

Clouds, Tenants, Simplicity or just ...Java EE 7

[kill the bloat]



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- <http://kenai.com/projects/javaee-patterns/>
<http://java.net/projects/x-ray>



“Perfection (in enterprise development) is achieved not when there is nothing more to add, but rather when there is nothing more to take away.”

--Antoine de Saint-Exupéry



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Real World Java EE Night Hacks

Dissecting the Business Tier

[Iteration One]



X-RAY

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Foreword by James Gosling

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Everything here is subject
to change - and probably
already outdated :-)

How JSRs / Java EE 7 operates

...The Java EE Crowd...

Java EE 7

Resource Configuration

```
<data-source>  
  <name>java:app/jdbc/myOracleDB</name>  
  
  <class-name>....SomeDataSource</class-name>  
  
  <initial-pool-size>5</initial-pool-size>  
  
  <max-pool-size>25</max-pool-size>  
  
  <min-pool-size>10</min-pool-size>  
  
</data-source>
```

JavaEE 7

- Platform As A Service
- Pruning: JSR-77?, CMP, JAX-RPC etc.
- Clouds / Multi-Tenancy
- Auto provisioning of resources
- Staging

New JSRs

- Caching (JSR-107 aka JCache)
- Data Grids (JSR-347)
- Java Identity API (JSR-351)
- Batch (JSR-352)
- JSON
- Concurrency Utilities

EJB 3.2

@MessageDriven

public class SimpleMDB {

@SomeAnnotation(tbdAttr="jms/myQueue")

void processMessages(Message message) {

...

}

}

EJB 3.2

- `@Asynchronous`, Timers in EJB lite
- Reuse of cross cutting aspects
- Further simplifications (MDB)

EJB 3.2

- `@MaxConcurrency` / `@PoolSize`
- Transactions in Lifecycle Callbacks
- Asynchronous processing (decided by the client)

JMS 2.0

JMS 2.0

- Simplification
- Better / mandatory integration with JCA 1.6
- Seamless integration with other Java EE APIs
- Clarification in the spec / removal of inconsistencies

JMS 2.0

- Batch sending / receiving
- Last Value Cache
- JMXDeliveryCounter / JMX instrumentation
- Topic Hierarchies

Asynchronous Acknowledge

```
producer.send(message, new  
AcknowledgeListener(){  
    public void onAcknowledge(Message message) {  
        // process ack  
    }  
});
```

JMS 2.0

- Timed Messages (setDeliveryDelay)
- Direct instantiation of "Factories"
- Direct JNDI-usage

CDI integration

```
@Inject
@JMSConnection(lookup="jms/connFactory")
@JMSDestination(lookup="jms/inboundQueue")
MessageProducer producer;
```

```
@Inject
TextMessage textMessage;
```

```
public void sendMessageNew(String payload){
    textMessage.setText(payload);
    producer.send(textMessage);
}
```

JMS 2.0

- Pruning of:
 - XAQueueConnection
 - XAQueueConnectionFactory
 - XAQueueSession
 - XATopicConnection
 - XATopicConnectionFactory
 - XATopicSession
 - QueueConnection
 - QueueConnectionFactory
 - QueueReceiver
 - QueueSender
 - QueueSession
 - TopicConnection
 - TopicConnectionFactory
 - TopicPublisher
 - TopicSession
 - TopicSubscriber

JPA 2.1

JPA 2.1

- Multi-tenancy
 - Separate Database
 - Shared Database, Separate Schema
 - Shared Database, Share Schema
- Downcasting `TREAT()`

JPA 2.1

- Support for functions and stored procedures (IN / OUT parameter)
- Improved result mapping for native queries
- Dynamically defined named queries

JPA 2.1

- CDI injection into event listeners
- Persistence context synchronization
 - `@PersistenceContext(type=EXTENDED, synchronization=UNSYNCHRONIZED)`
- Dirty detection

JAX-RS 2

JAX-RS 2

- Client API
- Hypermedia, LinkBuilder
- Asynchronous processing (Execution Context)
- Bean Validation Integration

References

- jms-spec.java.net
- java.net/projects/jax-rs-spec
- jpa-spec.java.net
- java.net/projects/ejb-spec
- java.net/projects/javaee-spec/

Thank You!

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