

Migrating ETFw to JAXB

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Overview

- Motivation
- Current Work
- Demonstration
 - New TAU UI using JAXB to specify environment variables and program arguments
- Future Work

Motivation

- Single XML framework for User Interfaces (UI)
 - Provide complete mapping of ETFw tool description to Java classes without manually parsing xml
- Simplify Tool development
 - Make it easier to write tool descriptions for advanced tools without writing Java code
 - Improve control over UI layout and widget selection
 - Re-use widgets and widget controls provided by Resource manager factory classes
- Opportunity to re-visit UI design

Current Work

- Mapping current ETFw xml tags to JAXB so xml file can be unmarshalled to Java classes without manually parsing the file
 - Mapping of UI tags is nearly complete, some work remains for TAU tool
 - Mapping of compile/analyze/execute tags 70% complete
 - Extension point for new workflow:
org.eclipse.ptp.etfw.jaxb.workflows

Demonstration – TAU tool using JAXB

- TAU UI using JAXB widgets from resource manager framework
- How program arguments and environment variables are mapped in the xml description to the correct tool (e.g. build tool args, runtime tool environment variables)

Mapping Program Arguments

- Passing `-optComplnst` to TAU Compiler
 - First, create an attribute that defines the string `-optComplnst` as the boolean translation
 - Second, create a UI widget (e.g. Checkbox) and associate it with the attribute
 - The attributes key (name) must start with the key specified in the Tool Pane `<configId/>`.
 - **TOOLPANE_ID_FOO**

Mapping Environment Variables

- Setting TAU environment variable for TAU_PROFILE_FORMAT for Tau Runtime
 - Similar to a program argument, create an attribute that will persist the selection (e.g. a string attribute)
 - Create a UI object (in this case a combo box) for selecting the profile format (profile, merged, snapshot, none)
 - The attributes key (name) must start with the key specified in the Tool Pane <configVarId/>.
 - **TOOLPANE_ID_TAU_PROFILE_FORMAT**

Future Work

- Verify that current ETFw xml functionality is fully supported by the JAXB schema
- Create backwards compatible Performance Analysis Tab
- Add dynamic workflow (e.g. import an xml tool description)
- Make sure simple use cases are as simple as possible
- Cleanup JAXB schema