JD+ and R

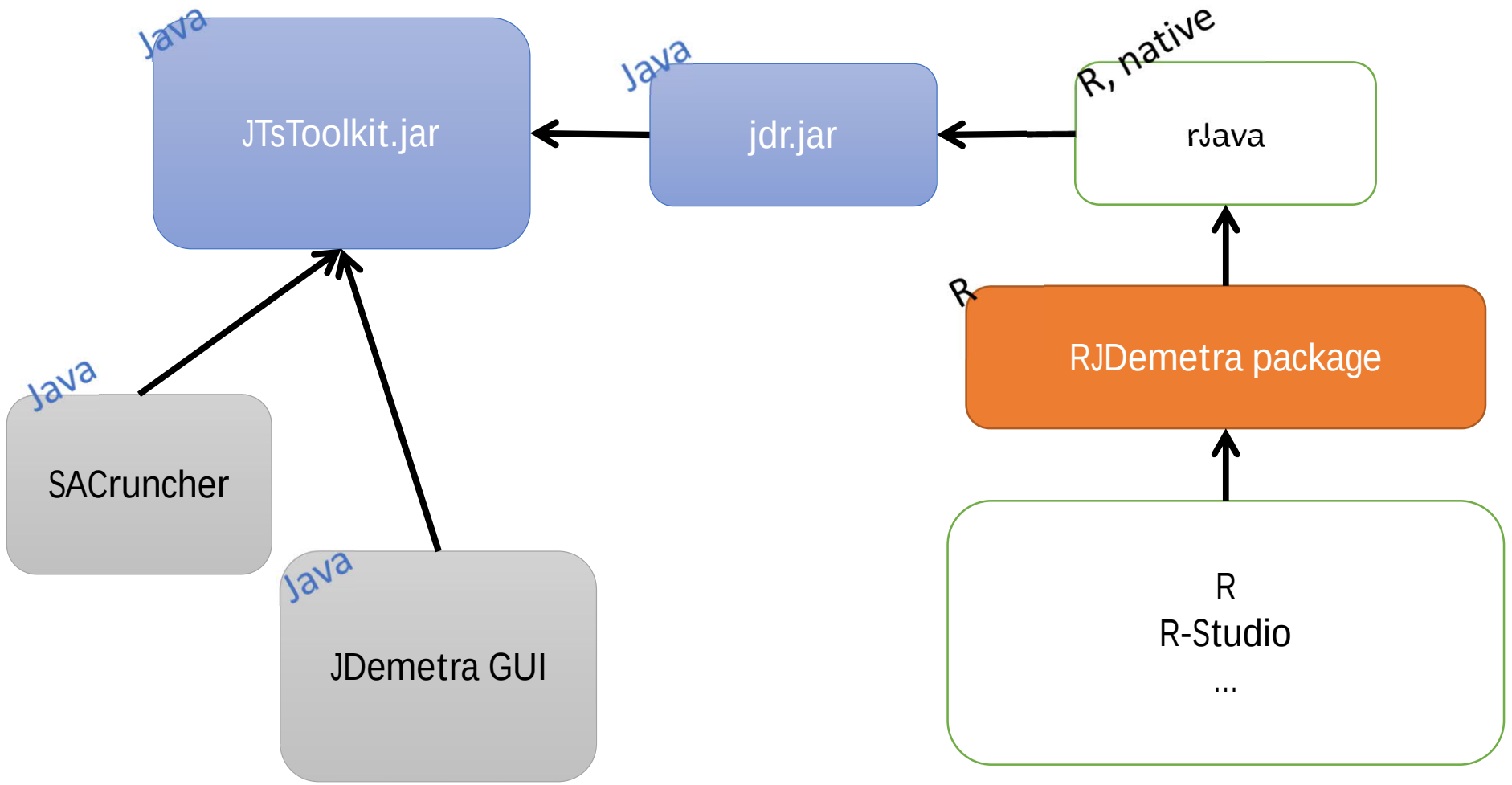
ESTP Training

1. Main requirements

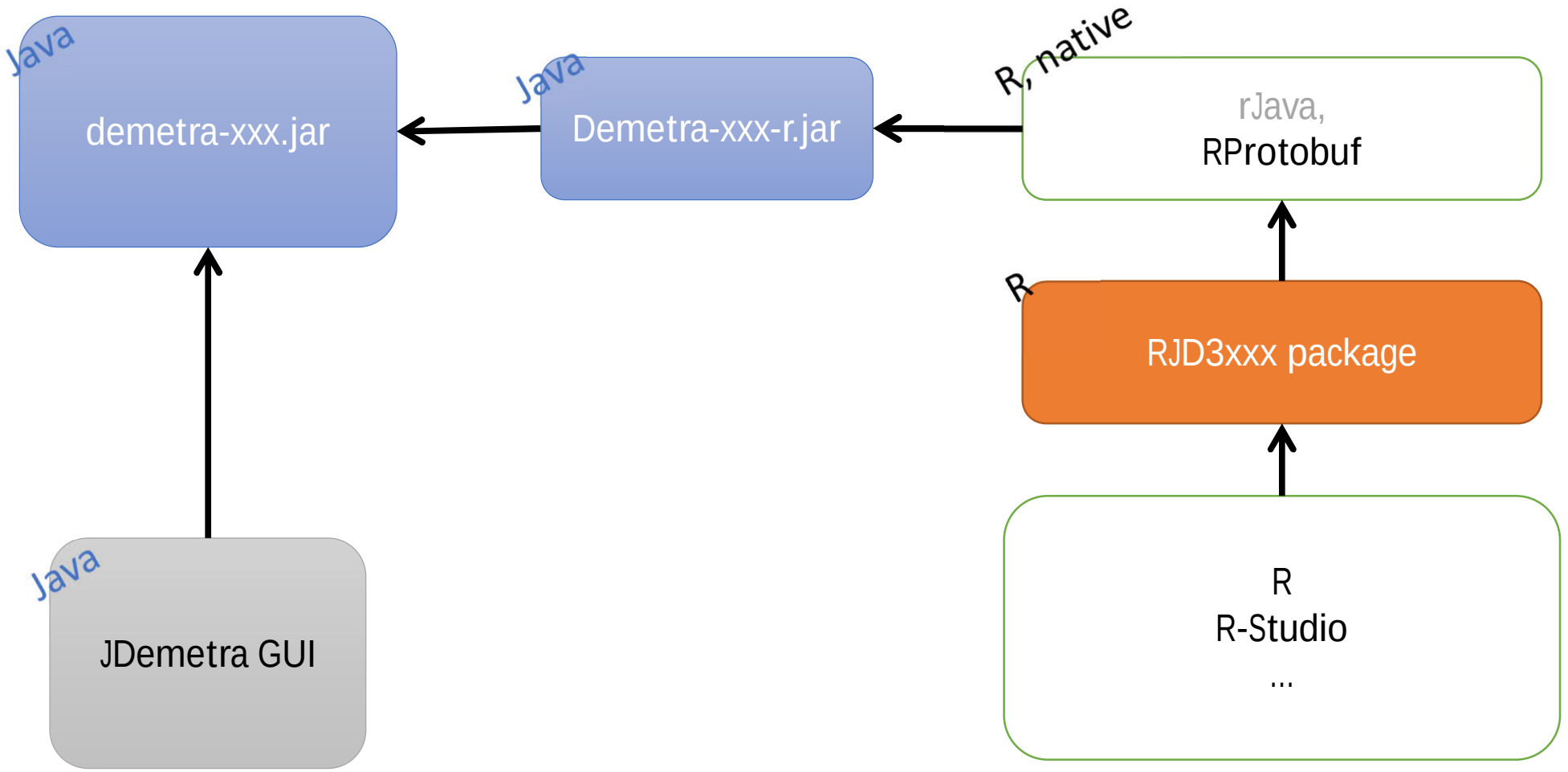
- RJDemetra
  - Java runtime (>=11)
  - R (>= 3.1.1)
  - rJava (>= 0.9-8)

- RJDemetra3
  - Java runtime (>=17.0)
  - R (>= 3.6.0)
  - rJava (>= 1.0-6),
  - RProtoBuf (>= 0.4.17)

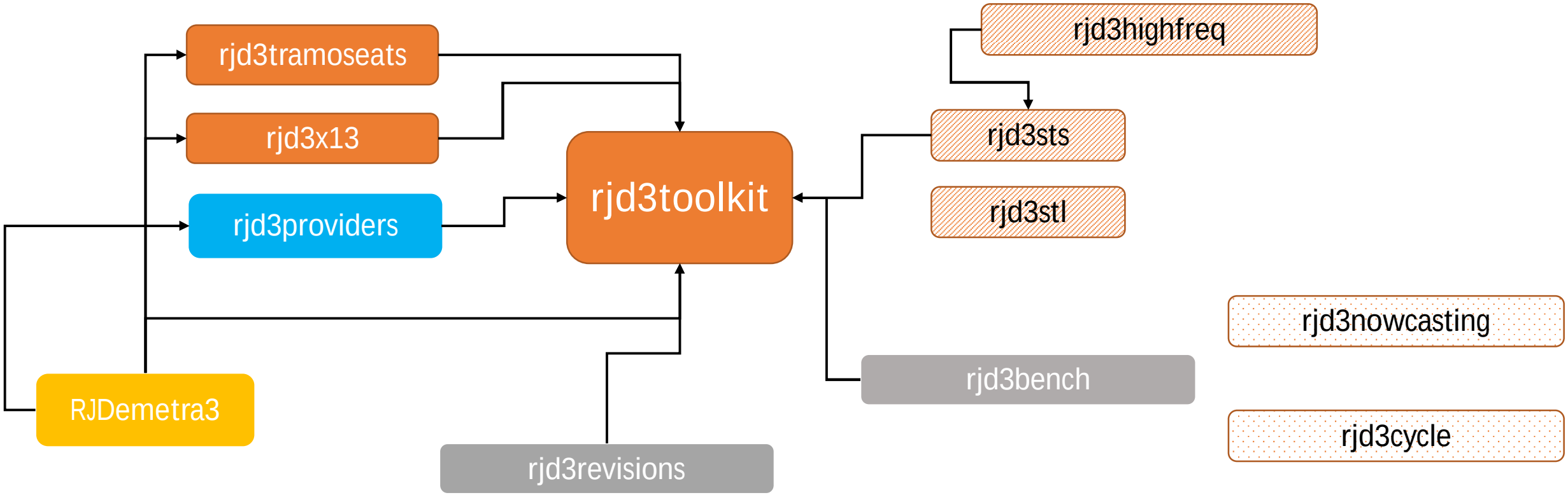
2. Technical design (Rjdemetra)



3. Technical design (Rjdemetra3)

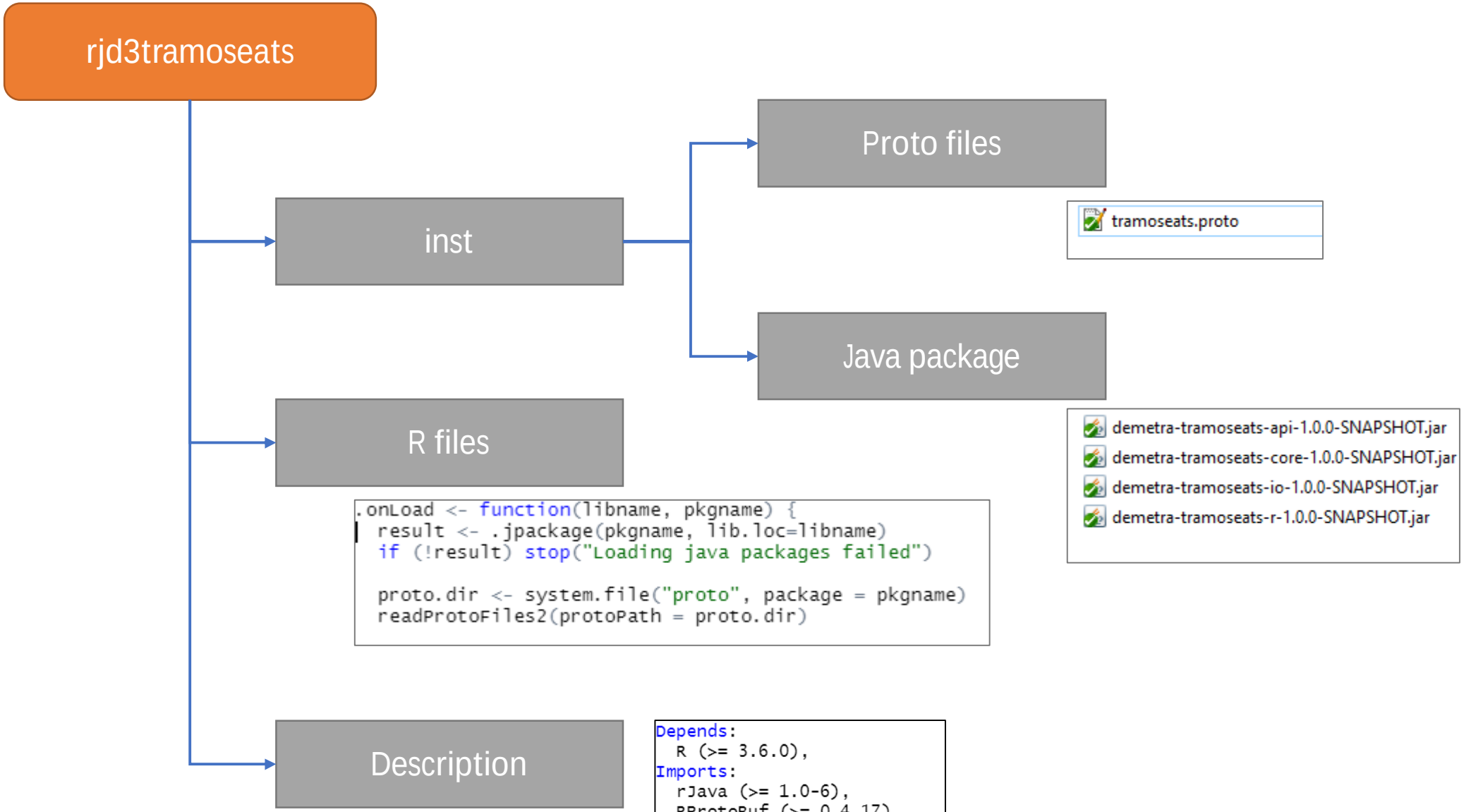


4. Rjdemetra3: Overview



https://github.com/rjdemetra

Design similar to the Java libraries !



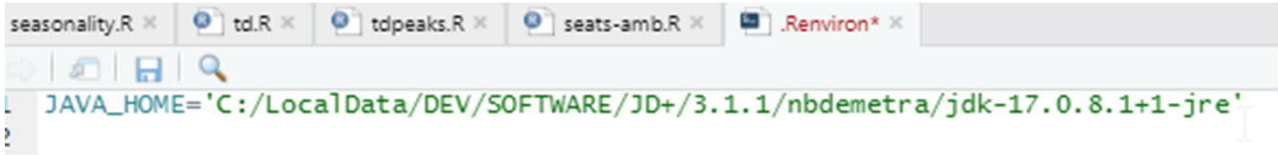
5. Objectives of R packages

- High-level functions with most common results
- Many low-level functions
  - Advanced users
  - Research
  - Training
  - Additional tools

6. Installing the packages

- If need be, referencing the correct java runtime (>= 17.0)

  - Set your JAVA_HOME variable (tip: use the jre provided with JD+)



- Install the various packages (internet access needed)
  - remotes::install_github("rjdemetra/rjd3tramoseats", "main", INSTALL_opts='--no-multiarch')…

7. Examples

- Reading Excel files (JD+-like) and detecting errors

```
rjd3providers::set_spreadsheet_paths('./Data')
print(rjd3providers::spreadsheet_content("belgium.xlsx"))

indprod<-rjd3providers::spreadsheet_data('belgium.xlsx', 1)
plot(indprod$series$`Manufacture of textiles`$data, col='blue')

err<-lapply(indprod$series, function(z)rjd3tramoseats::terror(z$data, 'tr1', nback=6))
```

- Refreshing a workspace

```
jws<-rjdemetra3::.jws_load(system.file('workspaces', 'test.xml', package='rjdemetra3'))
ws<-rjdemetra3::read_workspace(jws)
jws2<-rjdemetra3::.jws_make_copy(jws)
rjd3providers::set_spreadsheet_paths("c:/localdata/data/excel/new")
rjdemetra3::.jws_refresh(jws2, 'Complete')
ws2<-rjdemetra3::read_workspace(jws2)

sa1<-ws$processing$`SAProcessing-1`$`Exports
France`
sa2<-ws2$processing$`SAProcessing-1`$`Exports
France`
ts.plot(ts.union(sa1$results$final$sa$data, sa2$results$final$sa$data), col=c('red', 'blue'))
print(window(sa2$results$final$series$data-sa1$results$final$serie$data, start=2018))
```

8. Final remarks

- Most features provided in the Java libraries can be called from R

- Most tasks can be automated
- Many additional tools could be developed in R