustering exposed through the stack
Background Reading

- JAX-RS 2 (jersey2)
- JCR
- Infinispan
- Modeshape
- Maven3

- Guava
- wiki - process, documentation, roadmap