

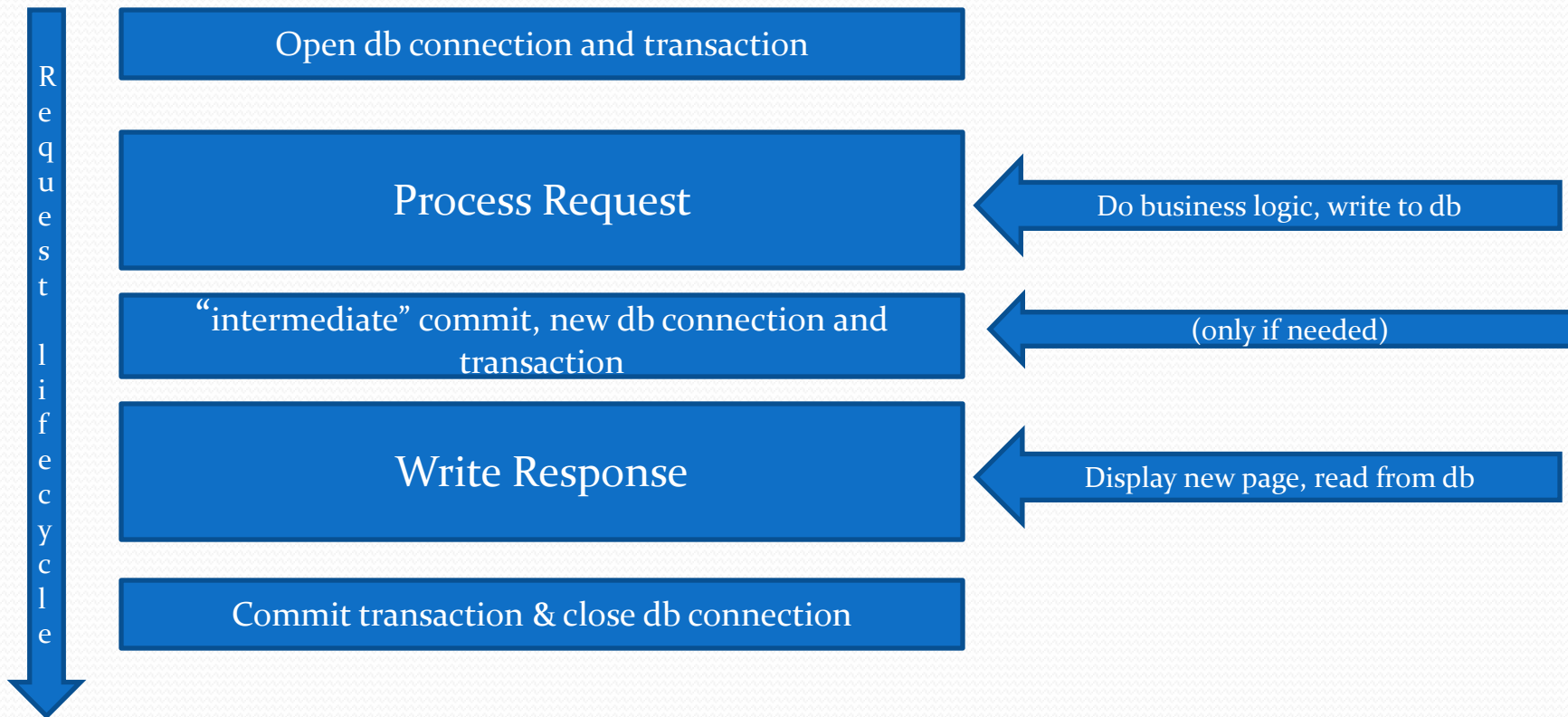
Open Session In View with Wicket & JPA

Database driven Wicket applications made easy

Challenges

- Transaction and resource management
- Propagation of connections
- Lazy-loading vs. Pre-emptive loading

What is the Open Session in View (OSIV) pattern?



Benefits

- Connection & Transaction management becomes an isolated, transparent concern
- Lazy-loading object graphs becomes easier and more efficient
 - Thanks to JPA's "persistence context" concept
 - No need for "predictive" loading of data in DAO's

OSIV in the context of Wicket

- The Key: creating a custom Wicket *WebRequestCycle*
 - Gives you a hook into the Request-Response lifecycle
 - Has methods such as *onBeginRequest()*, *onEndRequest()*, *onRuntimeException()* – perfect for opening and closing/committing connections and transactions
 - Also need to create a custom *Application* class that overrides *newRequestCycle*-method
- Writing data: “Persistence aware” custom Components such as Forms and Links

Gotcha: Writing data

- Remember, the underlying protocol is still http, and the data is still in a relational database!
- Written data may not be visible in the same response if it has not been committed!
- Solution: “intermediate commit” through a *onSubmit-hook* in the cycle `RequestCycle`, and custom “Persistence aware” Forms & other Components

Propagating the EntityManager

- Java has the perfect solution: ThreadLocal
 - Thread specific “singleton” – perfect for storing thread specific things such as EntityManagers/Connections
 - Accessible anywhere through a static method

Putting it all together

- What is needed?
 - Custom WebApplication
 - Custom WebRequestCycle
 - A “JPA” ThreadLocal
 - Custom Forms/Links/etc for writing data
 - DataForm?
 - DeleteLink?
 - Custom Models and IDataProviders (optional)

Ending notes

- Credit where credit is due:
 - DataBinder - <http://databinder.net/>
 - (OSIV and other utilities for bridging Wicket with Hibernate)
 - Wicket RAD - <http://sourceforge.net/projects/wicket-rad>
 - “Rapid Application Development” for Wicket
 - OSIV utilities for marrying Wicket with JPA + other Wicket utilities, such as a annotation-driven Bean Form generator. Can be used to quickly generate forms and do CRUD to a database with beans.
 - (in turn inspired by DataBinder, previous LondonWicket material and experience from creating several commercial Wicket applications).
- Author Details: Wille Faler
 - E-mail: wille.faler@gmail.com
 - Blog: <http://faler.wordpress.com>
 - Phone: 0790 373 6809