

Bootique

No Container:
a Modern Java Stack with Bootique.io

by Andrus Adamchik

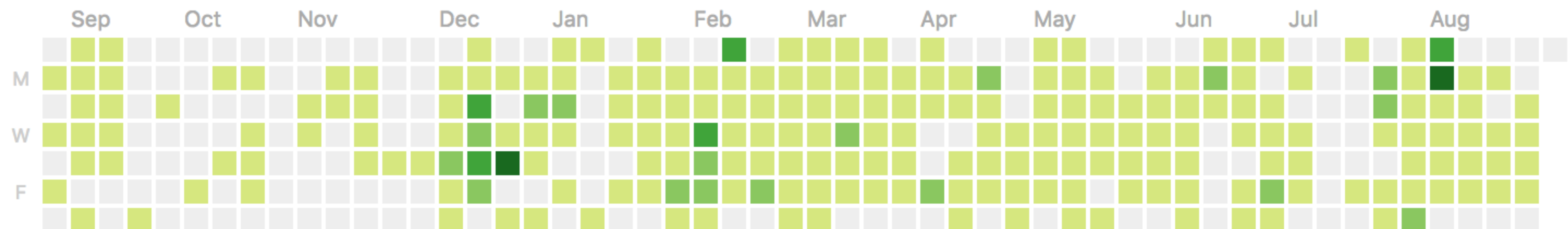
 @andrus_a

About Me

- Open source developer: ORM, dependency injection, REST, no-container.
- Member and VP of the Apache Software Foundation.
- Run a company called ObjectStyle.

2,736 contributions in the last year

Contribution settings ▾



“Dude, where is my `'main()'`?”

–Anonymous Java Programmer

A Story of an Enterprise System

- 2006: Full application server.
- 2009: Cluster of lightweight Jetty containers.
- 2016: Let container go.

Let Container Go...

- Need all configuration in one place. (And what's up with `-D`?)
- Standalone container upgrades are a pain.
- What if our app is not a `.war`?
- And yes, we often need access to `'main()'`.

Time to Make Decisions



Choice #1: Dropwizard

- Easy to build a nice REST server with lots of metrics and health checks.
- Integration facilities are lacking.



Choice #2: SpringBoot

- Integration facilities are powerful...
- ... But quite unpredictable.
- Abuse of annotations.
- Command line integration is given no love.

Choice #3: Build Your Own



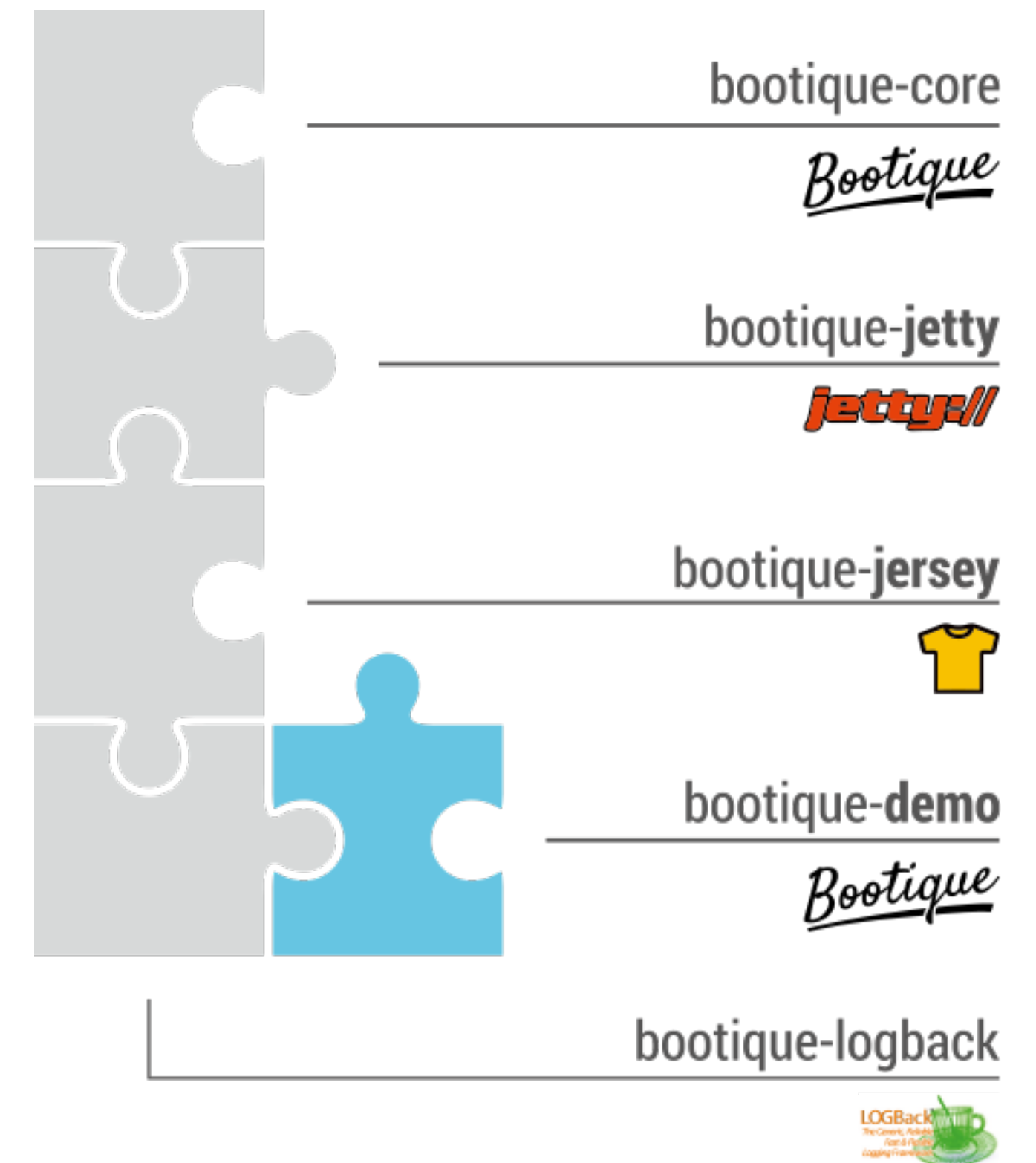


Demo: Simple App



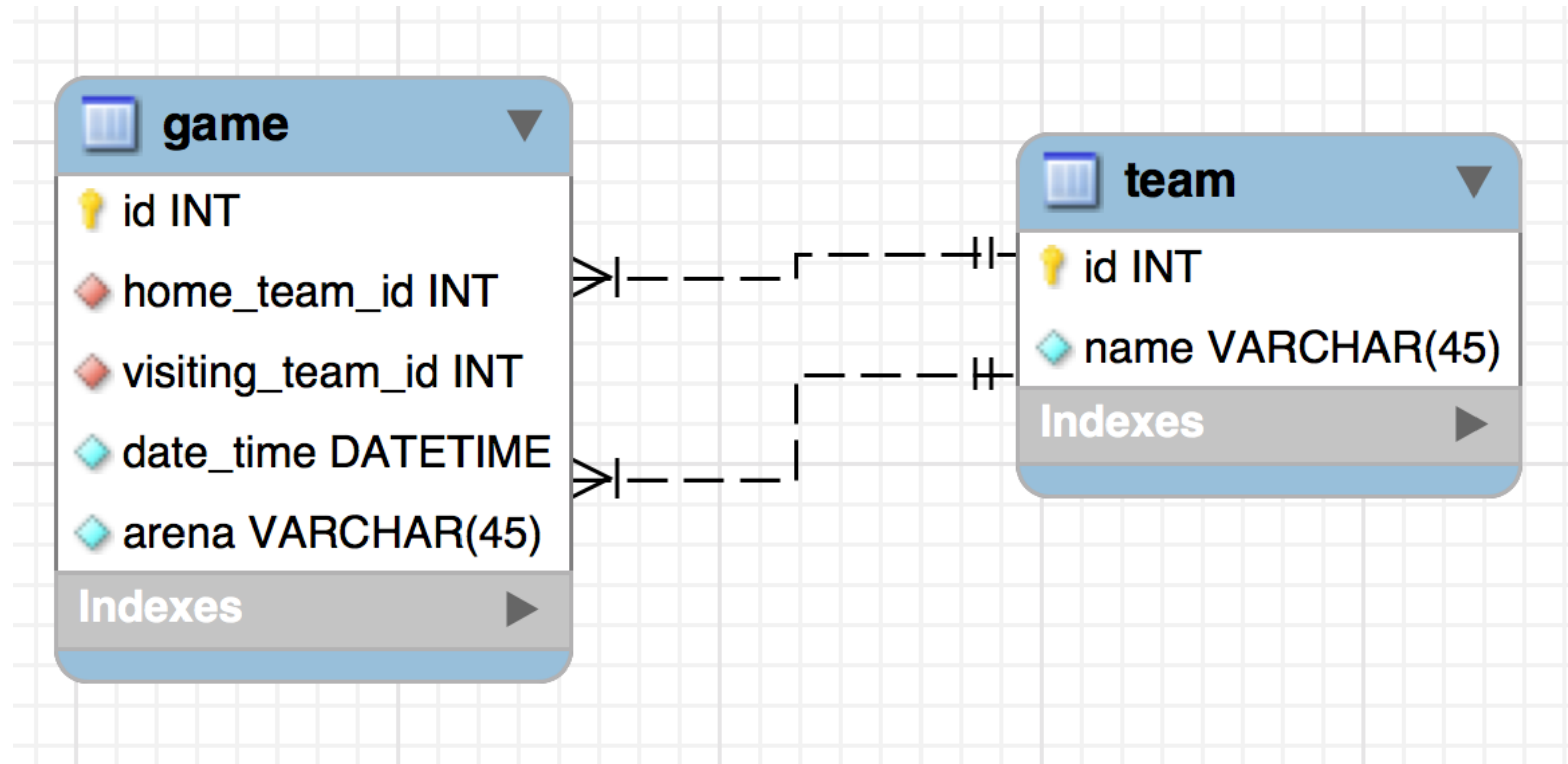
Simple App: Takeaway

- 'main()' is ours, unless we don't care.
- The app looks and feels like a UNIX command.
- Modules are auto-loaded based on `META-INF/services/io.bootique.BQModuleProvider`
- A module can "contribute" objects to other modules.



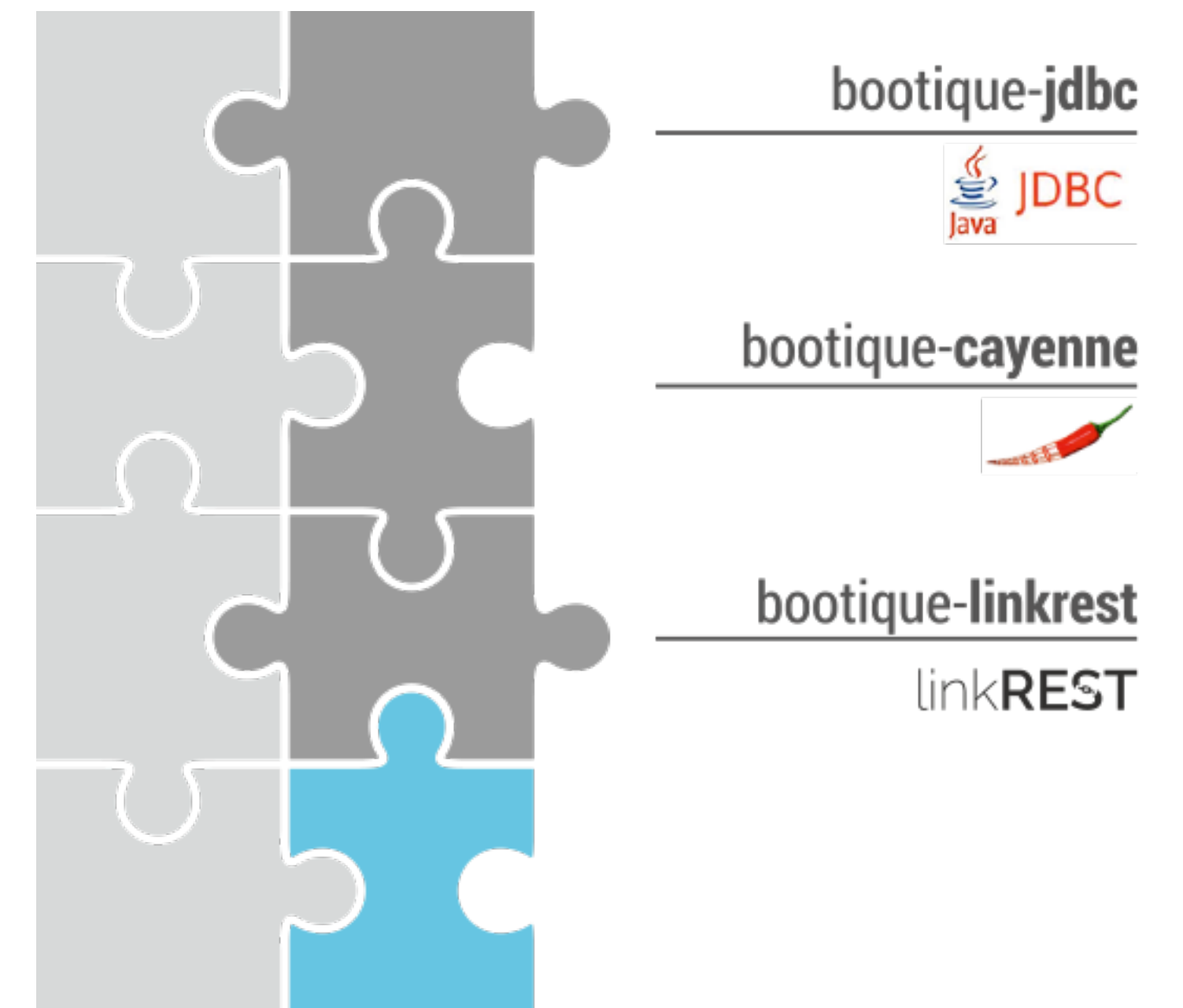


Demo: Full Stack



Full Stack: Takeaway

- Injection is available (almost) everywhere.
- Configuration is centralized in a YAML file.



More on Configuration

shell variables

```
export BQ_JDBC_MYDB_PASSWORD=supersecret  
export BQ_JDBC_MYDB_USER=me
```

multiple **YAML** files

```
jetty:  
  filters:  
    f1:  
      params:  
        p1: v3  
        p2: v4
```

objects

```
public ServerFactory() {  
    this.context = "r";  
    this.compression = true;  
}  
  
public Server createServer(Set<MappedServlet> servlets) {  
    ThreadPool threadPool = createThreadPool();  
    Server server = new Server(threadPool);
```

More on Modules

- The right collection of modules allows to create complex app structure in no time.

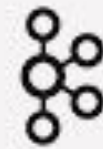
Available Modules



bootique-cayenne



bootique-jersey-client



bootique-kafka-client



bootique-logback



bootique-tapestry



bootique-jetty-test



bootique-curator



bootique-jetty

LinkMove

bootique-linkmove



bootique-metrics



bootique-test



bootique-jdbc



bootique-job

linkREST

bootique-linkrest



bootique-mvc



bootique-jdbc-test



bootique-jersey



bootique-jooq

LIQUIBASE

bootique-liquibase



bootique-swagger



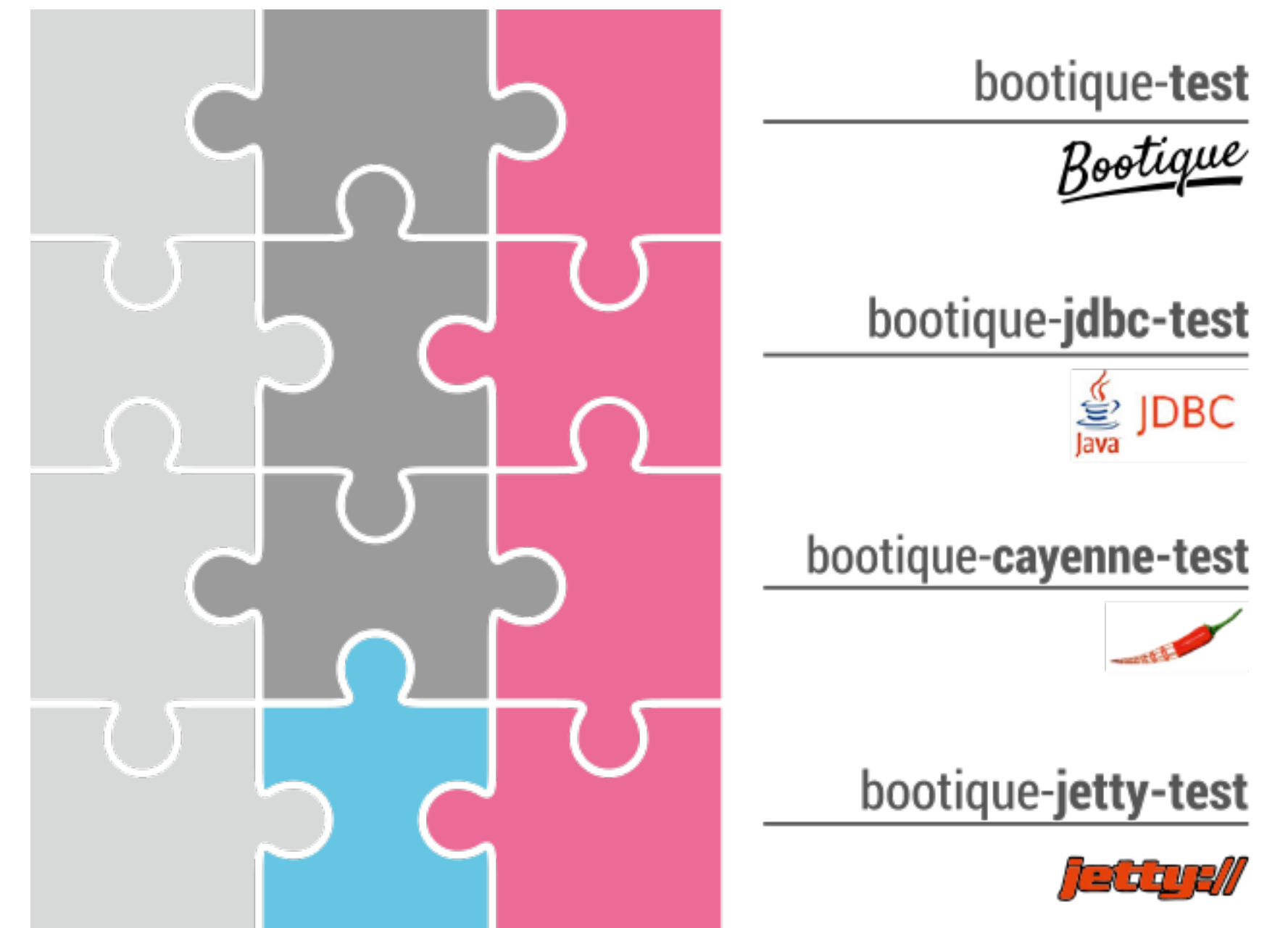
bootique-cayenne-test



Demo: Testing

Testing: Takeaway

- Your app is an object.
- Hide the hard parts inside test factories.
- Annotated them with `@Rule` or `@ClassRule`.





Demo: Packaging

Takeaway

- Typical packaging is "jar with dependencies".
- *#WYSIWYR* (What You See Is What You Run).

#WYSIWYR
WHAT YOU SEE IS WHAT YOU RUN

“He who controls `'main()'` controls the future.”

–George Orwell, 1984



Questions?

- @BootiqueProject
- <http://bootique.io/>
- <https://github.com/bootique/bootique> (*don't forget to ★ it !*)