

Des menus dans Eclipse

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Eclipse Plugin

□ What

- Small Java program that augments Eclipse
 - Add menu, button, editors, ...
- Better/easier integration with other tools

□ How

- Needs *Eclipse Modeling (Mars)*
- File/New/Plug-in project...

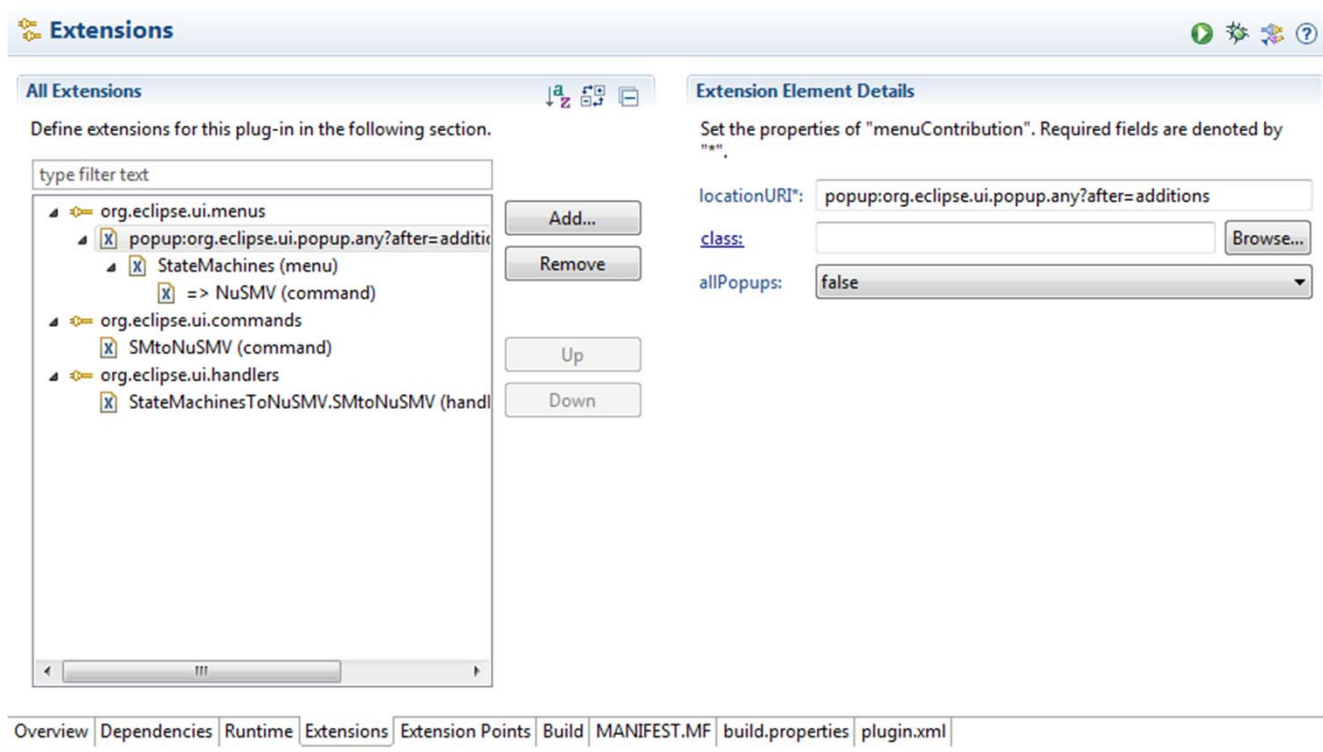
An example of plug-in

- Add a menu to Eclipse (3 extensions needed)
 - `org.eclipse.ui.menus`
 - Add a menu and menu item into Eclipse
 - `org.eclipse.ui.commands`
 - Add a command: can be (un)done through menus or toolbars
 - `org.eclipse.ui.handlers`
 - Attach a handler to a command (code to be executed)

org.eclipse.ui.menu

□ 3 stages

- **menuContribution**: popup:org.eclipse.ui.popup.any?after=additions
- **menu**: with a label
- **command**: MenuItem that references a command



org.eclipse.ui.menu

□ Select when the menu is visible

- Ex1: only when a statemachines.StateMachine is selected
 - Requires a **dependency** to the code generated by EMF
- Ex2: org.eclipse.uml2.uml.StateMachine
 - Requires a **dependency** to org.eclipse.uml2.uml

The screenshot shows the Eclipse IDE's 'Extensions' dialog box. The 'All Extensions' tab is active, displaying a tree view of extensions for the 'org.eclipse.ui.menu' plug-in. The tree structure is as follows:

- org.eclipse.ui.menu
 - popup:org.eclipse.ui.popup.any?after=additionalItems
 - StateMachines (menu)
 - => NuSMV (command)
 - false (visibleWhen)
 - activeMenuSelection (with)
 - (iterate)
 - statemachines.StateMachine

The 'Extension Element Details' tab on the right shows the 'type*' property set to 'statemachines.StateMachine'. The 'Add...', 'Remove', 'Up', and 'Down' buttons are visible next to the tree view.

org.eclipse.ui.commands

- Allows for the creation of commands
 - A command can be done/undone by clicking a menu or a toolbar icon or by code
 - Give a unique id
 - Ex: fr.unice.m1.SMtoNuSMV.command
 - Must be referenced by menus, toolbars, handlers

org.eclipse.ui.handlers

- ❑ Specify what code should be executed/attached to a command
 - Reference a command through its id
 - Define a class that must implement **org.eclipse.core.commands.IHandler**

```
public class SMTToNuSMV implements IHandler {
    public void addHandlerListener(IHandlerListener handlerListener) {}
    public void dispose() {}
    public Object execute(ExecutionEvent event) throws ExecutionException {
        // TODO Auto-generated method stub
        return null;
    }
    public boolean isEnabled() { return true; }
    public boolean isHandled() { return true; }
    public void removeHandlerListener(IHandlerListener handlerListener) {}
}
```

Abstract Handler

□ Define the right handler

```
public class SMTNuSMVHandler extends AbstractHandler {
    @Override
    public Object execute(ExecutionEvent event) throws ExecutionException {
        ISelection selection = PlatformUI.getWorkbench().getActiveWorkbenchWindow()
            .getActivePage().getSelection();
        if (!(selection instanceof StructuredSelection)) return null;
        Object selected = ((StructuredSelection)selection).getFirstElement();

        // The type should be guaranteed by the "isVisibleWhen"
        assert(selected instanceof StateMachine);

        // do something
        JOptionPane.showMessageDialog(null, counter.getNbStatemachines()+" state machines\n"+
            counter.getNbStates()+" states\n"+
            counter.getNbTransitions()+" transitions",
            "State Machines", JOptionPane.INFORMATION_MESSAGE);

        return null;
    }
}
```