

# Whats coming in Java EE 8?

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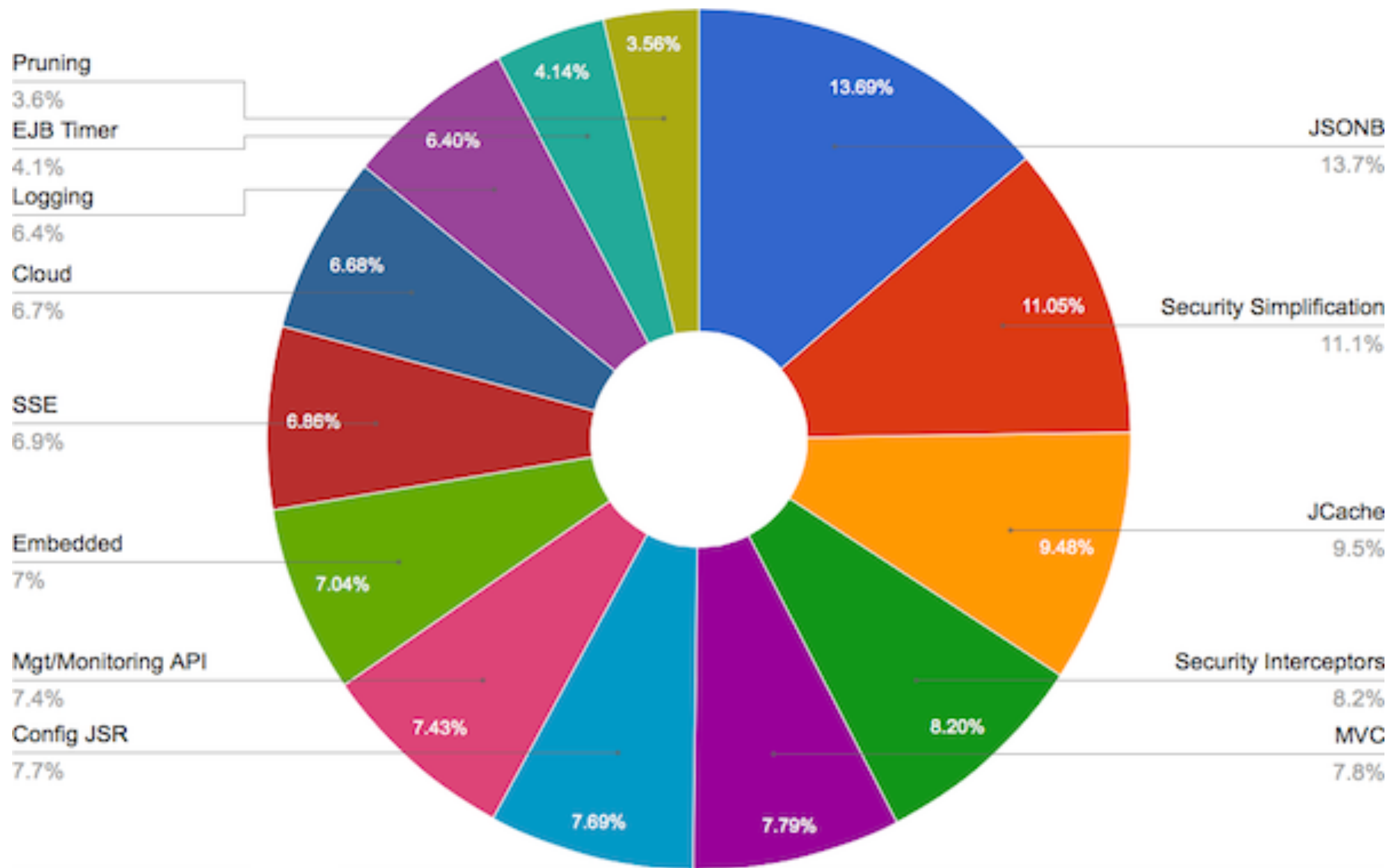
- More annotated POJOs
- Less boilerplate code
- Cohesive integrated platform

- WebSockets
- JSON
- Servlet 3.1 NIO
- REST

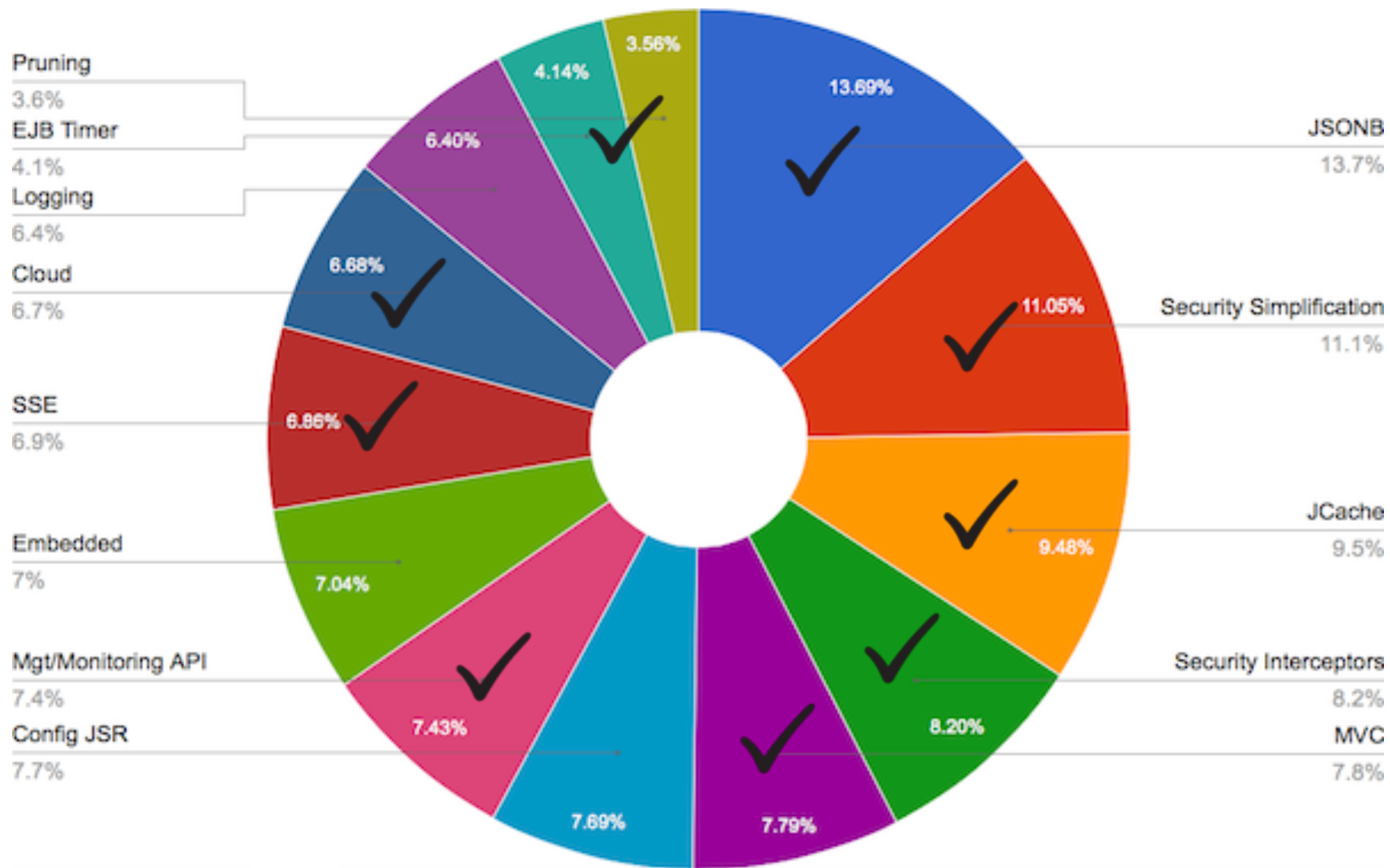
- Batch
- Concurrency
- Simplified JMS

# Top 10 features

- WebSocket client/server endpoints
- Batch Applications
- JSON Processing
- Concurrency Utilities
- Simplified JMS API
- Transactions in POJO
- JAX-RS Client API
- Default Resources
- More annotated POJOs
- Faces Flow



[https://java.net/downloads/javaee-spec/JavaEE8\\_Community\\_Survey\\_Results.pdf](https://java.net/downloads/javaee-spec/JavaEE8_Community_Survey_Results.pdf)



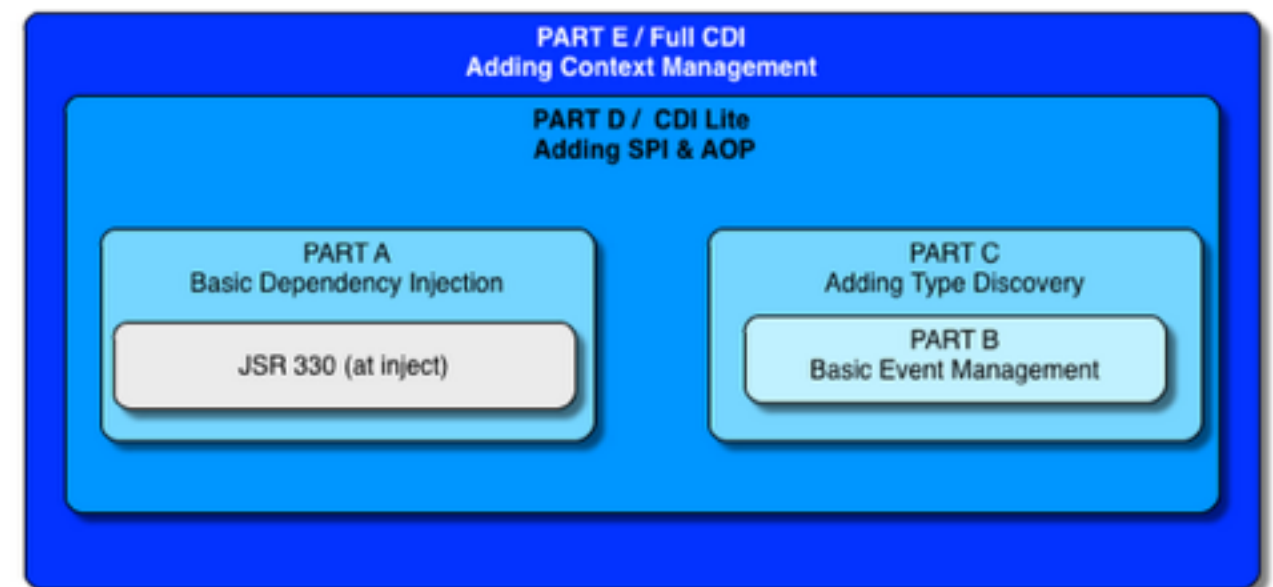
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# Java EE 8 (JSR 366)

- Web Standards/HTML 5 Alignment
  - HTTP/2, SSE, JSON-B, Action-oriented framework, hypermedia
- CDI Alignment
  - CDI 2, EJB services outside EJB, Pruning
- Cloud
  - Simple security providers, multi tenancy, REST management/monitoring
- Enterprise
  - JCache, Configuration, JMS
- Java SE 8 Alignment

# CDI 2 (JSR 365)

- Split CDI into two parts: Core and Java EE integration
- Portable bootstrap API for CDI
  - Enables Java SE bootstrap
- Asynchronous events
- Modularity
- Lightweight container





# MVC 1.0 (371)

- Action-based MVC (JSF is UI-based)
- Model = CDI, Bean Validation, JPA
- View = JSPs or Facelets
- Controller = JAX-RS based, investigate others
- No new templating language, SPI for integration

# MVC 1.0 Code Sample

```
@Path("/")
@Template("my-index.xhtml")
public class Bookstore {
    ...
    @GET
    public List<Item> getItems() {
        ...
        return items;
    }
}
```

# Servlet 4.0 (369)

- HTTP/2
  - Request/response multiplexing over single connection
  - Multiple streams
  - Stream prioritization
  - Server push
  - Binary framing
  - Header compression



# JSON-B 1.0 (367)

- Marshal/unmarshal POJOs to/from JSON (~JAXB)
- Default mapping of classes to JSON
  - `@JsonProperty`, `@JsonValue`, `@JsonTransient`
- Lessons from existing solutions
  - MOXy, Jackson, GSON, Genson, ...
  - Pluggable providers
- Standard mapping in JAX-RS (currently only JSON-P)

# Security 1.0 (375)

- Simplify and improve portability
- Simple security providers
- Enable existing annotations (`@RolesAllowed`) for all beans
- EL enabled security annotations via Interceptors
- Password aliasing
- OAuth/OpenID

# Management 2.0 (373)

- Revamp dated JSR 77 (J2EE Management)
- REST URI for managed objects, CRUD operations
  - Instead of EJB 2.x remoting
- SSE/WebSocket for notification
- Deployment to be included
- Application deployment, resource definition, and management using the same interface

# JAX-RS 2.1 (370)

- Server-Sent Events
- Improved integration with CDI
- Non-blocking I/O in providers(filters, interceptors, etc)
- Simplified hypermedia API
- Improve asynchronous API to simplify reactive programming

# JMS 2.1 (368)

- Continuation of JMS2
- Declarative message listeners
  - Alternative to MDB
  - Available to all beans
- Improving JMS provider portability
- Minor features and corrections
  - Redelivery delay, delivery limits, dead message queues



# JSF 2.3 (372)

- Invoke CDI methods from Ajax calls
- Community input
  - Multi-field validation
  - `@Inject FacesContext`
  - EL performance optimizations
  - Cross-form Ajax clarifications

# JSON-P 1.1 (374)

- Adapt to new JSON standards
  - JSON-Pointer (IETF RFC 6901) - identify specific value within JSON document
  - JSON-Patch (IETF RFC 6902) - add, replace, remove, move, copy
- Editing operations for `JsonObject` and `JsonArray`
- Helper classes and methods to better utilize Java SE 8's stream operations

# WebSocket 1.1 (356)

- `Session.addMessageHandler(MessageHandler)`  
now work with Lambda expressions

# Adopting Java SE 8

- Most of Java SE 8 can already be used with Java EE
- Some APIs can adopt features
  - Repeatable annotations
  - Date-Time API/JDBC 4.2
  - Completable Future
  - Lambda expressions and streams
  - Default methods

# Schedule

- Early Drafts: 2015
- Proposed Final Draft: Early 2016
- Final Drafts: Late 2016
- Reference Implementation: GlassFish 5.0

**Latest Status:** [blog.arungupta.me/javaee8](http://blog.arungupta.me/javaee8)