

Introduction to Models

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The main purpose of CESE is, of course, to run models. We are working to provide selection of the popular electrophysiological models ready for install and run in CESE.

Several well-known models are included in the CESE distribution. As more models are being created/ported to CESE, they will appear in our model repository. Simply download the model archive, install it with `Model/Install Model` command and it's ready for simulations. You can also drop the archive into the `models` directory in local CESE installation; models located there will automatically be installed during CESE startup.

1. CESE models are JavaBeans components

CESE models are small Java components conforming to the [JavaBeans](#) specification. Using JavaBeans gives a number of advantages:

- All model parameters ("properties") can be exposed to the simulation environment. This way the environment can provide a uniform user interface for the model parameters control and modification. In addition, because JavaBeans is the industry standard, 3-d party tools (for example, Java IDEs) can work with CESE models as well.
- Using JavaBeans for CESE models allows simple saving and restoring of model parameters using Java Serialization.
- Java provides a convenient way for packaging and distributing JavaBeans in the Java archives (jars). These .jar files can be copied or sent over the network just like .zip archives (in fact, jars are zip archives with some additional features). Therefore, you can share your custom models with your colleagues.

2. You can customize models

CESE allows you to modify and/or clamp almost any model parameter. But sometimes tweaking variables is not enough and you need to modify the model source code. This involves some Java programming, but because you can select the existing model as a starting point, not much of it. In many cases, you will only need to rewrite a small portion of the model. Take a look at the source code of some of the models included in CESE distribution to learn how it is done. In addition, read the [model creation howto](#).