Java™ 8

CODE SAMPLE

JSF

JAVAMAIL

INTERCEPTORS

BATCH

JTA

SERVLETS

JCA

SECURITY

JAX-RS

JPA

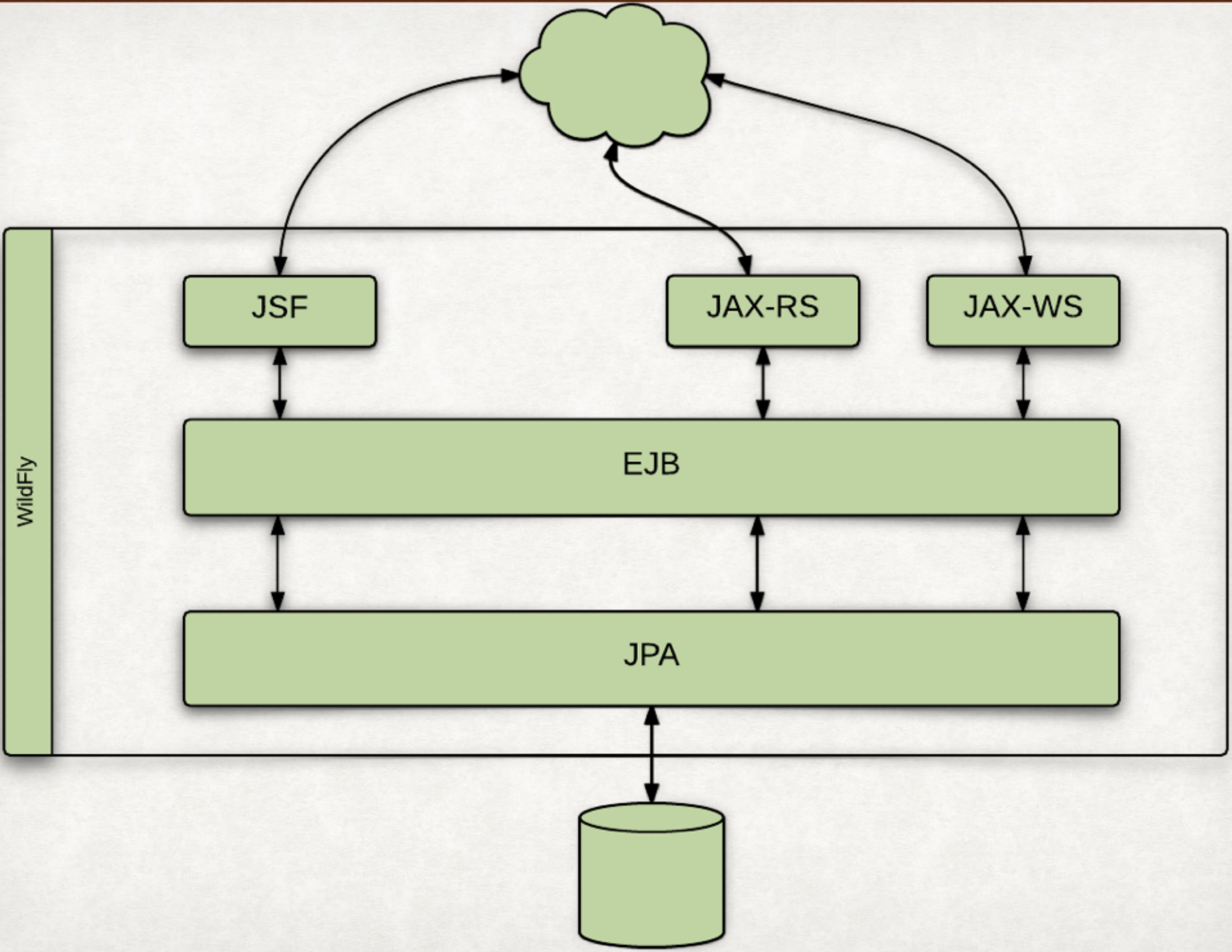
BEAN VALIDATION

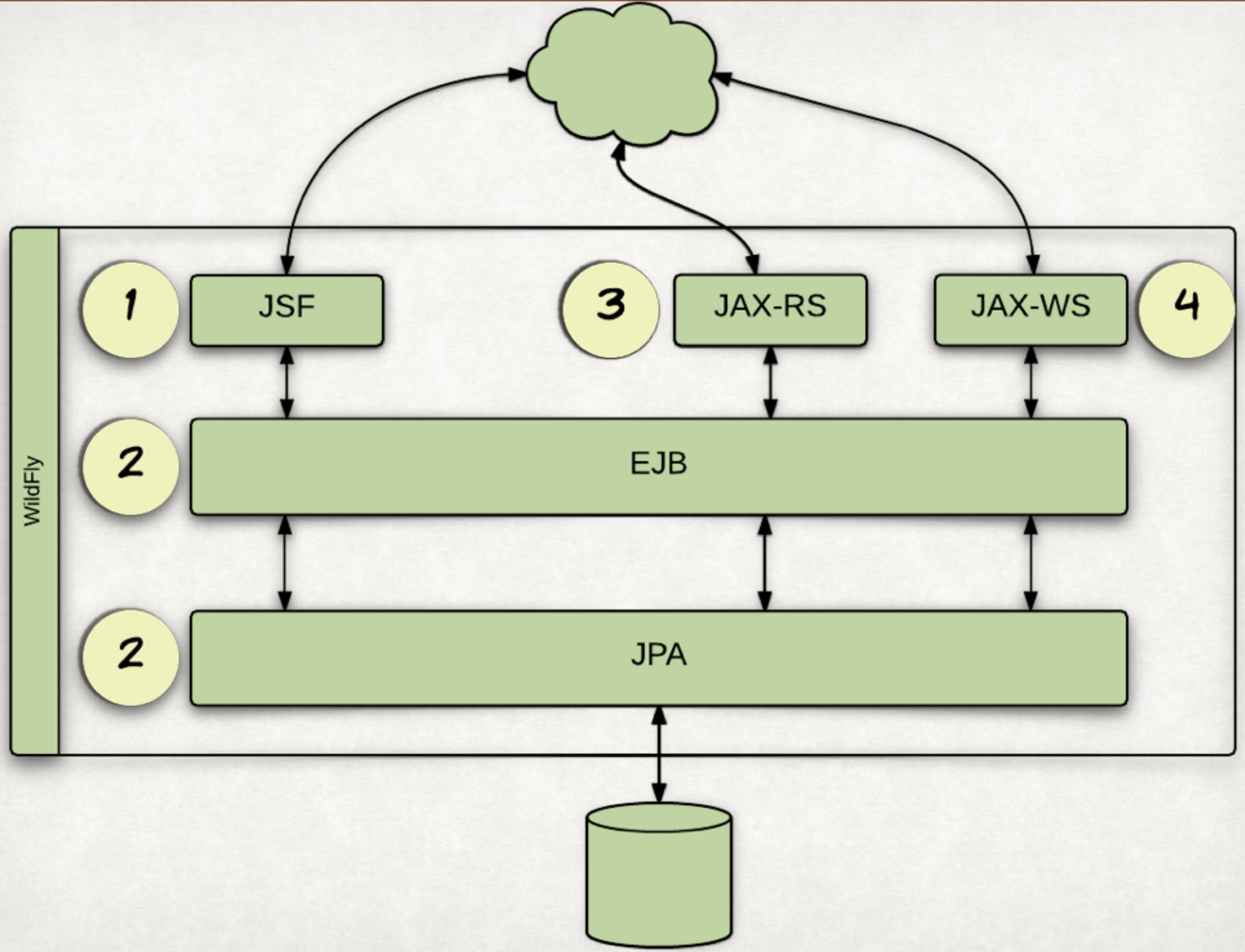
JAX-WS

JMS

CDI

EJB


WildFly
JSF
JAX-RS
JAX-WS
EJB
JPA


1
JSF
3
JAX-RS
JAX-WS
4
WildFly
2
EJB
2
JPA

JAVASERVER FACES

“

JAVASERVER FACES TECHNOLOGY IS A SERVER-SIDE COMPONENT FRAMEWORK FOR BUILDING JAVA TECHNOLOGY-BASED WEB APPLICATIONS.

”

```
<h:body>
    <div id="top" class="top">
        <ui:insert name="top">Top Section</ui:insert>
    </div>
    <div>
        <div id="left">
            <ui:insert name="left">Left Section</ui:insert>
        </div>
        <div id="content" class="left_content">
            <ui:insert name="content">Main Content</ui:insert>
        </div>
    </div>
</h:body>
```

```
<h:body>
    <ui:composition template="./template.xhtml">
        <ui:define name="top">
            Welcome to Template Client Page
        </ui:define>

        <ui:define name="left">
            <h:outputLabel value="You are in the Left Section"/>
        </ui:define>

        <ui:define name="content">
            <h:graphicImage value="#{resource['images:wave.gif']}"/>
            <h:outputText value="You are in the Main Section"/>
        </ui:define>
    </ui:composition>
</h:body>
```

```
<h:body>
    <composite:interface>
        <composite:attribute name="value" required="false"/>
    </composite:interface>

    <composite:implementation>
        <h:outputLabel value="Email id: " />
        <h:inputText value="#{cc.attrs.value}" />
    </composite:implementation>
</h:body>
```

```
<body>
  <h:form>
    <em:email value="Enter your email id"/>
  </h:form>
</body>
```

CODE SAMPLE

CODING TIME

ENTERPRISE JAVABEANS

“

THE EJB CONTAINER, RATHER THAN THE BEAN DEVELOPER, IS RESPONSIBLE FOR SYSTEM-LEVEL SERVICES

”

- Transactions
- Security
- Asynchronous processing
- Parallel processing
- Timers

```java
@Stateless
public class HelloService {
    public String sayHello() { return "Hello";}
}



@Singleton
public class HelloTimer {
    @EJB
    HelloService helloService;

    @Schedule(second="*/1", minute="*",hour="*", persistent=false)
    public void doWork(){
        System.out.println("timer: " + helloService.sayHello());
    }
}
```

JAVA PERSISTENCE API

“

Provides Java developers with an object/relational mapping facility for managing relational data in Java applications

”

```java
@Entity
public class Client {

    @Id
    private Long id;

    @OneToMany(mappedBy = "client")
    private List<Address> addresses;
}


@Entity
public class Address {

    @Id
    private Long id;

    @ManyToOne
    @JoinColumn(name = "client_id")
    private Client client;
}
```

```java
@Stateless
public class ClientService {

    @PersistenceContext
    EntityManager em;

    public Client findById(Long id) {
        return em.find(Client.class, id);
    }

    public List<Client> findAll() {
        return em.createQuery("select c from Client c").getResultList();
    }

    public List<Client> findByAddress(String address) {
        Query query = em.createQuery("select c from Client c " +
         "join c.addresses a " +
         "where a.address = :address");
        query.setParameter("address", address);
        return query.getResultList();
    }
}
```

CODING TIME

Java API for RESTful Web Services

@GET

@POST

@PUT

@DELETE

@HEAD

@Path

@PathParam

@QueryParam

```
@Path("/clients")
public class ClientResource {

    @GET
    @Path("/{id}")
    @Produces(MediaType.APPLICATION_JSON)
    public List<Client> getClientById(@PathParam("id") Long id) {
        return clientService.findById(id);
    }
}
```

CODING TIME

Java API for XML Web Services

“

Although SOAP messages are complex, the JAX-WS API hides this complexity from the application developer

”

```
<message name="getTermRequest">
    <part name="term" type="xs:string"/>
</message>

<message name="getTermResponse">
   <part name="value" type="xs:string"/>
</message>

<portType name="glossaryTerms">
   <operation name="getTerm">
       <input message="getTermRequest"/>
       <output message="getTermResponse"/>
   </operation>
</portType>
```

CODING TIME