

# How to use the E4 Model Editor for modular RCP applications



# Who are We?

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- OPCoach  
([www.opcoach.com](http://www.opcoach.com)), Eclipse  
trainer and consultant
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([www.asegno.com](http://www.asegno.com)), Eclipse  
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Platform UI



**Patrik Suzzi**  
*Consultant Software Engineer*

# Content of this talk

- How to create modular E4 Fragments
- How to use the Model Editor for this purpose

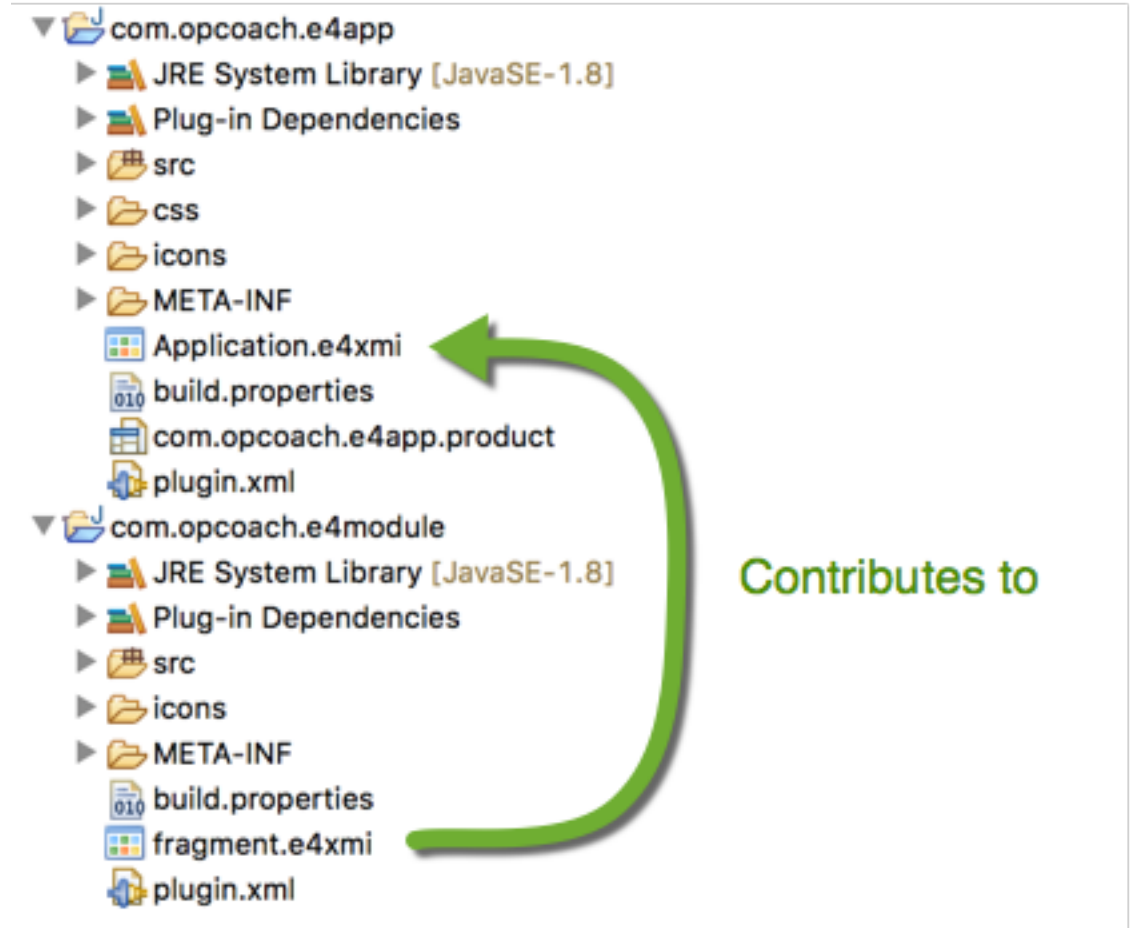
## What do you need?

- Eclipse for RCP and RAP developers (Neon or Oxygen)
  - E4 Spies (marketplace)

# Eclipse 4 Modularity

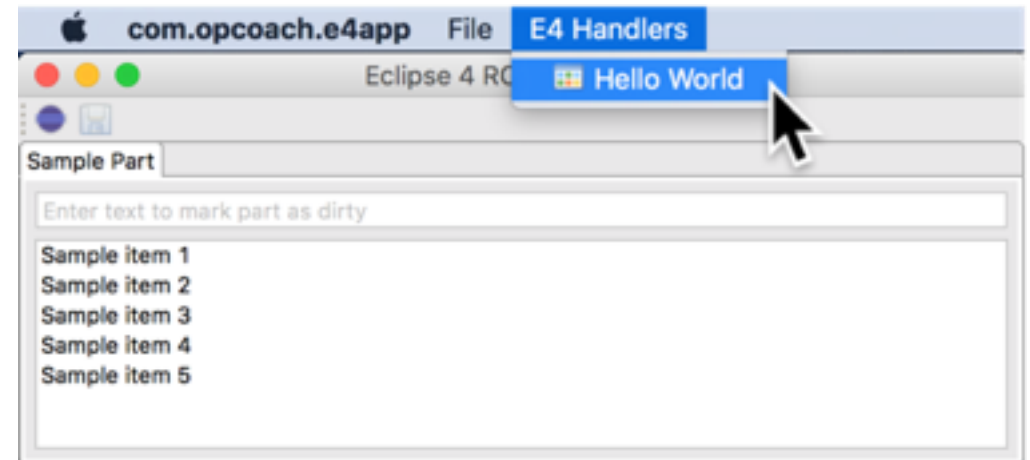
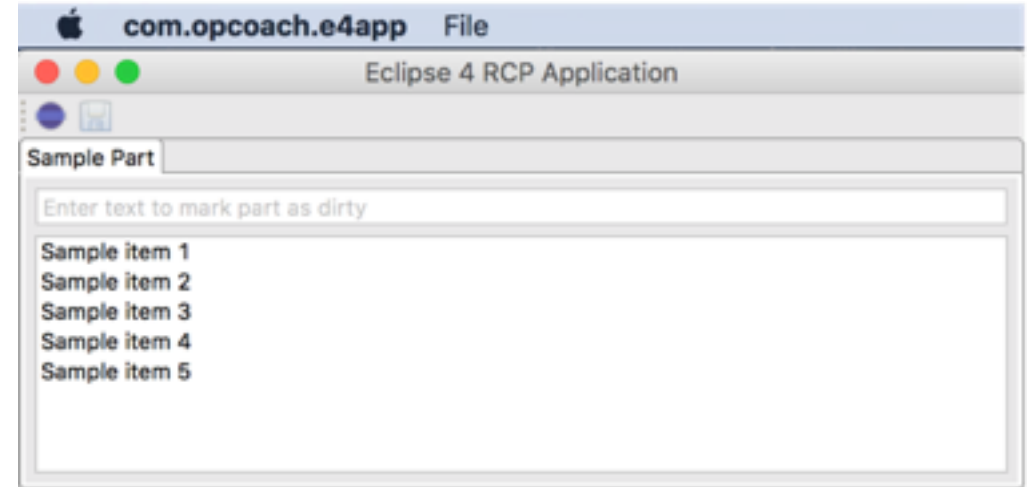
# Eclipse 4 Model Modularity

- E4 Application
  - application.e4xmi  
(base application model)
- E4 Module
  - fragment.e4xmi  
(extends existing application)



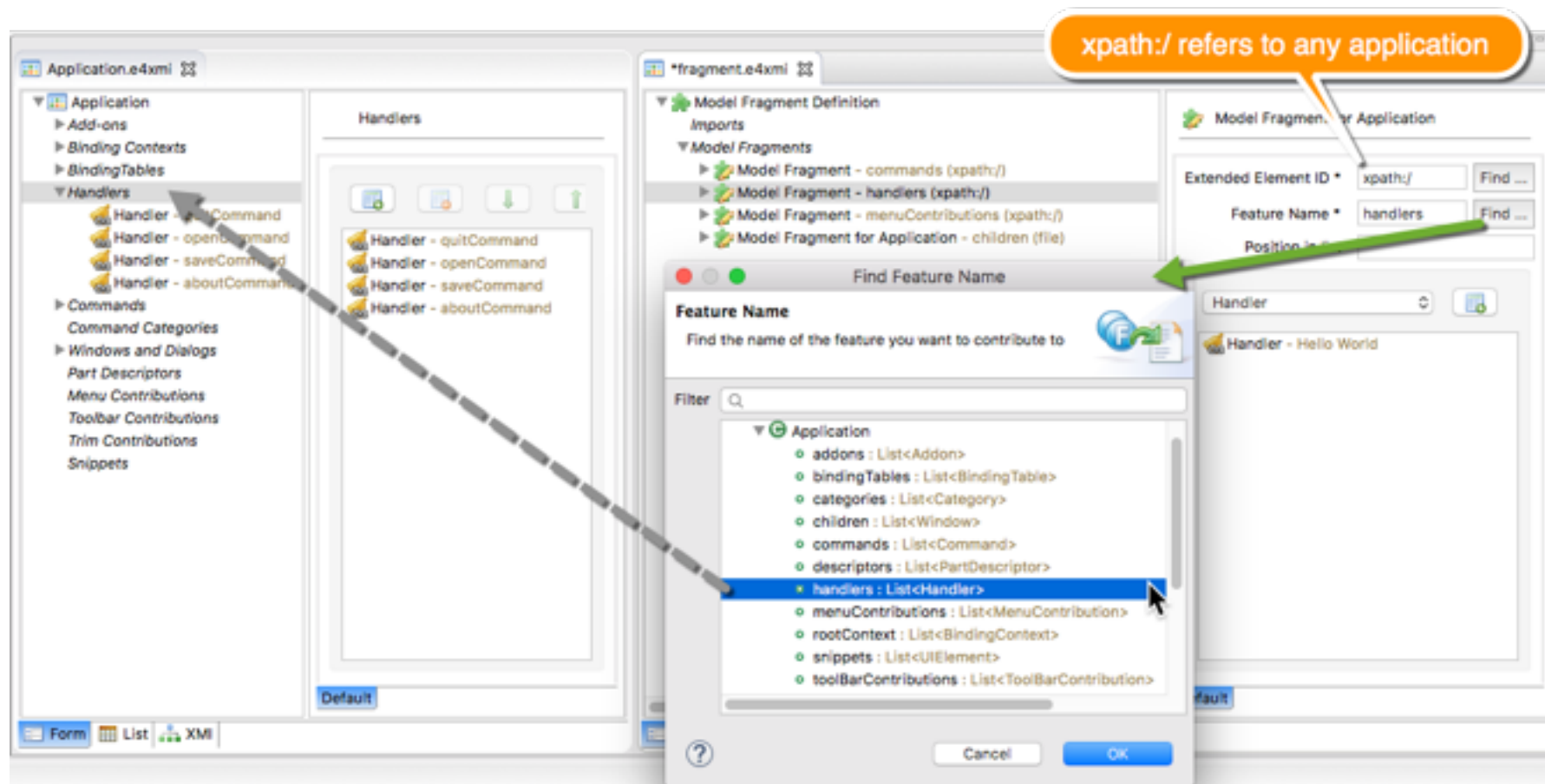
# Simple example of Contribution

- E4 RCP App
  - Sample content
  - Run
- E4 Plugin
  - Menu contribution using E4 Api
  - Add plugin to E4 app
  - Run



# Extend your E4 Application Elements

- Contribute a Handler to the E4 Application



# Demo

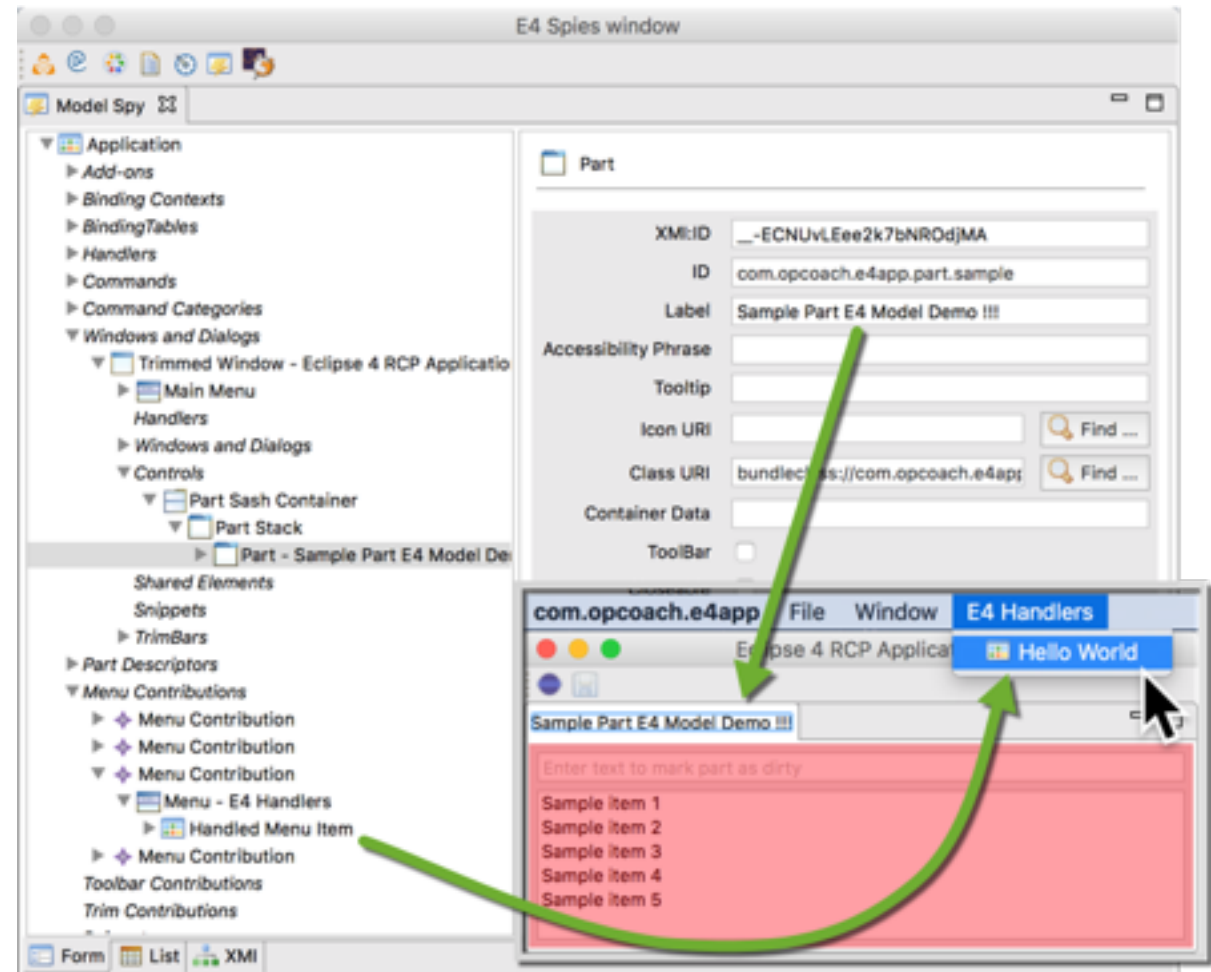
- Run a sample E4 RCP App
- Extend the App with a E4 Module
- use xpath:/ to refer to the App root element
- you can extend a specific element using
  - advanced xpath notation
  - extended element id
- delete the App launch configuration
- add the module in the E4App product
- run the new product



E4 Model Spy

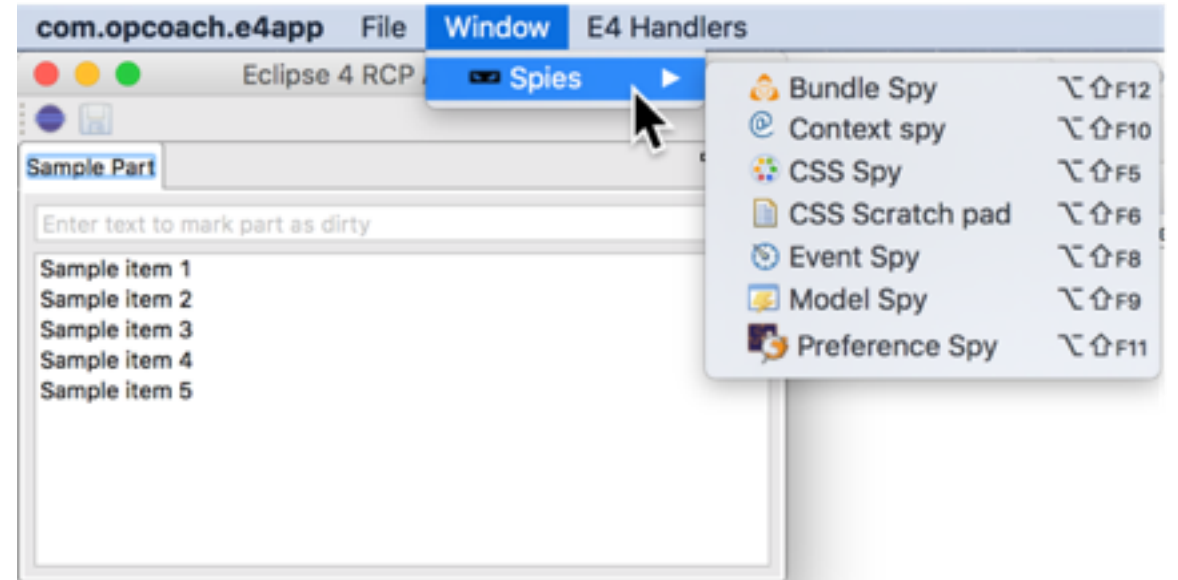
# E4 Model Spy module

- E4 Spies
  - Display information on the E4 runtime model, injection context, css, etc..
  - It can be extended for your specific purposes (developer point of view)
  - Add “e4\*spy” to your run configuration



# Demo

- Add E4 Spies to the E4 App
- Observe the additional menus
  - “E4 Handlers” ← module
  - “Window” ← Spies
- Explore the E4 App model
- Edit the E4 App model



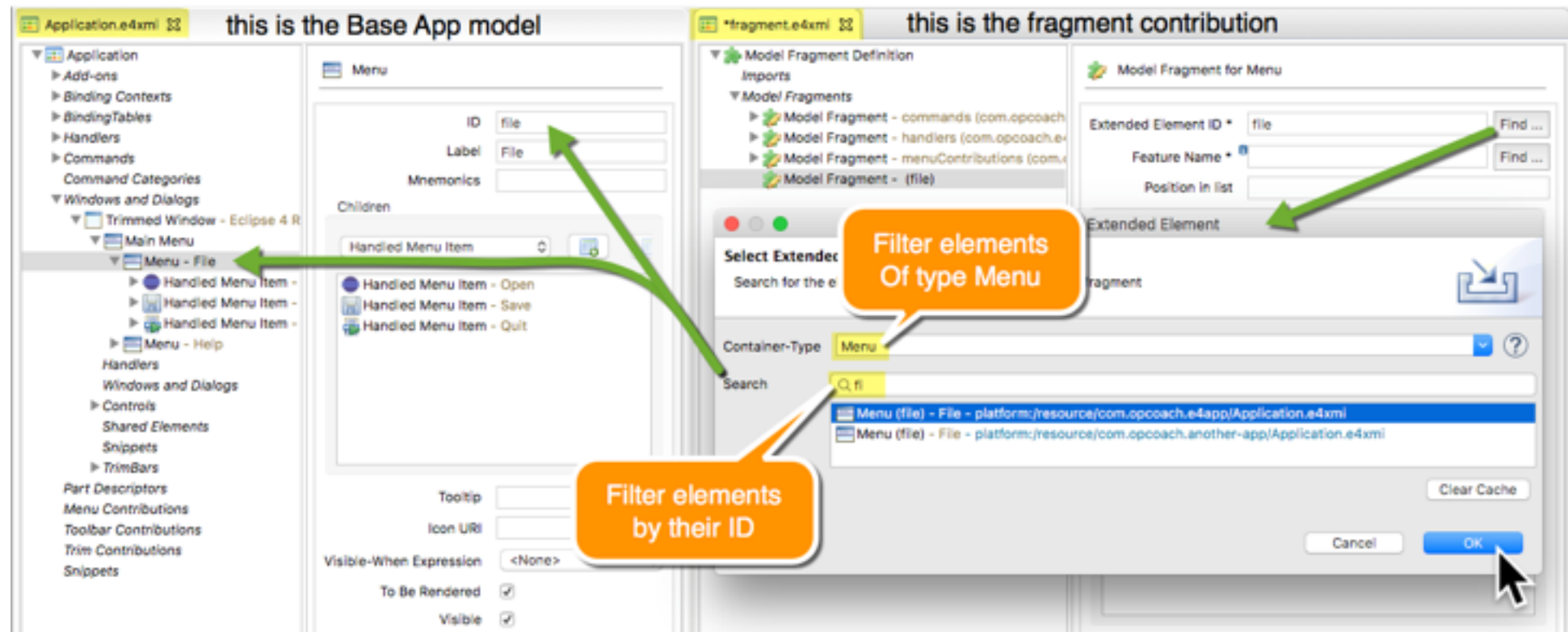
Extend your E4  
Application

# What can we extend?

- Menus
- Parts (Descriptors, shared elements)
- Perspectives (snippet)
- Windows
- Toolbars, TrimBars, Status bar
- Handlers or Commands
- Addons

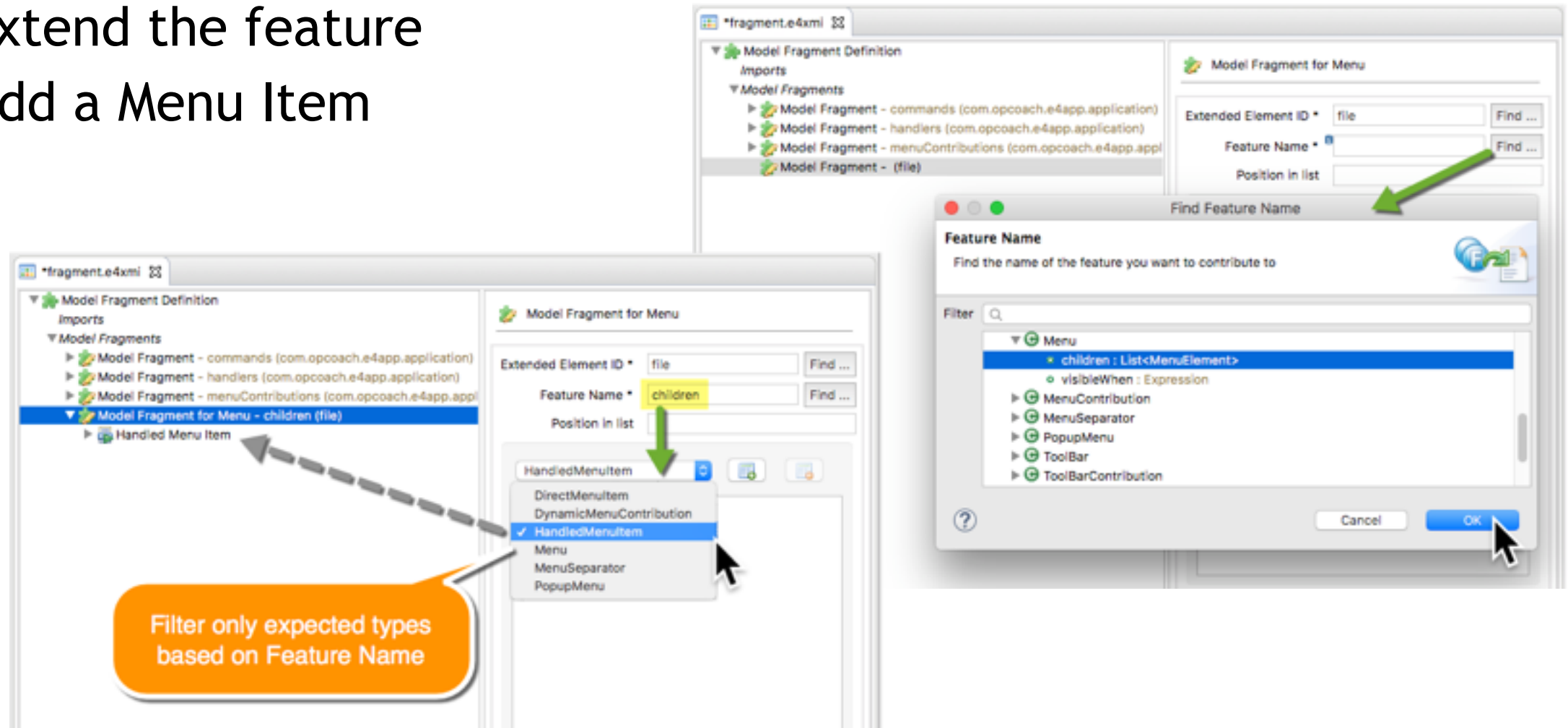
# Extend your E4 Application menu

- Add a new contribution to the E4 App file Menu



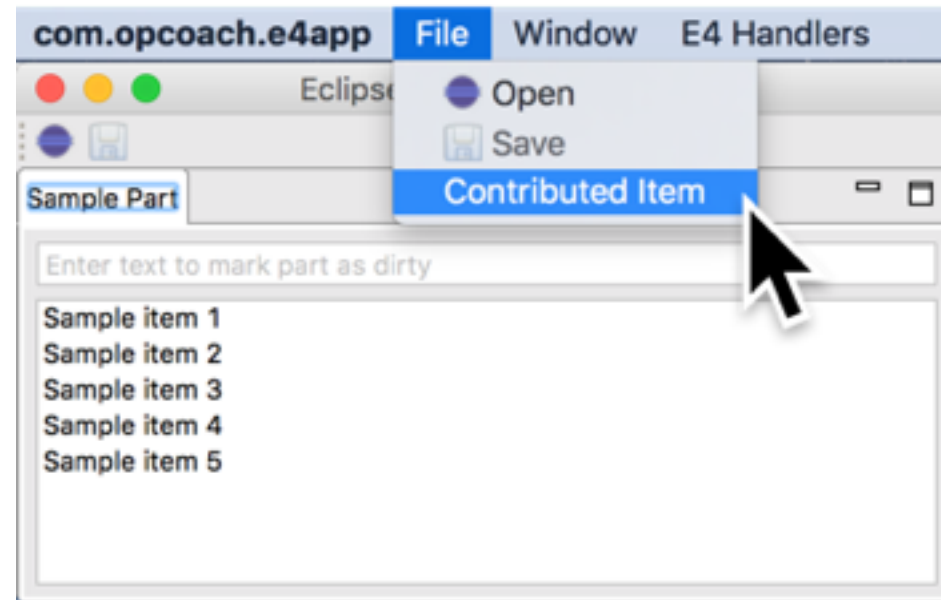
# Extend your E4 Application

- Extend the feature
- Add a Menu Item



# Demo

- Add a fragment into the module
- Find the feature for the E4 App menu
- Add a Handled Menu Item to the parent E4 App

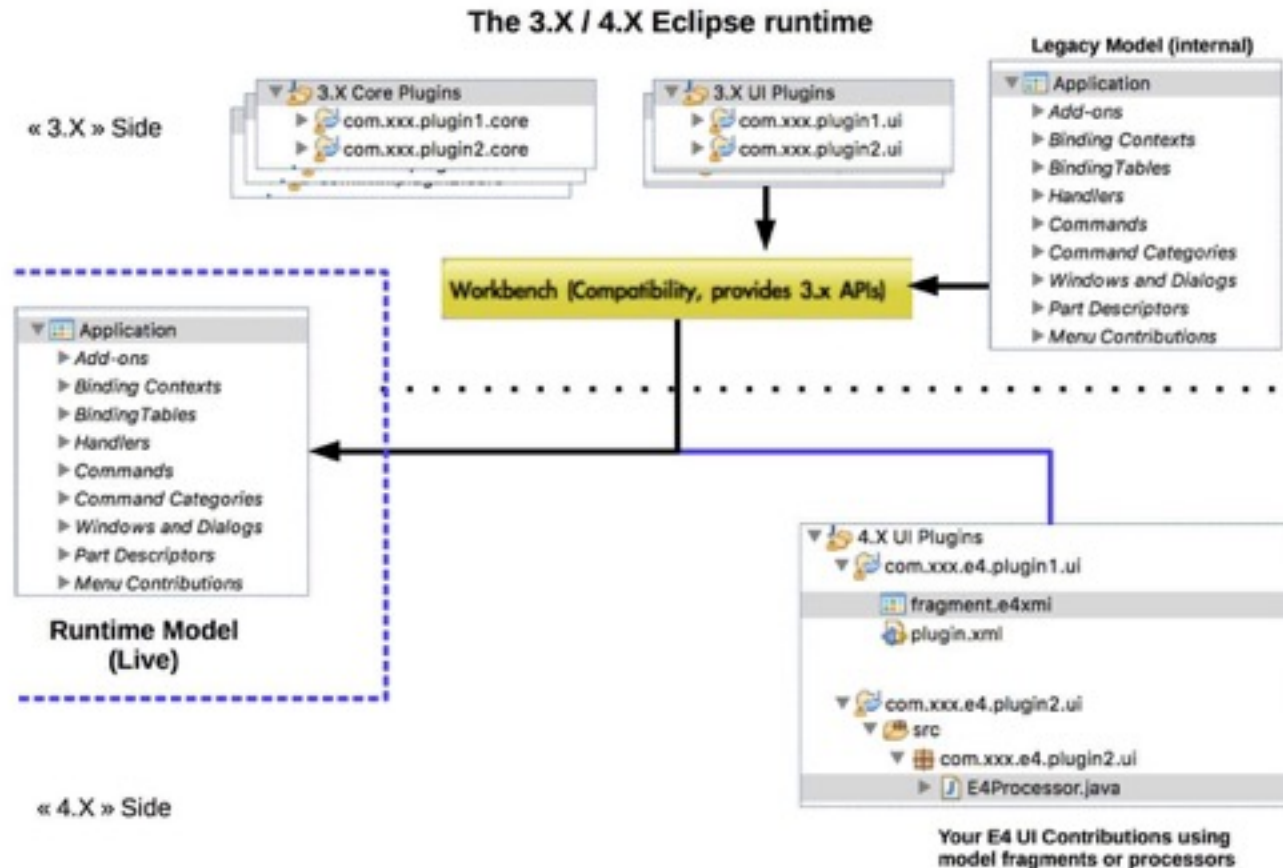




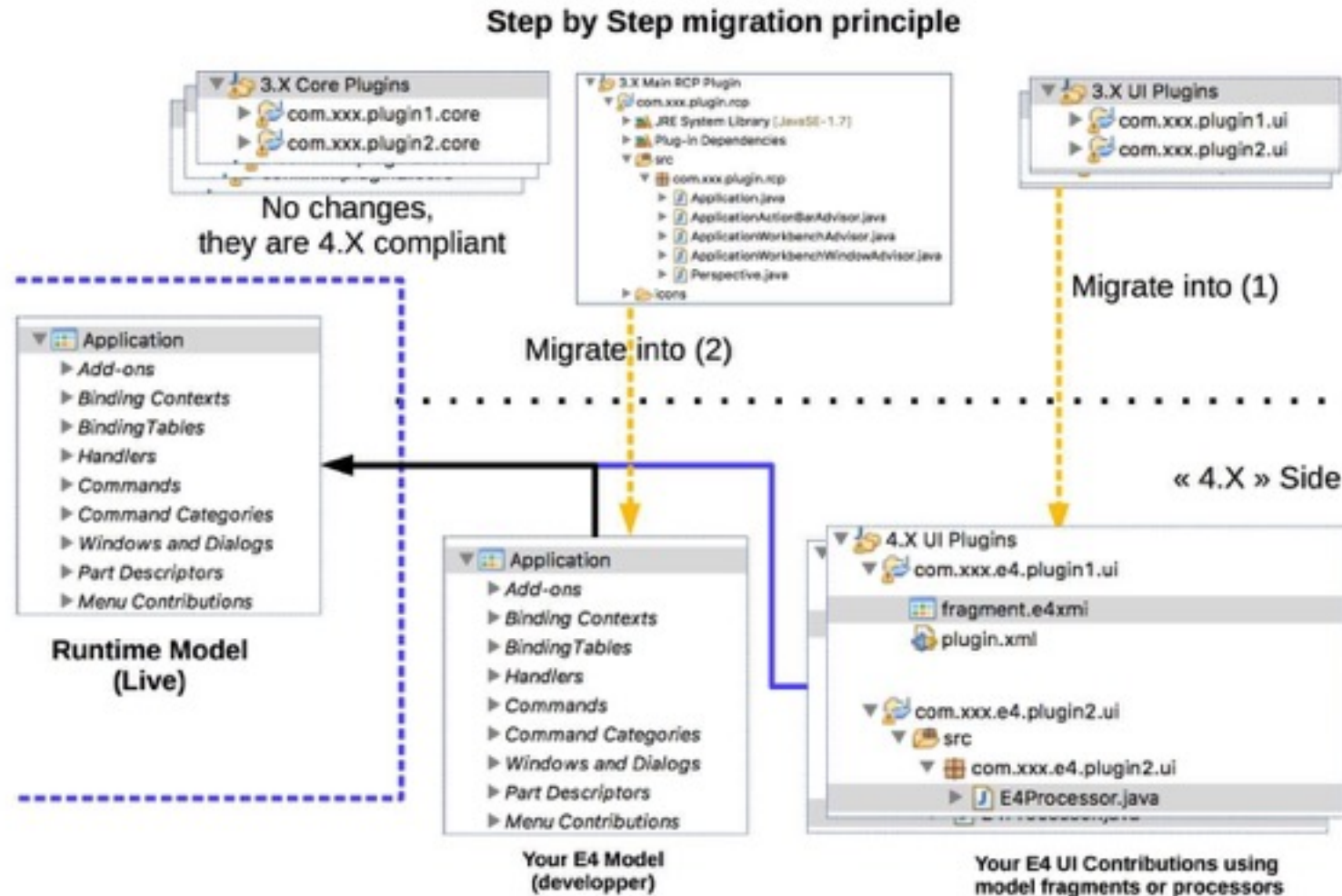
Can you do this with 3.x  
legacy Applications?

# Extend 3.x Applications

- Run them on the compat layer

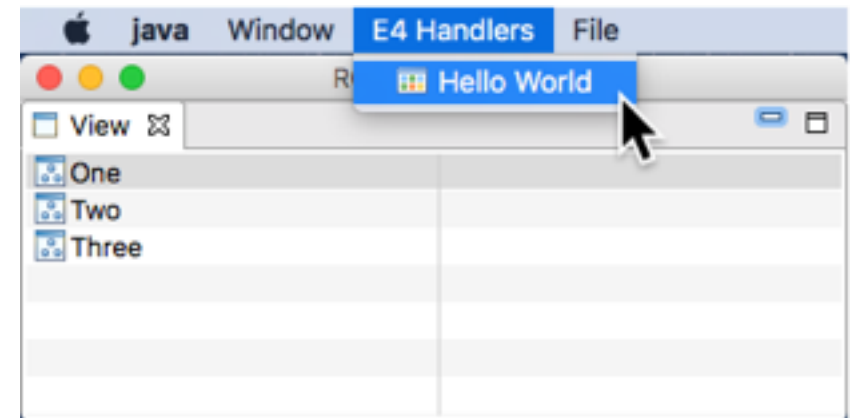
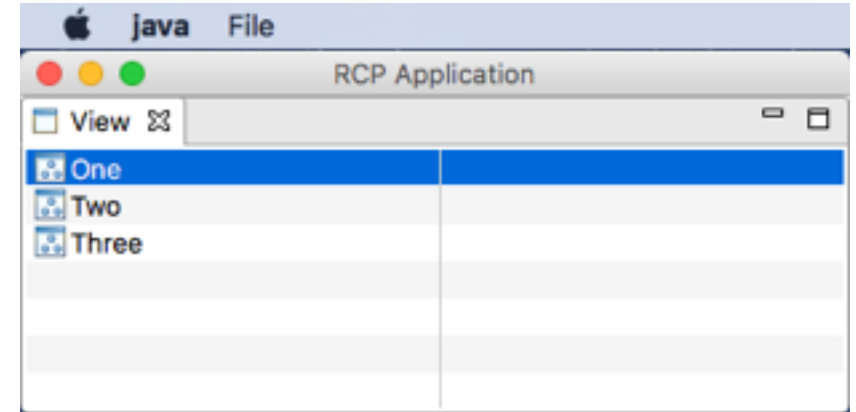


# Extend E4 Applications



# Demo

- Create a 3.x application with a view
  - Run it
- Add the E4 Module and the spies to the launch config (do not change the 3.x application dependencies)
  - Observe the menu contributed by the module
  - Observe the “Window” menu contributed by E4 Spies



# Hackhathon

# Eclipse Hackathon

- Event for developers to meet, share, learn, and improve the Eclipse technology.
- It can be an organised meeting, in a conference, or a meeting between friends.
- Everybody can join!

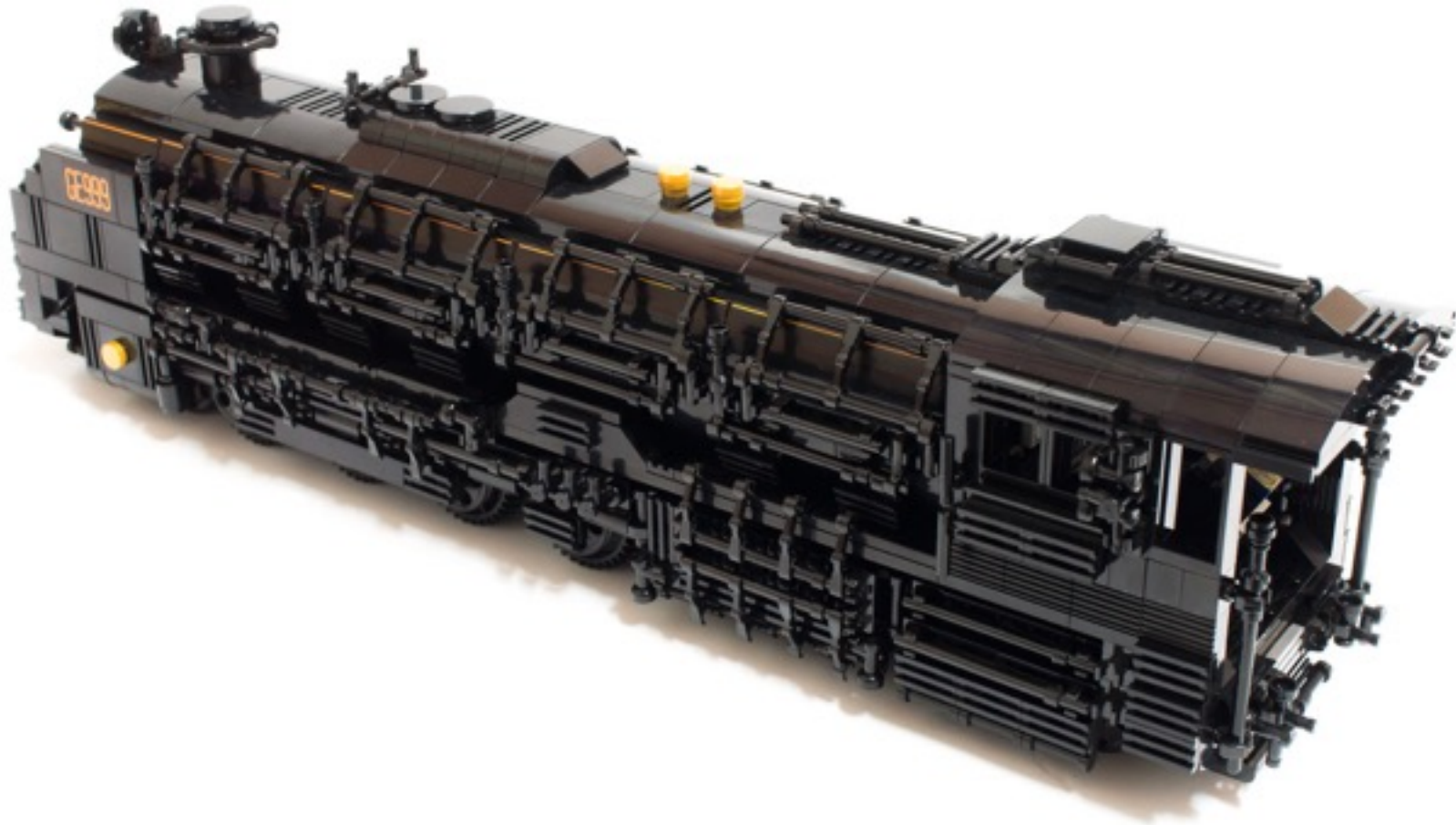
# Eclipse Hackathon, Hamburg Dec 2016

- merged:

| Subject   | Status | Owner           | Project  | Branch           | Updated | Done | CR | V |
|---|--------|-----------------|--|------------------|---------|------|----|---|
| Minor reformatting of the EModelServiceTest class                               | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| [Dark theme] FetchResultDialog should use a fitting icon to look                | Merged | Lars Vogel      | org.vet  | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509539 - [CSS] [dark theme] set background color of the StyledText ...      | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509598 - [Model Editor] refreshOnSave seems to be called for all saves      | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509477 - Use lambdas in org.eclipse.ui.workbench - part 2                   | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 501800 - [CSS] [dark theme] Cleanup widget looks bad in the dark theme      | Merged | Lars Vogel      | platform/ide/jdt.ui                            | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 479182 - Use lambdas in org.eclipse.e4.ui.dialogs                           | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509603 - [Model Editor] is always reloaded when we switch to another editor | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509576 - e4 model editor shows duplicates entries for the application node  | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509637 - StackOverflow when editing in the StringFragmentEditor             | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509606 - [Model Fragment Editor] should provide content assist in           | Merged | Park Suzi       | platform/ide/platform.ui                       | master           | Dec 22  | ✓    | ✓  | ✓ |
| Bug 509608 - Update org.eclipse.e4.ui.tools.emf.editor3e to Java 1.8            | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 21  | ✓    | ✓  | ✓ |
| Bug 509551 - [Fragment Editor] Choice of classes for element ID must be reduced | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 21  | ✓    | ✓  | ✓ |
| [Minor] Use stacks in AbstractPugBlock  | Merged | Lars Vogel      | platform/ide/pde.ui                            | master           | Dec 21  | ✓    | ✓  | ✓ |
| Bug 509583 - Reduce usage of margins for Application model editor               | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 21  | ✓    | ✓  | ✓ |
| Bug 507332 - Application model-refactoring participants not working anymore     | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 21  | ✓    | ✓  | ✓ |
| Bug 509484 - [E4 Model Fragment Editor] Filter proposals for filters in ...     | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 21  | ✓    | ✓  | ✓ |
| Bug 509477 - Use lambdas in org.eclipse.ui.workbench - part 1                   | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 21  | ✓    | ✓  | ✓ |
| Bug 492180 - [Quick Access] Allow to specify wildcards                          | Merged | Park Suzi       | platform/ide/platform.ui                       | master           | Dec 21  | ✓    | ✓  | ✓ |
| Bug 492180 - [Quick Access] Allow to specify wildcards                          | Merged | Park Suzi       | www.eclipse.org/ide/news                       | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 430992 - [CSS] [dark theme] Search dialog tab headers are unstyled          | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509583 - Provide e4 template for a toolbar contribution similar to ...      | Merged | Oliver Prouvost | platform/ide/pde.ui                            | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509521 - Combo box to get the selected element ID is not well updated ...   | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509583 - Provide e4 template for a toolbar contribution similar to ...      | Merged | Fabian Pfaff    | platform/ide/pde.ui                            | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509506 - Move Activator of org.eclipse.e4.ui.tools.css.spy to UI method     | Merged | Lars Vogel      | org.eclipse.e4.ui                              | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509510 - [CSS Spy] Allow to disable that the CSS spy follows the UI ...     | Merged | Lars Vogel      | org.eclipse.e4.ui                              | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509430 - Fix e4 code templates  | Merged | Park Suzi       | platform/ide/platform.ui                       | RA_8_maintenance | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509448 - The Feature Selection Dialog in fragment editor should be          | Merged | Park Suzi       | platform/ide/platform.ui                       | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 509513 - Update the target platform to use NetBeans RichText 1.2            | Merged | Simon Scholz    | netbeans/org.eclipse.netbeans.widgets.netbeans | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 478941 - Use lambdas in org.eclipse.e4.ui.workbench.renderers.swt           | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 501120 - Refactor org.eclipse.pde.ui/src/samples                            | Merged | Lars Vogel      | platform/ide/pde.ui                            | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 478939 - Use Lambdas in org.eclipse.e4.ui.workbench.swt                     | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 20  | ✓    | ✓  | ✓ |
| Bug 508431 - E4 Handler template should say, in its comment, to not use an ...  | Merged | Oliver Prouvost | platform/ide/pde.ui                            | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509480 - Use lambdas in org.eclipse.core.jobs                               | Merged | Lars Vogel      | platform/ide/platform.runtime                  | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509458 - Use lambda for paintListener in StyledTextCrpTargetEffect          | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509454 - Use lambdas in org.eclipse.swt.examples for sorting and ...        | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509431 - Template "Plug-in with an Eclipse 4 "naming should be improved"    | Merged | Fabian Pfaff    | platform/ide/pde.ui                            | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 490345 - Model Fragment Editor should display tooltips and enhance ...      | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509439 - The jdt builder generates a different code than committed code     | Merged | Oliver Prouvost | platform/ide/platform.ui                       | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509432 - [Templates] Add "Plug-in" to header of template selection page ... | Merged | Fabian Pfaff    | platform/ide/pde.ui                            | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509430 - Remove unnecessary whitespace from org.eclipse.pde.runtime         | Merged | Lars Vogel      | platform/ide/pde.ui                            | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509430 - Fix e4 code templates  | Merged | Park Suzi       | platform/ide/platform.ui                       | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 502226 - Must remove or update the template "Plug-in with a popup menu"     | Merged | Oliver Prouvost | platform/ide/pde.ui                            | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug 509106 - [Examples] Resolve unused import and redundant type arguments ...  | Merged | Simon Scholz    | netbeans/org.eclipse.netbeans.widgets.netbeans | master           | Dec 19  | ✓    | ✓  | ✓ |
| Bug430992 - [CSS] [dark theme] Search dialog tab headers are unstyled           | Merged | Lars Vogel      | platform/ide/platform.ui                       | master           | Dec 19  | ✓    | ✓  | ✓ |

<https://goo.gl/vXNpMj>

# Questions?







**eclipsecon**  
France 2017

# Evaluate the Sessions

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