Integrating NetRexx Code in ooRexx 5.0

Rony G. Flatscher, WU
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Overview

- **NetRexx** integration with **BSF4ooRexx**
  - Example
- **ooRexx 5.0**
- Integrating **NetRexx** into **ooRexx 5.0**
  - Example
- Roundup and outlook
NetRexx Integration with BSF4ooRexx, 1

- BSF4ooRexx
  - If NetRexx present, then it automatically turns NetRexx objects into Rexx strings
  - ooRexx can be used by NetRexx
    - Apache's BSF framework
    - Java's javax.script framework
    - See samples coming with BSF4ooRexx!
  - Each NetRexx class can be used by ooRexx
    - Apache's BSF framework: must be precompiled!
    - Java's javax.script framework: must supply source
NetRexx Integration with BSF4ooRexx, 2

• Example 1
  - NetRexx source stored in a file
  - JSR-223 (javax.script) to fetch NetRexx engine
  - Getting default ScriptContext
    • Adding an entry "javax.script.filename" according to the JSR-223 specifications
  - Using NetRexx engine to put an attribute into its default ScriptContext
    • Attribute "hi" gets a string from ooRexx
  - NetRexx engine is used to run the NetRexx program which fetches and shows the entries
NetRexx Integration with BSF4ooRexx, 3

manager = .bsf~new("javax.script.ScriptEngineManager")
nre=manager~getEngineByName("NetRexx")  -- fetch NetRexx via JSR-223

signal on syntax

sc=nre~getContext  -- get its default ScriptContext
filename="someNetRexxCode.nrx"
sc~setAttribute(nre~FILENAME, filename, sc~ENGINE_SCOPE)
nre~put("sc", sc)
nre~put("hi", "hello at" .dateTime~new)
say "(ooRexx) executing ["filename"] ..."
res=nre~eval(.bsf~new("java.io.FileReader", filename), sc)
exit

syntax:
  co=condition(o)
  say ppCondition2(co)
  exit -1

::requires BSF.CLS  -- get Java bridge
::requires "rgf_util2.rex"  -- get access to ppCondition2()
NetRexx Integration with BSF4ooRexx, 4

```rexx
parse source s
say '(nrx) this is NetRexx speaking from:' s
say '(nrx) this is what got sent to me: ' hi
name="javax.script.filename"
say '(nrx)' name':' sc.getAttribute(name)
```

- Output:

```
(ooRexx) executing [someNetRexxCode.nrx] ...
(nrx) this is NetRexx speaking from: Java method someNetRexxCode
(nrx) this is what got sent to me: hello at 2018-03-25T17:04:47.514436
(nrx) javax.script.filename: someNetRexxCode.nrx
```
ooRexx 5.0

• Many new and useful features!
• ::RESOURCE directive
  – Allows for storing any kind of text
    • Possible to store code, e.g. NetRexx source code!
  – .resources serves as the directory of resources
  – Fetching a resource entry returns an array of strings
  – Using ooRexx Array's toString method returns a plain string
Integrating **NetRexx** Into **ooRexx** 5.0, 1

- Use a ::resource directive instead of a file
- Allows one to have all resources in one package, the ooRexx program
- Will use JSR-223 to run the NetRexx program
Integrating NetRexx Into ooRexx 5.0, 2

```
manager = .bsf~new("javax.script.ScriptEngineManager")
nre=manager~getEngineByName("NetRexx")  -- fetch NetRexx via JSR-223

signal on syntax
sc=nre~getContext  -- get its default ScriptContext
filename="someNetRexxCode.nrx (really, it is a string)"
sc~setAttribute(nre~FILENAME, filename, sc~ENGINE_SCOPE)
nre~put("sc", sc)
nre~put("hi", "hello at" .dateTime~new)
say "(ooRexx) executing ["filename"] ..."

::requires BSF.CLS  -- get Java bridge
::requires "rgf_util2.rex"  -- get access to ppCondition2()

::resource netRexxCode
   parse source s
   say '(nrx) this is NetRexx speaking from:' s
   say '(nrx) this is what got sent to me: ' hi
   name="javax.script.filename"
   say '(nrx) name: ' sc.getAttribute(name)
::END
```
Integrating **NetRexx** Into **ooRexx** 5.0, 3

::resource netRexxCode
    parse source s
    say '(nrx) this is NetRexx speaking from:' s
    say '(nrx) this is what got sent to me: ' hi
    name="javax.script.filename"
    say '(nrx) name: ' sc.getAttribute(name)
::END

- **Output:**

(ooRexx) executing [someNetRexxCode.nrx (really, it is a string)] ...
(nrx) this is NetRexx speaking from: Java method someNetRexxCode
(nrx) this is what got sent to me: hello at 2018-03-25T17:34:31.229503
(nrx) javax.script.filename: someNetRexxCode.nrx (really, it is a string)
Roundup and Outlook

- **BSF4ooRexx** allows
  - Full access to compiled **NetRexx** programs/classes
  - Full access to JSR-223
    - **ooRexx** programs can run **NetRexx** programs from source using **BSF4ooRexx**
  - **ooRexx** 5.0 programs can embed the source

- **Outlook**
  - If possible to compile and access **NetRexx** classes
    - **ooRexx** programs can use **NetRexx** e.g. for lambdas and any unforeseen need to use **NetRexx** classes on the fly!