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## jpf-actor

Steven Lauterburg steven.lauterburg@..., September 2010

### Repository

The repository for jpf-actor is <http://babelfish.arc.nasa.gov/hg/jpf/jpf-actor>.

### Basset (jpf-actor)

Basset is a tool and framework that allows users to systematically test actor programs that compile to Java bytecode. Basset can currently check actor programs written in the Scala programming language or the ActorFoundry library for Java. For more information regarding the Basset project visit <http://mir.cs.illinois.edu/basset/>.

### Running Basset

To explore the ActorFoundry subjects provided in src/examples, run Basset under JPF, additionally specifying the fully qualified class name for the subject's test driver along with any applicable arguments for the driver. For example, the following command will test the ActorFoundry program "pi" using one master actor and three worker actors. This may take a minute to run.

```
bin/jpf gov.nasa.jpf.actor.Basset pi.Driver 3
```

Similarly, the following command will test the Scala program "server" provided in scala-src/examples. Note the addition of the option "+basset.language=scala". In the example above, no language was specified as "foundry" is the default for Basset. Defaults such as this can be overridden in the jpf.properties file located in the actor-jpf directory.

```
bin/jpf +basset.language=scala gov.nasa.jpf.actor.Basset scalaexamples.clientserver.ClientServer
```

To apply a dynamic partial-order reduction (DPOR) to the exploration of a subject, specify which DPOR you would like to use. For example, to explore our "pi" subject using a DPOR based on persistent sets, use the following command, which will result in a significantly smaller exploration space.

```
bin/jpf +basset.dpors=3 gov.nasa.jpf.actor.Basset pi.Driver 3
```

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