Tutorial Outline

- Part 1: Introduction 1:00 pm – 1:30 pm
  - Tycho Overview

- Part 2: Hands-on Tutorial 1:30 pm – 4:00 pm
  - Building an e4 RCP application with Tycho
Part 1: Introduction
What is Tycho?

- Tycho is a Maven extension for building Eclipse artifacts
  - Eclipse plug-ins/OSGi bundles
  - Features
  - p2 repositories
  - RCP applications/Eclipse distributions
Technology Background

Plug-in Development Environment (PDE)

Tycho

Equinox p2

Maven

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Maven and Tycho

Maven

- mvn clean install
- Packaging types for standard artifacts
- Tests run in build
- Customize build with additional goals (FindBugs, code generators, ...)

Tycho

- mvn clean install
- eclipse-plugin, eclipse-feature, ...
- eclipse-test-plugin
- Most Maven plugins also work in Tycho projects

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Maven and Tycho (cont.)

Maven

- Resolve against Maven repositories
- Dependencies declared in pom.xml

Tycho

- Resolve against p2 repositories
- Dependencies declared in MANIFEST.MF, ...

→ Maven extension for OSGi/Eclipse artifacts

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PDE and Tycho

Plug-in Development Environment (PDE)
- MANIFEST.MF, feature.xml, build.properties, ...
- Build path according to OSGi manifest
- JUnit plug-in tests

Tycho
- Tycho reads PDE source files
- JDT compiler with OSGi visibility rules
- eclipse-test-plugin

→ Automated build for PDE projects
p2 and Tycho

Equinox p2

- p2 repositories for installation & update of plug-ins
- “Publish” artifacts to p2 repositories
- Installer (“director”)

→ Maven front-end for p2

Tycho

- p2 repositories for resolving build dependencies
- Builds p2 repositories with build artifacts
- tycho-director-plugin

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Where is Tycho?

- **Tycho** is a Technology incubator project at Eclipse
  - Sources are at [git.eclipse.org](http://git.eclipse.org)
  - Documentation: [wiki.eclipse.org/Tycho](http://wiki.eclipse.org/Tycho)
  - Mailing lists: tycho-user, tycho-dev
  - Issue tracker: Bugzilla

- Tycho 0.20.0 is available from Maven central
Contributors

- Committers
  - Igor Fedorenko (takari.io)
  - Jan Sievers (SAP AG)
  - Tobias Oberlies (SAP AG)

- Various contributions

Commits on this project by individuals over the last three months.
Eclipse IDE projects
- Eclipse tooling, e.g. CDT, EGit, ...
- Eclipse packages (EPP)
- Eclipse platform
  - “Common Build Infrastructure” (CBI): Services for Tycho adoption at eclipse.org

OSGi applications: Gyrex, openHAB, ...

Commercial users: RedHat, Sigasi, SAP AG, ...
Part 2: Hands-on Tutorial
Hands-on Exercises

- Create and build an Eclipse 4 RCP application
  - Create a plug-in with a sample Eclipse 4 RCP application
  - Add a unit test
  - Add a feature
  - Create a p2 repository
  - Build a distribution with the RCP application

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Hands-On Setup

- All material you need for the exercises is available from the USB sticks
  - Eclipse distribution for your platform
  - The „tutorial“ folder
  - No Wi-Fi required
- Do exercises together or at your own pace
  - The exercise instructions are fully self-contained
  - Start with tutorial/README.html
Related Sessions

- **Tycho BoF**  Wed 6:00 pm, Grand Peninsular G

- **Talks**
  - **Time to Build and Test Results 3x Faster - How We Did It**  
    Tue 11:15 am, Bayside Room
  - **Integration tests for RCP made easy with SWTBot and Tycho**  
    Tue 3:00 pm, Bayside Room
  - **15000 users, one update site**  
    Thu 10:15 am, Gr. Peninsular B
  - **Fork the IDE: Build your own SDK with CBI**  
    Thu 11:00 am, Harbour Room

- **EclipseCon Hackathon**  
  Tue 7:00 pm, Harbour Room
Please give feedback!

1. Sign in to www.eclipsecon.org

2. Select the Tycho tutorial session

3. Evaluate!  +1  0  -1

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