



12 - Eclipse Builders, Natures and Markers:

Page 3 of 3

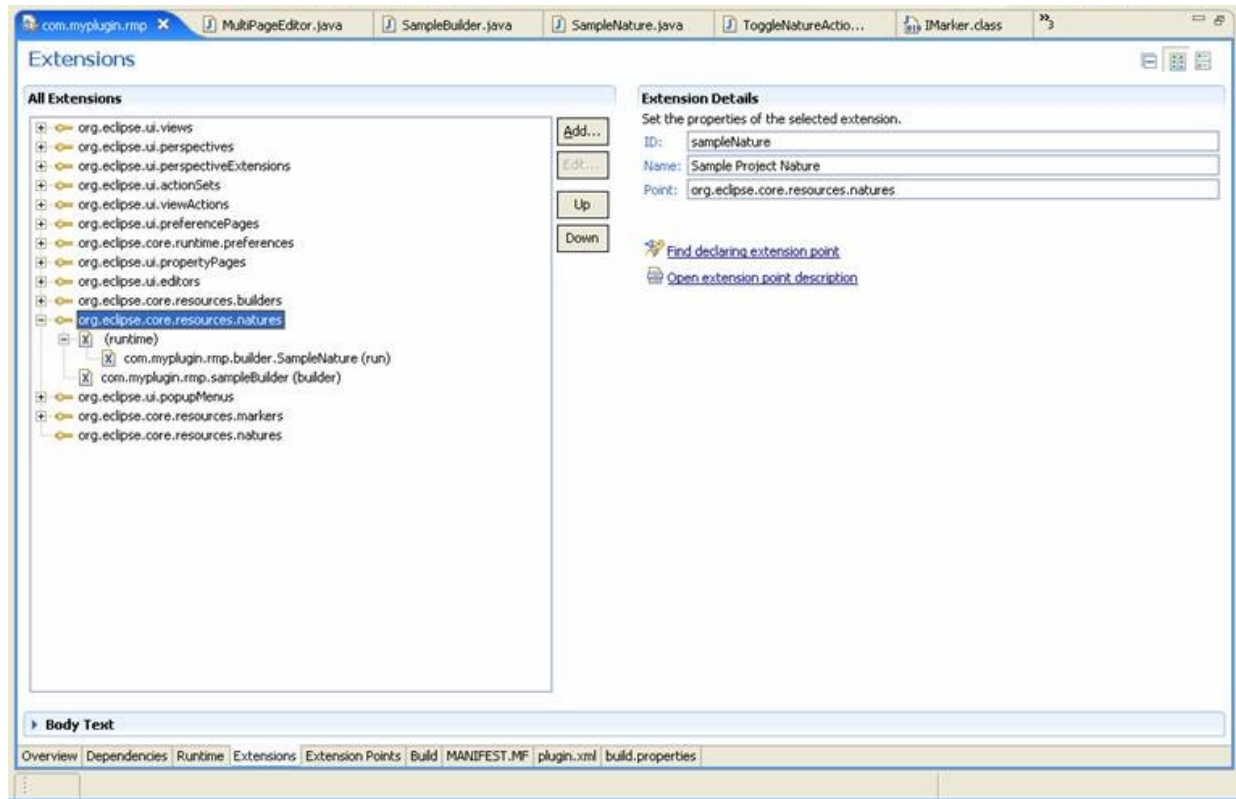
[TOC](#)[11 - Eclipse Plugin Editors Tutorial](#)[13 - Eclipse Plugin Help Tutorial](#)

Natures

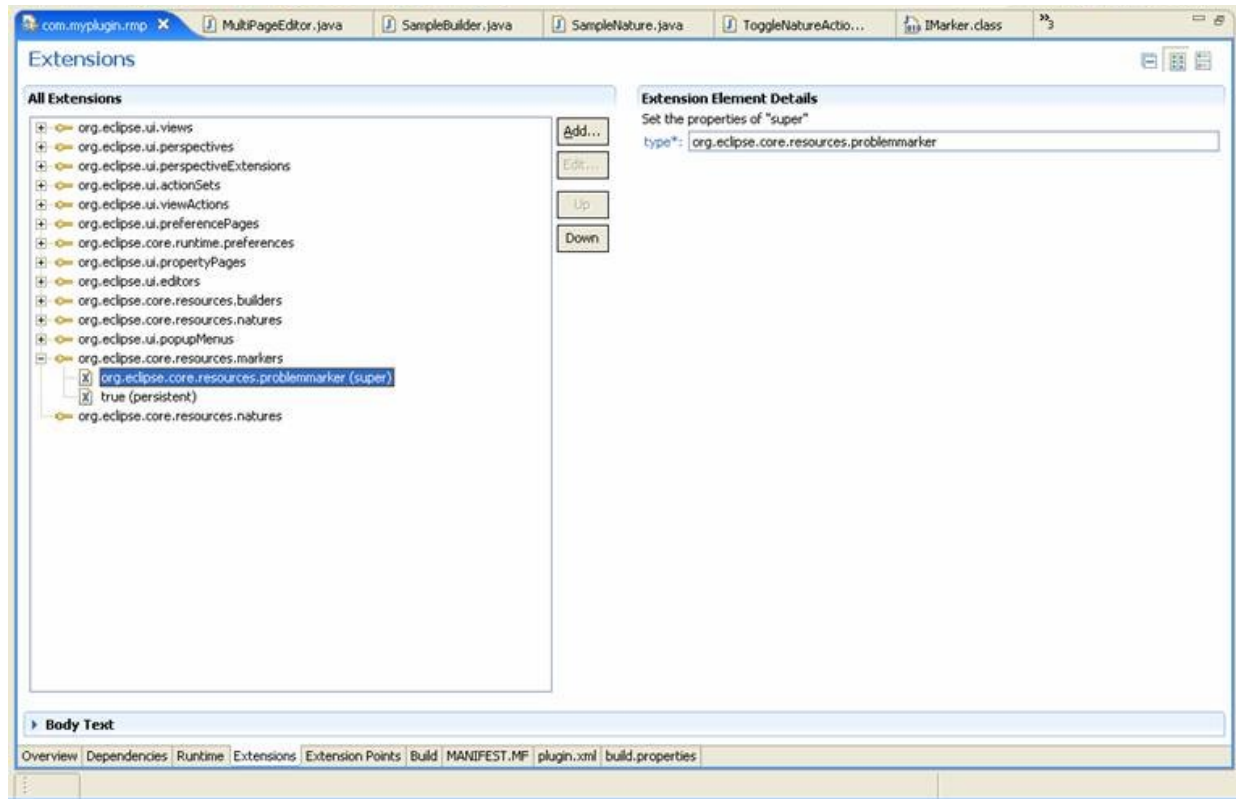
Natures are used to link project with various functionalities such as builders in a project. For ex: if we add java nature to a project inside eclipse. It associates project with incremental java compiler. natures are added in .project file of the project. Natures are not only used to associate builders but are also used to define many other functionalities for ex: only java nature projects are shown in Package Explorer. Some of the predefined natures are org.eclipse.jdt.core.javanature,org.eclipse.pde.PluginNature.

Reviewing the generated code

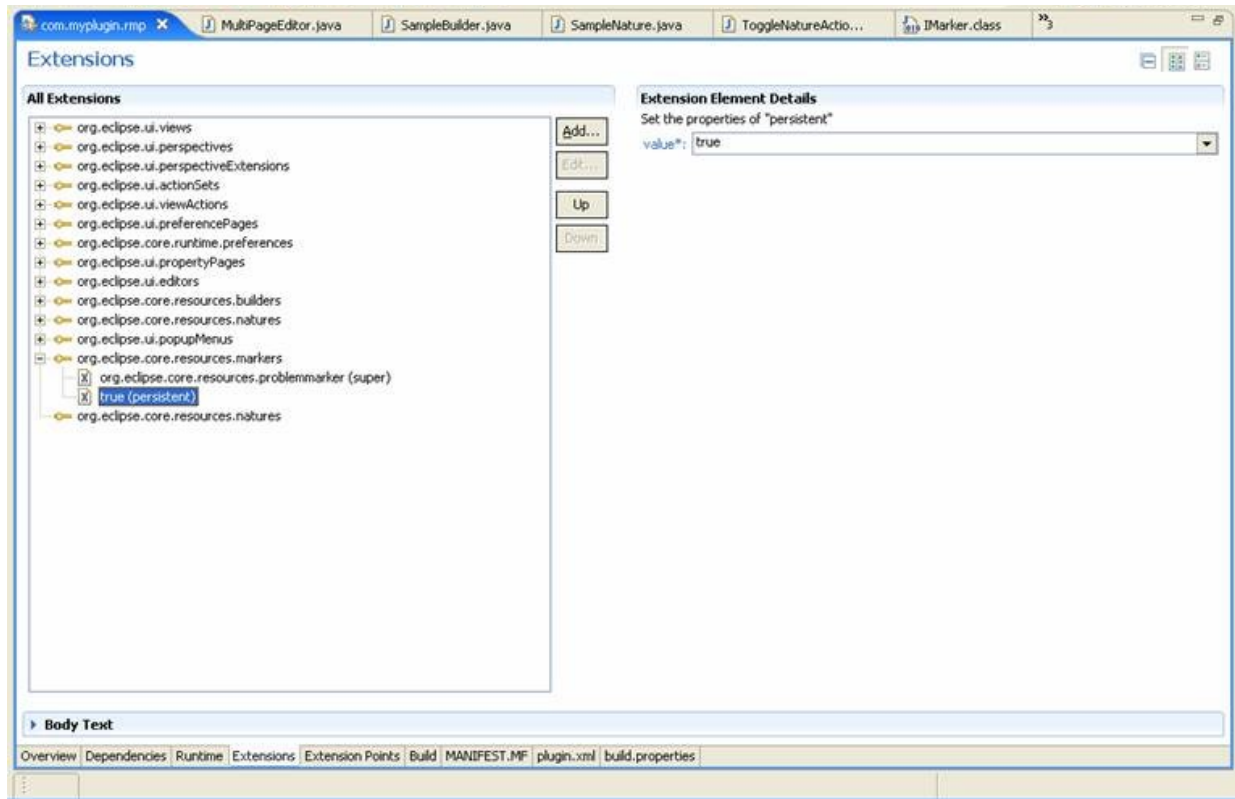
Let's review the plug-in manifest file to see what it takes to create a nature. Nature is created by extending org.eclipse.core.resources.natures extension point. ID is the unique identifier for this nature. Name is the human readable name of the nature.



Next element is the builder. Here we will add a builder to this nature. We have associated SampleBuilder created earlier with this nature. So that projects with SampleNature use SampleBuilder whenever an XML file is saved.



Next elements which we are going to discuss are runtime and run. Here we will specify a class named Sample Nature which will be used to configure/deconfigure project with Sample Nature. With the help of this class we will be able to configure non Sample Nature project to Sample Nature project at run time. OR we will be able to convert Sample Nature Project to non Sample Nature project. Repercussions of making a Project as Sample Nature project will be that a Sample builder will be attached to project which will run whenever an XML file is saved and will look for any errors in XML.



IProjectNature

Class `com.myplugin.rmp.builder.SampleNature` declared above implements `IProjectNature` interface. It can configure a project with the project nature, or de-configure it. Please refer to Eclipse API Specification to know more about this class. In our example, user is provided with toggle action to convert non Sample Nature project to Sample Nature project. Following method from `SampleNature` class will be called to associate the project with `SampleNature`.

```

1  public void configure() throws CoreException {
2      IProjectDescription desc = project.getDescription();
3      // get the description of the project basic
4      ICommand[] commands = desc.getBuildSpec();
5      // get the build commands already associated
6      for (int i = 0; i < commands.length; ++i) {
7          if (commands[i].getBuilderName().equals(SampleBuilder.BUILDER_ID)) {
8              return; // Do nothing if Sample builder is already present
9          }
10     }
11
12     ICommand[] newCommands = new ICommand[commands.length + 1];
13     // create a new build specification
14     System.arraycopy(commands, 0, newCommands, 0, commands.length);
15     ICommand command = desc.newCommand();
16     command.setBuilderName(SampleBuilder.BUILDER_ID);
17     newCommands[newCommands.length - 1] = command;
18     desc.setBuildSpec(newCommands);

```

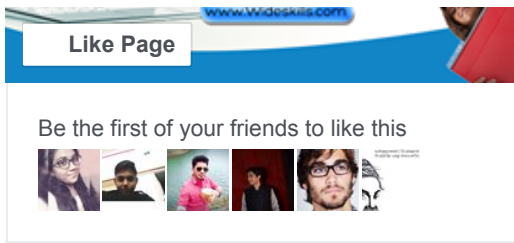
◀ previous 1 2 3

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