II-3 Modifying XML, Adding/Deleting Functions
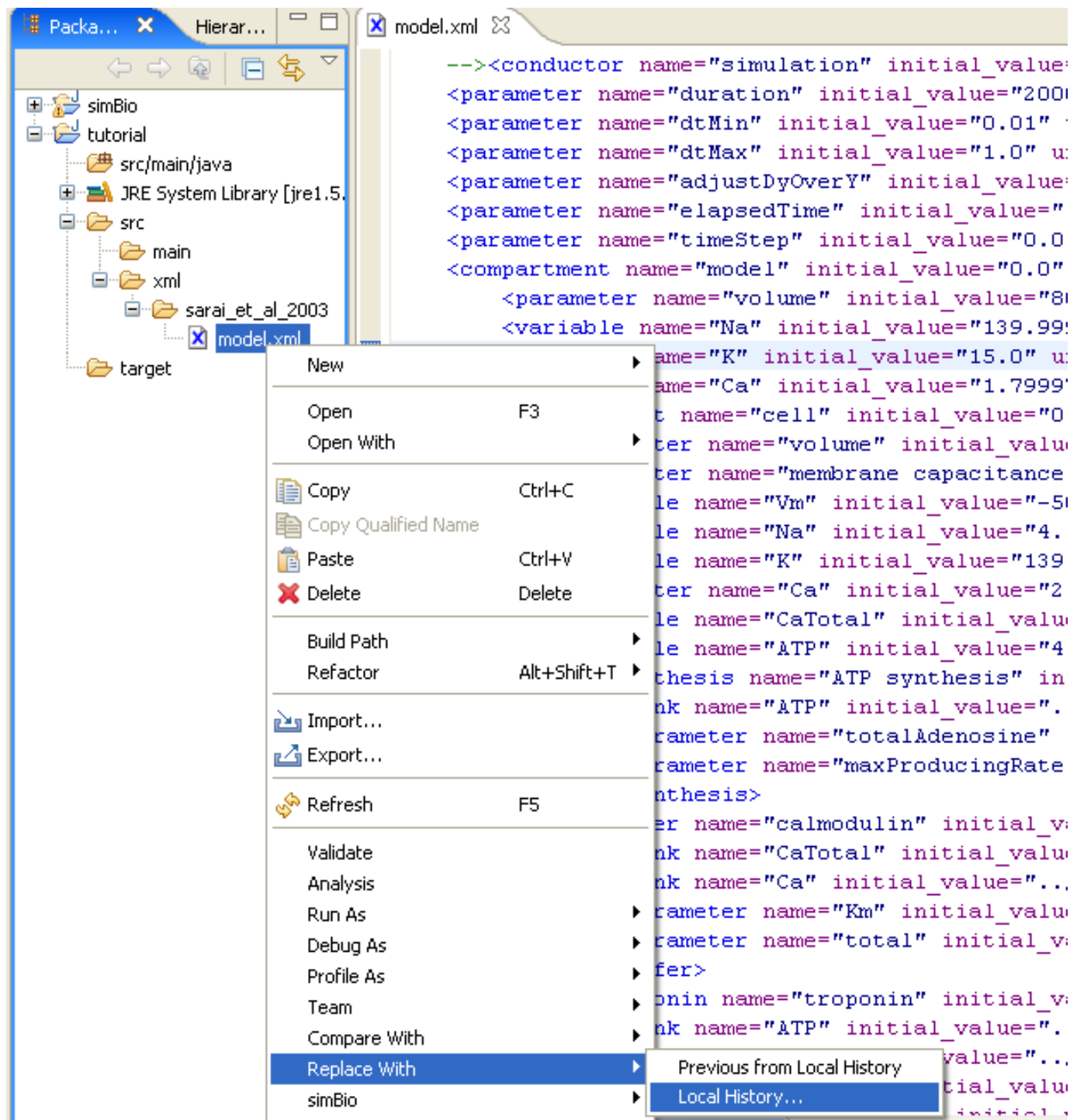
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In this section, we shall explain the details of the functional elements, using the pacemaker cell model as an example.

1. Functional Elements

First, before editing the functional elements, return the previously edited tutorial/src/xml/sarai_et_al_2003/model.xml to its original state. Right click and select [Replace With]->[Local History...]

Select the oldest file with the History dialog, and when you click on [Replace With] the file will be

replaced. It will return to the state just after it was copied from the simBio project.

Open sarai_et_al_2003/model.xml, then click on simulation/model/cell/INaK in the Outline view. In the INaK element, there is a definition to include a Na/K pump Reactor, so delete everything between the INaK tags, and save the changes.

Run the GUI by selecting [simBio]->[Run on GUI] from the popup menu. When you check parameter tree table, model/cell/INaK has disappeared from the list. When the simulation is run and the results are compared with the case that INaK is present, it can be seen that the action potential is prolonged when INaK has been deleted.

On the other hand, when an INaK related description is copied from simBio project src/xml/sarai_et_al_2003/model.xml (Figure 2-3-2 displayed section) and inserted, the Na/K pump function is restored.

By means of the addition or deletion of XML elements that describe a variety of channels and transporters, simulations can be carried out with the presence or absence of these functions.