



Down and Dirty with Java EE 7

Reza Rahman

Java EE/GlassFish Evangelist

Reza.Rahman@Oracle.com

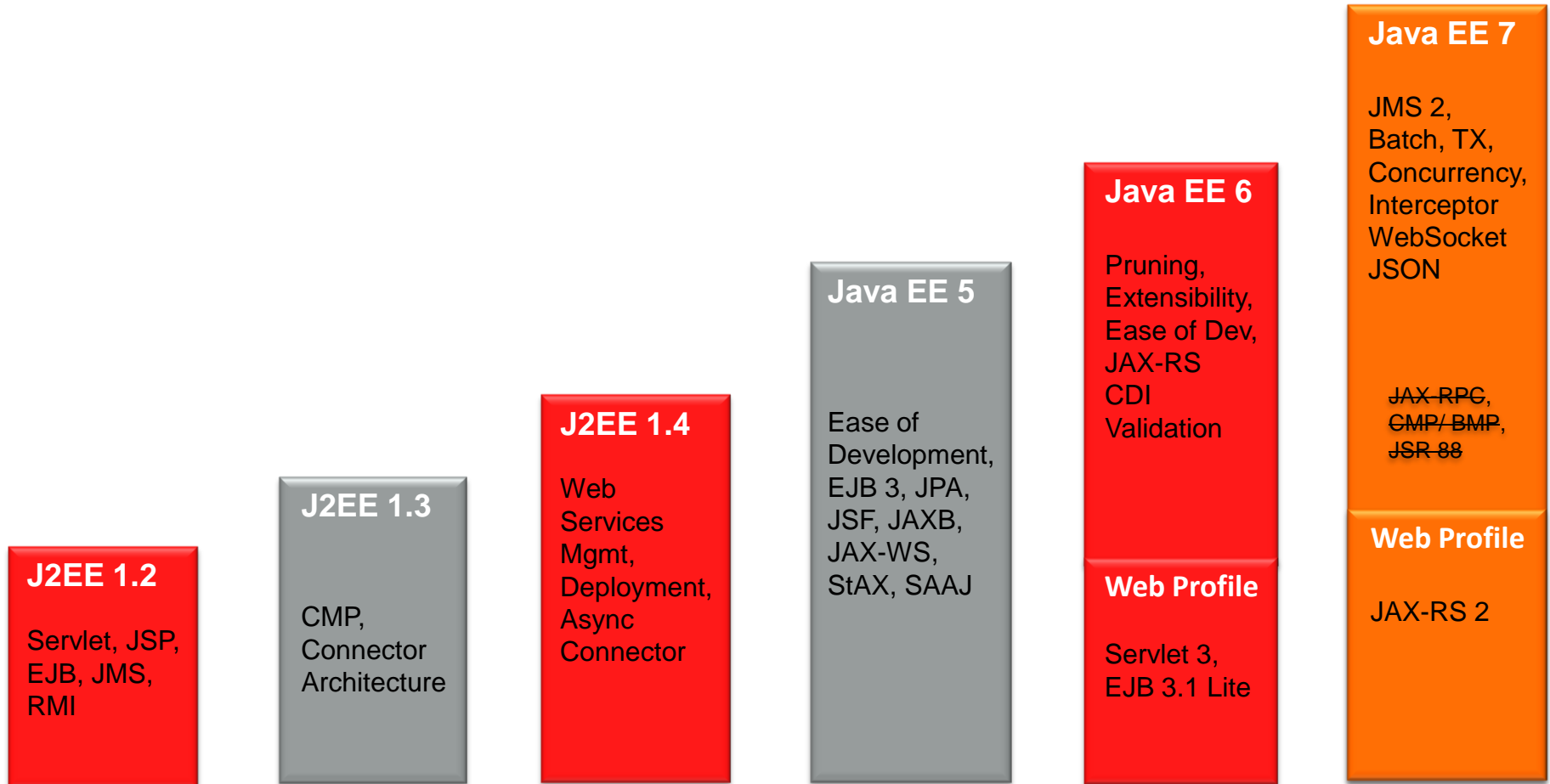
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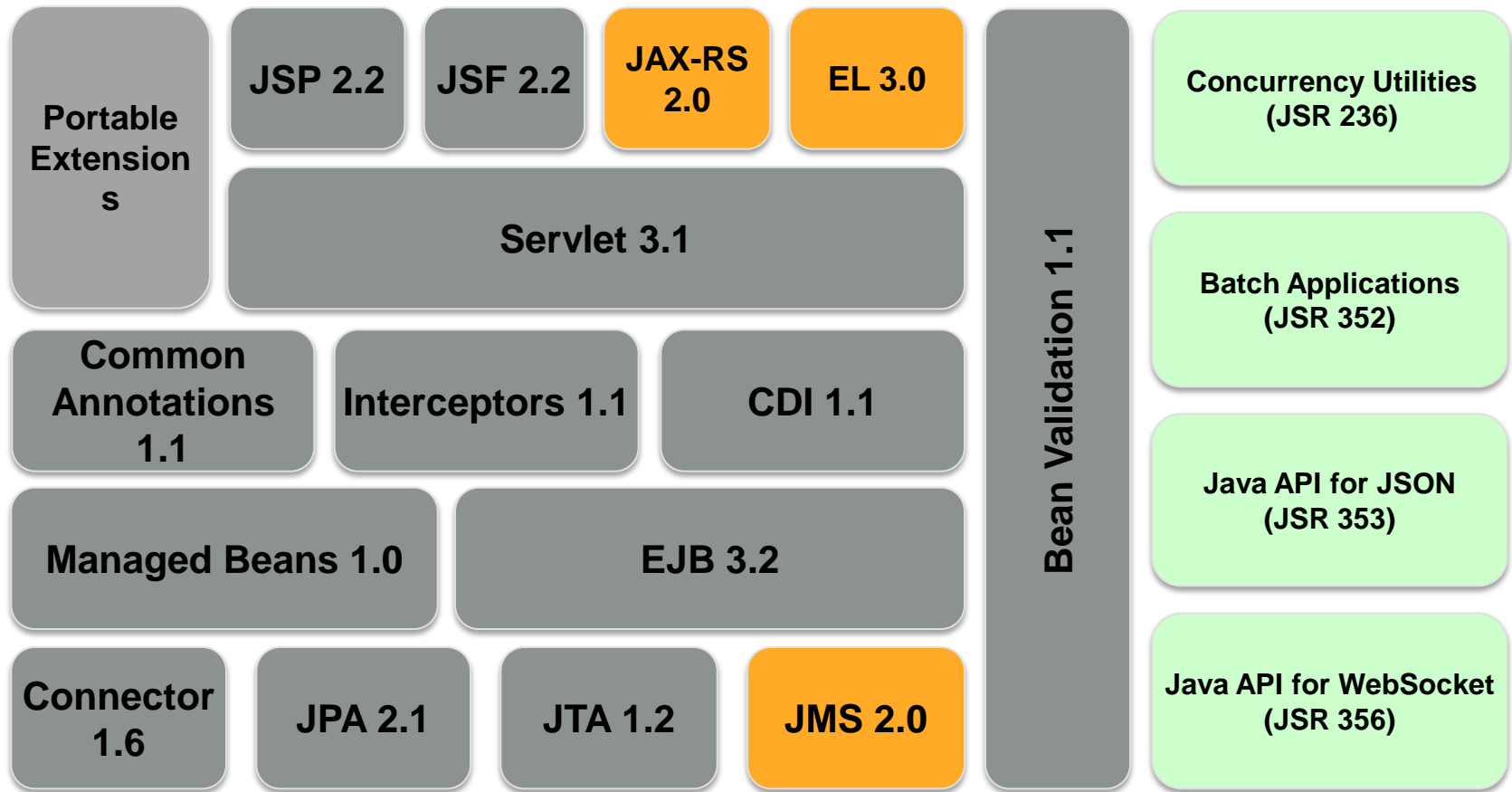
Program Agenda

- Java EE 7
- Cargo Tracker
- The API Changes + The Code!
- Looking Ahead...

Java EE Past, Present and Future



Java EE 7



 New  Major Release  Updated

Java EE in Action



Cargo Tracker

Applied domain-driven design blueprints for Java EE

<http://cargotracker.java.net>

JMS 2

- API modernization
 - Dependency injection
 - Fluent APIs
 - Intelligent defaults
 - Unchecked exceptions
- New features
 - Delivery delay, async send
- Platform alignment
 - MDB activation properties, JMS resource definition

Java API for WebSocket

- High level API for HTML 5 WebSockets
 - Full-duplex TCP-like communication on the Web utilizing HTTP
- Both client and server-side (Java SE and Java EE)
- Both declarative and programmatic
- Pluggable and extensible

Java API for JSON Processing

- Low level API to parse, generate, transform, query JSON
 - JSON equivalent of JAXP
- Object Model and Streaming API
 - Similar to DOM and StAX
- Binding JSON to Java objects forthcoming
 - JSON equivalent of JAXB

Bean Validation 1.1

- Method constraints
 - Very useful for JAX-RS and WebSocket
- CDI Alignment
 - All Bean Validation artifacts now injection capable
- EL 3 integration
 - More expressive validation messages

JAX-RS 2

- Client API
- Message Filters & Entity Interceptors
 - Servlet filters and CDI interceptors for JAX-RS
 - Common configuration
- Asynchronous Processing – Server & Client
- Hypermedia support
 - Transitional and structural links
- Content negotiation
- Bean Validation 1.1 integration

JPA 2.1

- Schema generation
- Stored procedures
- Unsynchronized persistence contexts
- Entity Graphs
- Entity converters

JSF 2.2

- HTML5 Support
 - Pass-through elements and attributes
- Managed beans deprecated/CDI alignment
 - @ViewScoped for CDI
- @FlowScoped
- Stateless views
- Resource library contracts
- View actions
- File upload component

Batch Applications for the Java Platform

- API for robust batch processing targeted to Java EE, Java SE
- Common architecture
 - Operator, repository, job, step, reader-processor-writer pattern
- Common features
 - Chunking, check-pointing, transactions, retries, exceptions, workflow, parallelism

Concurrency Utilities for Java EE

- Provides simple, safe API for concurrency in Java EE
- Builds on Java SE concurrency
 - `ManageExecutorService`
 - `ManagedScheduledExecutorService`
 - `ManagedThreadFactory`
- Relatively low-level API
- Important enabler for Java EE ecosystem

Concurrency Utilities for Java EE

Managed Task Executor

```
public class TestServlet extends HttpServlet {  
    @Resource(name="concurrent/MyExecutorService")  
    ManagedExecutorService executor;  
  
    Future future = executor.submit(new MyTask());  
  
    class MyTask implements Runnable {  
        public void run() {  
            ... // Task logic  
        }  
    }  
}
```

Yet More...

- JTA 1.2
 - @Transactional, @TransactionScoped
- EL 3.0
 - Standalone API, lambda expressions, collections, operators
- Servlet 3.1
 - Non-blocking I/O, upgrade to WebSocket, security
- CDI 1.1
 - Global enablement, @AroundConstruct, @Vetoed
- EJB 3.2
 - Truncating CMP/BMP

Java EE 8

- JSON-B
- JCache
- CDI 2
- More CDI/EJB alignment
- JMS.next()?
- Security
- Testability
- Cloud, PaaS, multitenancy/SaaS
- Action-oriented Web framework/HTML 5 alignment?
- NoSQL?
- Modularity?

<http://glassfish.org/survey>

Try it Out!

4.0



<http://download.java.net/glassfish/4.0/release/glassfish-4.0.zip>

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Resources

- Java EE Tutorials
 - <http://docs.oracle.com/javaee/7/tutorial/doc/home.htm>
- Digging Deeper
 - <http://docs.oracle.com/javaee/7/firstcup/doc/home.htm>
 - <https://glassfish.java.net/hol/>
 - <https://java.net/projects/cargotracker/>
- Java EE 7 Transparent Expert Groups
 - <http://javaee-spec.java.net>
- Java EE 7 Reference Implementation
 - <http://glassfish.org>
- The Aquarium
 - <http://blogs.oracle.com/theaquarium>