

# DAWN4DAWN

NoBUGS DAWN Workshop 2016

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# What's DAWN4DAWN?

- Development tools for DAWN
  - Create common extension
  - No need set up a build job
  - Publish to a marketplace



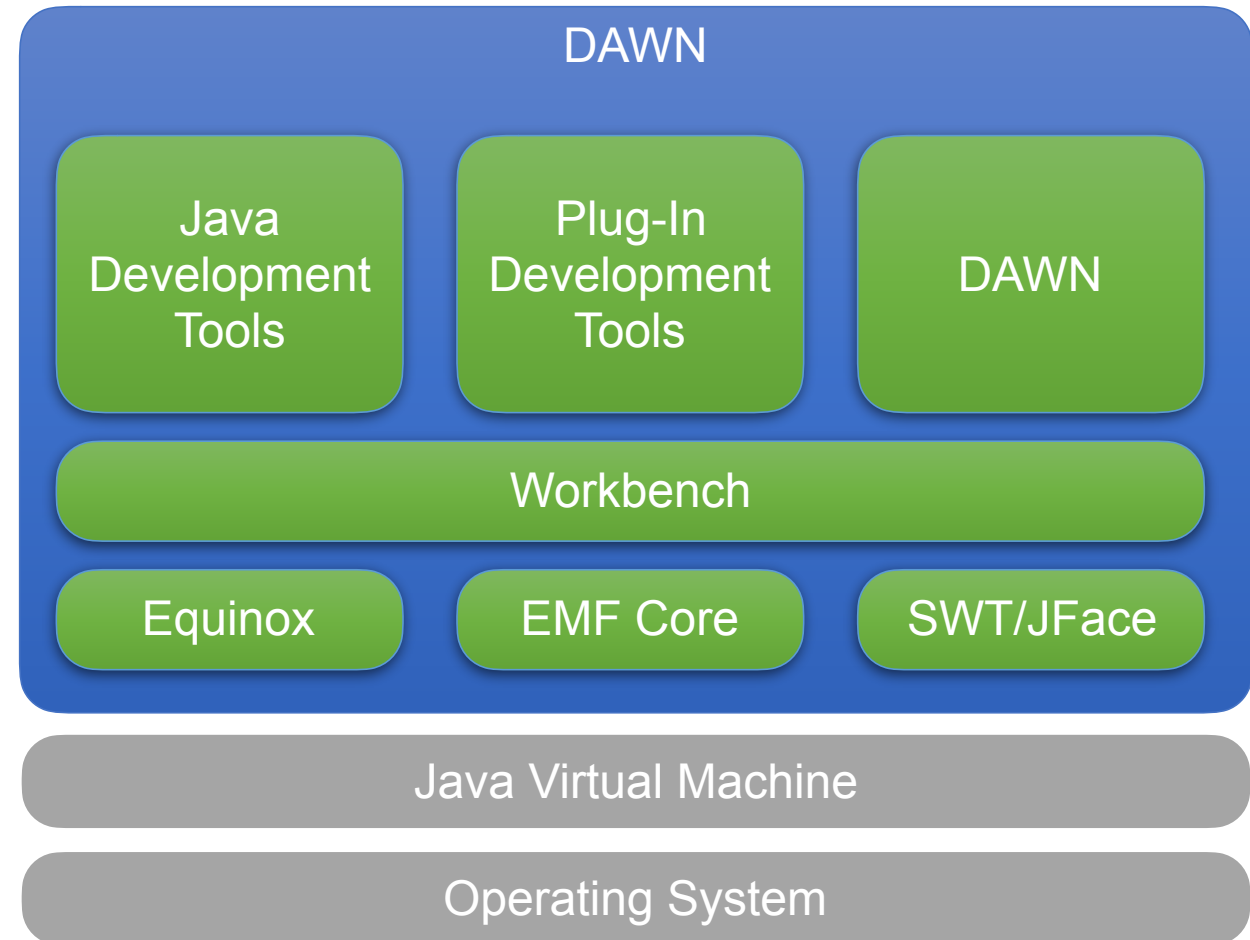
# But why?

- Have everything you need?
  - File loaders
  - Tools
  - Colour schemes
  - Plotting actions
  - Fitting functions
- Maybe do it yourself
  - With some help
- Would you like to share?



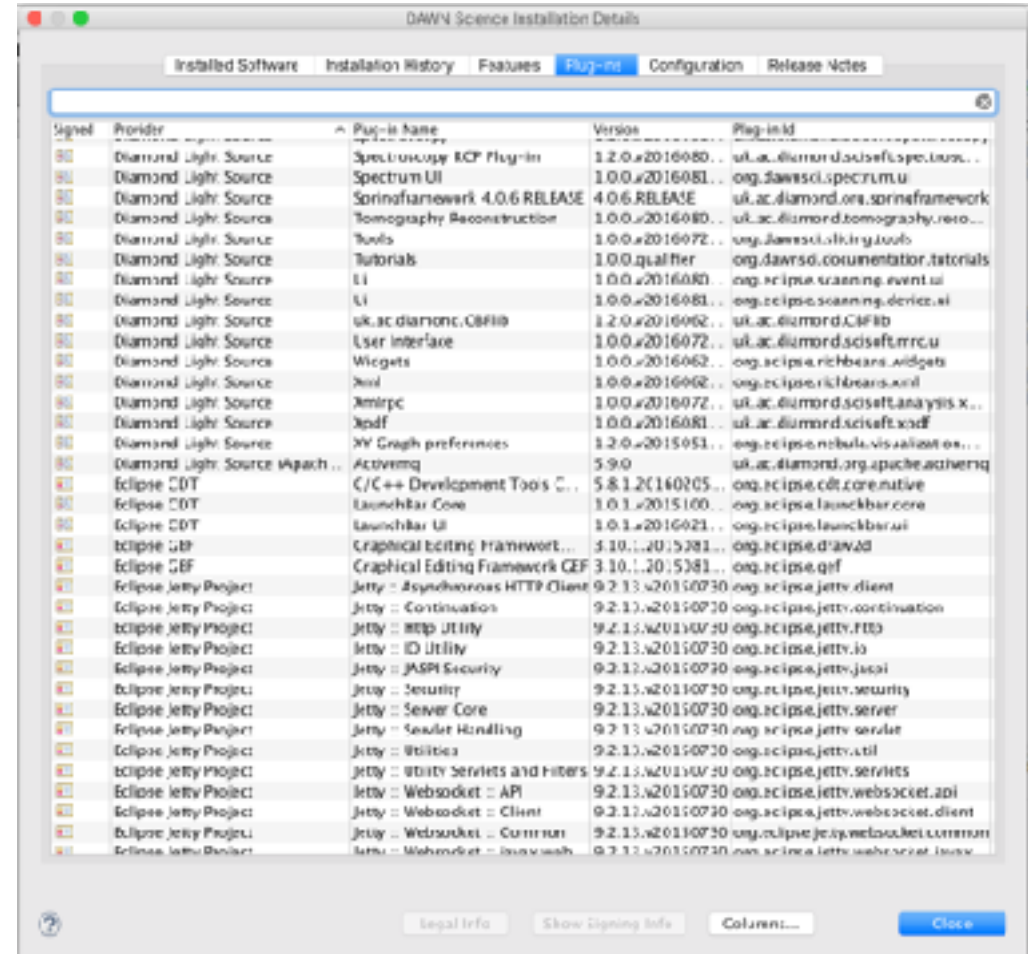
# DAWN from a developers perspective

- Built on the Eclipse Platform
- Written mostly in Java
- Includes development tools
- Handles additional modules



# A whole lot of modules

- Java bundles (jar-files)
- Binary bundles
- Help system
- C/C++ Development Tools
- Java Development Tools

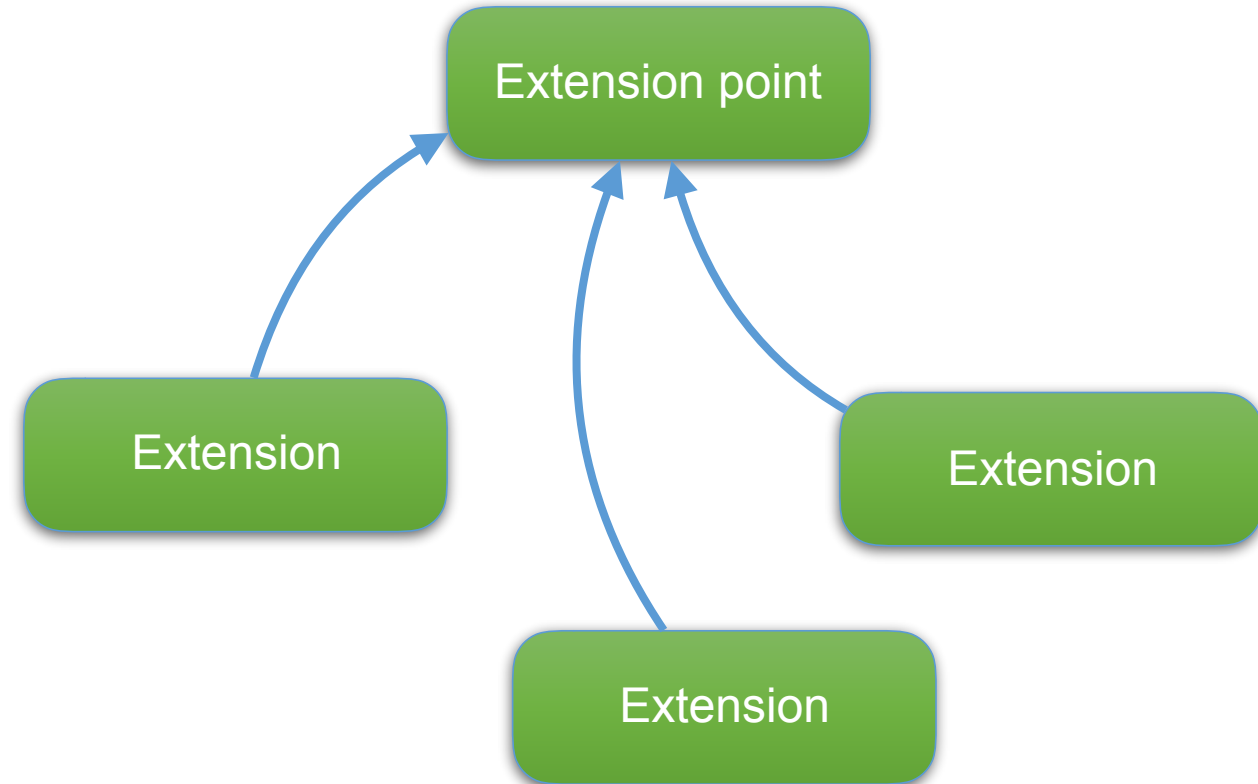


The screenshot shows the 'DAWN Science Installation Details' window with the 'Plug-ins' tab selected. It displays a table of installed software modules, including their provider, name, version, and plug-in ID. The table is organized into columns: Signed, Provider, Plug-in Name, Version, and Plug-in ID. The list includes various Eclipse-based tools and frameworks, such as Spectroscopy RCP Plug-in, Spectrum UI, Springframework, Tomography Reconstruction, Tools, Tutorials, UI, uk.ac.diamond.CBLib, User Interface, Widgets, Jmol, Jmolpc, Jmolp, XY Graph preferences, Activemq, C/C++ Development Tools, Launchbar Core, Launchbar UI, Graphical Editing Framework, Graphical Editing Framework GEF, Jetty, Jetty Continuation, Jetty ID Utility, Jetty JSP Security, Jetty Security, Jetty Server Core, Jetty Servlet Handling, Jetty Utilities, Jetty Servlets and Filters, Jetty Websocket API, Jetty Websocket Client, Jetty Websocket Common, and Jetty Websocket Server.

Signed	Provider	Plug-in Name	Version	Plug-in ID
	Diamond Light Source	Spectroscopy RCP Plug-in	1.2.0.x2016080...	uk.ac.diamond.scisoft.spectroscopy...
	Diamond Light Source	Spectrum UI	1.0.0.x2016081...	org.dawson.spectrum.ui
	Diamond Light Source	Springframework 4.0.6 RELEASE	4.0.6.RELEASE	uk.ac.diamond.org.springframework
	Diamond Light Source	Tomography Reconstruction	1.0.0.x2016080...	uk.ac.diamond.tomography.reco...
	Diamond Light Source	Tools	1.0.0.x2016072...	org.dawson.dawson.tools
	Diamond Light Source	Tutorials	1.0.0.qualifier	org.dawson.documentation.tutorials
	Diamond Light Source	UI	1.0.0.x2016080...	org.eclipse.scanning.event.ui
	Diamond Light Source	UI	1.0.0.x2016081...	org.eclipse.scanning.device.ui
	Diamond Light Source	uk.ac.diamond.CBLib	1.2.0.x2016062...	uk.ac.diamond.CBLib
	Diamond Light Source	User Interface	1.0.0.x2016072...	uk.ac.diamond.scisoft.mrc.u...
	Diamond Light Source	Widgets	1.0.0.x2016062...	org.eclipse.richbeans.widgets
	Diamond Light Source	Jmol	1.0.0.x2016062...	org.eclipse.richbeans.xml
	Diamond Light Source	Jmolpc	1.0.0.x2016072...	uk.ac.diamond.scisoft.analysis.x...
	Diamond Light Source	Jmolp	1.0.0.x2016081...	uk.ac.diamond.scisoft.xcdf
	Diamond Light Source	XY Graph preferences	1.2.0.x2015051...	org.eclipse.nebula.visualization...
	Diamond Light Source	Activemq	5.9.0	uk.ac.diamond.org.apache.activemq
	Eclipse CDT	C/C++ Development Tools C...	5.8.1.20160205...	org.eclipse.cdt.core.native
	Eclipse CDT	Launchbar Core	1.0.1.x2015100...	org.eclipse.launchbar.core
	Eclipse CDT	Launchbar UI	1.0.1.x2016021...	org.eclipse.launchbar.ui
	Eclipse GEF	Graphical Editing Framework...	1.10.1.2015281...	org.eclipse.gef
	Eclipse GEF	Graphical Editing Framework GEF	1.10.1.2015281...	org.eclipse.gef
	Eclipse Jetty Project	Jetty - Asynchronous HTTP Client	9.2.13.x20150730	org.eclipse.jetty.client
	Eclipse Jetty Project	Jetty - Continuation	9.2.13.x20150730	org.eclipse.jetty.continuation
	Eclipse Jetty Project	Jetty - HTTP Utility	9.2.13.x20150730	org.eclipse.jetty.http
	Eclipse Jetty Project	Jetty - ID Utility	9.2.13.x20150730	org.eclipse.jetty.id
	Eclipse Jetty Project	Jetty - JSP Security	9.2.13.x20150730	org.eclipse.jetty.jsp
	Eclipse Jetty Project	Jetty - Security	9.2.13.x20150730	org.eclipse.jetty.security
	Eclipse Jetty Project	Jetty - Server Core	9.2.13.x20150730	org.eclipse.jetty.server
	Eclipse Jetty Project	Jetty - Servlet Handling	9.2.13.x20150730	org.eclipse.jetty.servlet
	Eclipse Jetty Project	Jetty - Utilities	9.2.13.x20150730	org.eclipse.jetty.util
	Eclipse Jetty Project	Jetty - Utility Services and Filters	9.2.13.x20150730	org.eclipse.jetty.services
	Eclipse Jetty Project	Jetty - Websocket - API	9.2.13.x20150730	org.eclipse.jetty.websocket.api
	Eclipse Jetty Project	Jetty - Websocket - Client	9.2.13.x20150730	org.eclipse.jetty.websocket.client
	Eclipse Jetty Project	Jetty - Websocket - Common	9.2.13.x20150730	org.eclipse.jetty.websocket.common
	Eclipse Jetty Project	Jetty - Websocket - Server	9.2.13.x20150730	org.eclipse.jetty.websocket.server

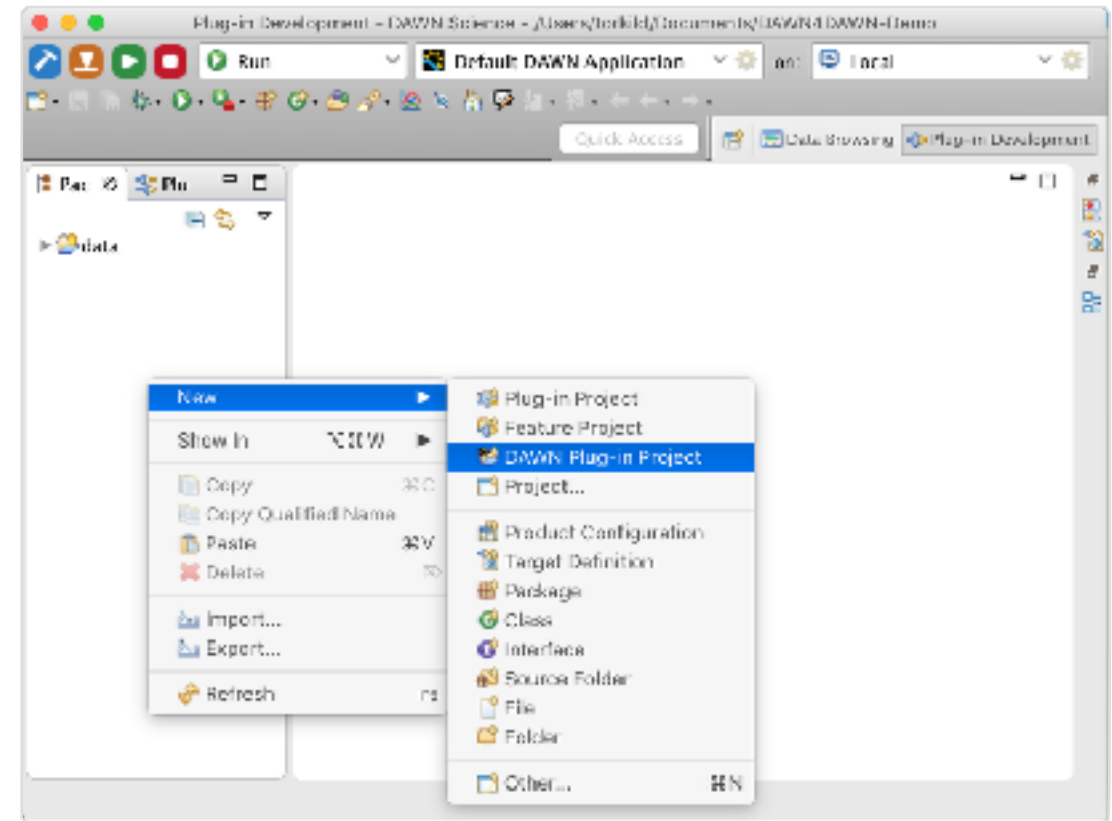
# Extension points and extensions

- Loose coupling between modules
- Declared using XML
- Implemented in Java
- Loaded using OSGi



# Develop your own plug-ins

- Special “perspective”
- Create new “DAWN Plug-in”



# Create new project 1/3

- Fill inn required fields
- And select the extension point

New DAWN Plug-in Project

DAWN Plug-in Project

Define the location of the plug-in project

Project name: My Operation

☒ Use default location

Location: /Users/torkild/Documents/workspace/My Operation Browse...

Plug-in Properties:

Identifier: my.operation

Version: 1.0.0.qualifier

Name: My Operation

Institute: Demo

Extension:

Extension point identifier: org.eclipse.dawnsci.analysis.abi.operation

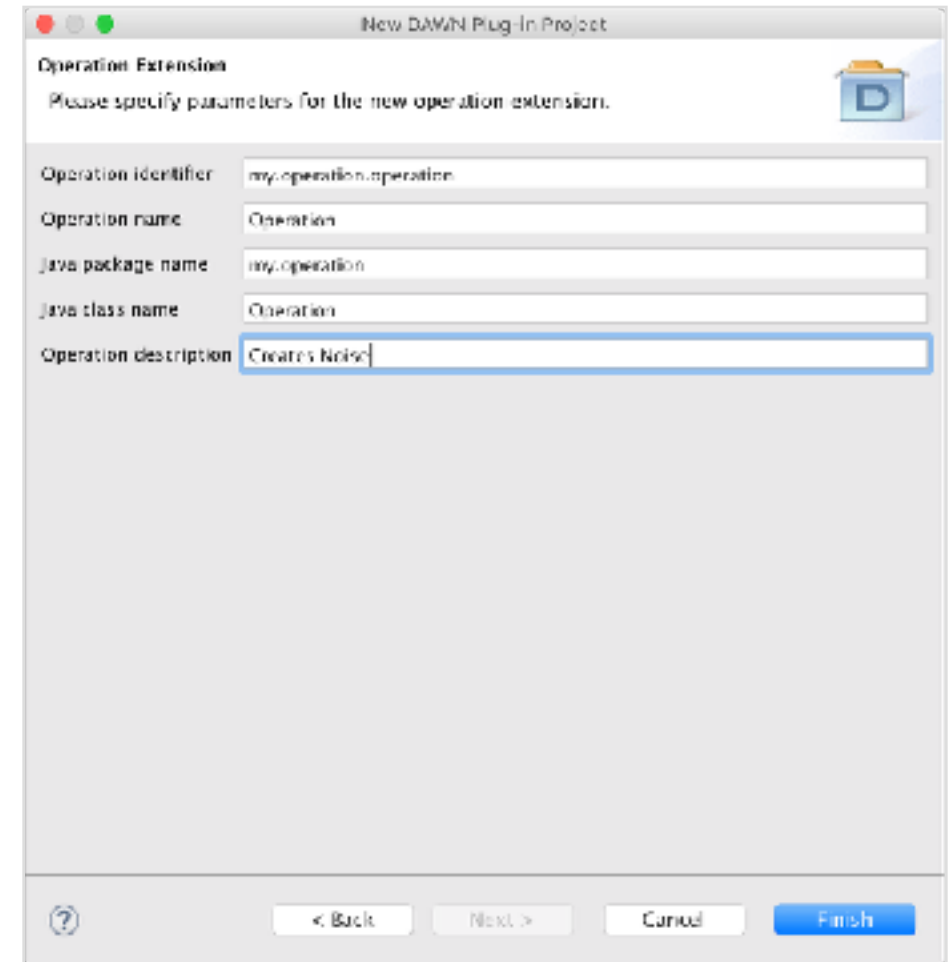
Define a processing operation which may be run by a user processing data.

? < Back Next > Cancel Finish



# Create new project 2/3

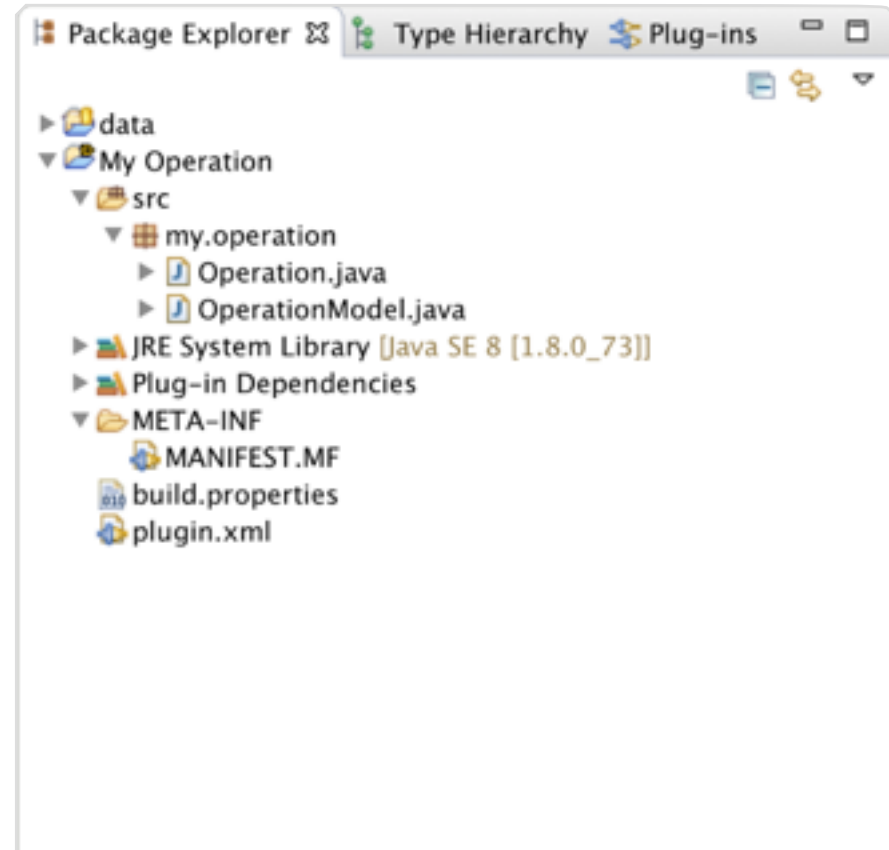
- Fill inn required fields
- Select extension for



The screenshot shows a dialog box titled "New DAWN Plug-In Project". It contains a section labeled "Operation Extension" with the instruction "Please specify parameters for the new operation extension." Below this are five text input fields: "Operation identifier" (containing "my.operation.operation"), "Operation name" (containing "Operation"), "Java package name" (containing "my.operation"), "Java class name" (containing "Operation"), and "Operation description" (containing "Creates Noise"). At the bottom of the dialog are four buttons: a help button (question mark icon), "< Back", "Next >", and a blue "Finish" button.

# Create new project 3/3

- Write the code
- Build
- Test
- Self-host



# The DAWN Marketplace

- Open Source Eclipse Marketplace compatible server
- Sign in using Twitter, Google or GitHub account
- Access control to *administrator* and *uploader* roles
- Web UI for maintaining solutions and user accounts
- No need for extra web hosting, handles p2 repos

# Thank you for listening!

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  - @torkildr on Twitter / tur@itema.no
- <https://github.com/Itema-as/dawn-marketplace-server/>