OEPE

Oracle Enterprise Pack For Eclipse

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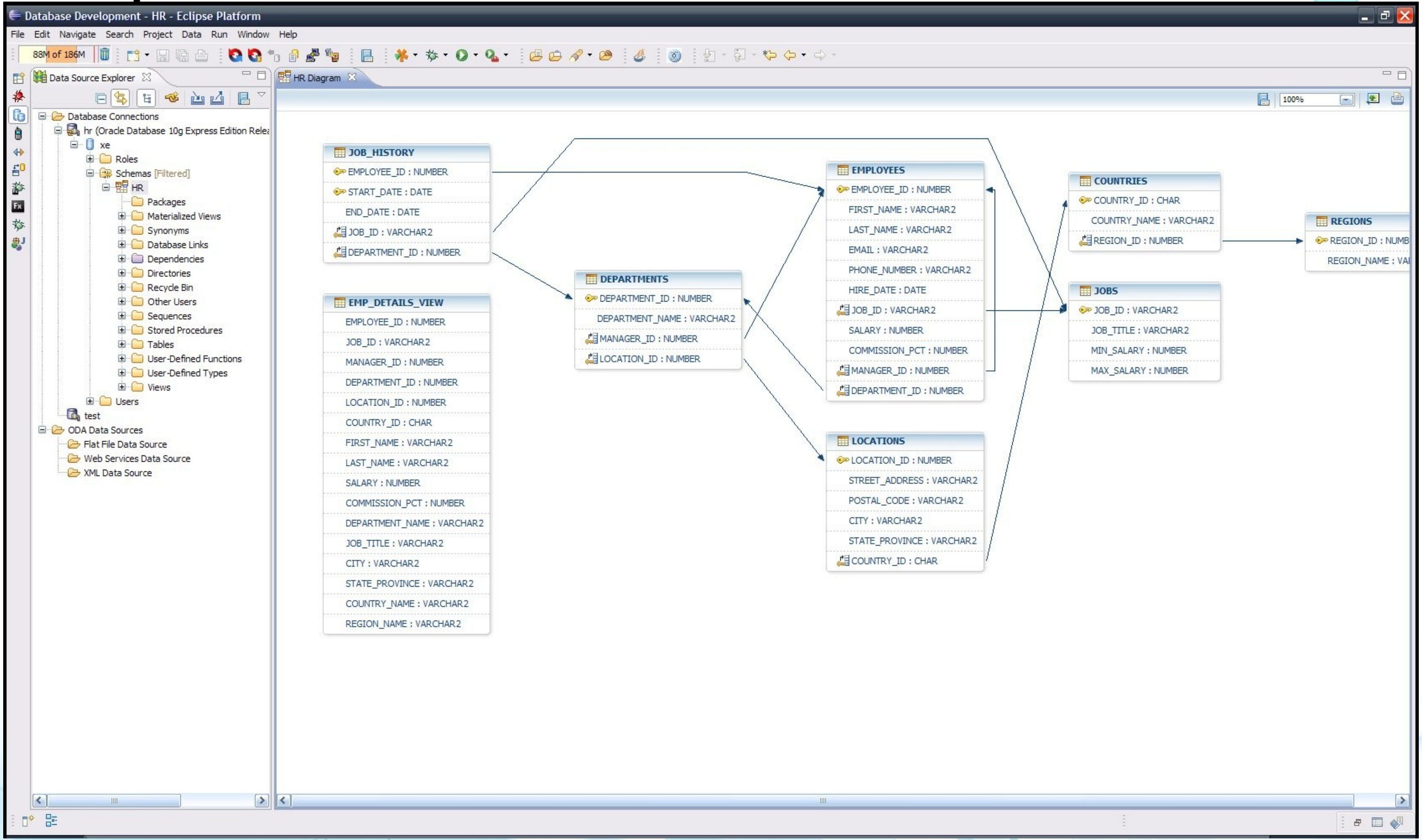
Sadržaj

- Ukratko o OEPE
- Manipulacija baze podataka
- Generiranje JPA entiteta
- Generiranje Spring servisa
- Web servisi – The easy way
- Flex Demo

Ukratko o OEPE

- http://www.oracle.com/technology/products/enterprise-pack
- Pomoć razvoju aplikacija za WebLogic server
- Samostalan ili integracija s postojećim Eclipse IDE, www.eclipse.org

Manipulacija baze podataka



JOB_HISTORY
- EMPLOYEE_ID : NUMBER
- START_DATE : DATE
- END_DATE : DATE
- JOB_ID : VARCHAR2
- DEPARTMENT_ID : NUMBER

EMP_DETAILS_VIEW
- EMPLOYEE_ID : NUMBER
- JOB_ID : VARCHAR2
- MANAGER_ID : NUMBER
- DEPARTMENT_ID : NUMBER
- LOCATION_ID : NUMBER
- COUNTRY_ID : CHAR
- FIRST_NAME : VARCHAR2
- LAST_NAME : VARCHAR2
- SALARY : NUMBER
- COMMISSION_PCT : NUMBER
- DEPARTMENT_NAME : VARCHAR2
- JOB_TITLE : VARCHAR2
- CITY : VARCHAR2
- STATE_PROVINCE : VARCHAR2
- COUNTRY_NAME : VARCHAR2
- REGION_NAME : VARCHAR2

DEPARTMENTS
- DEPARTMENT_ID : NUMBER
- DEPARTMENT_NAME : VARCHAR2
- MANAGER_ID : NUMBER
- LOCATION_ID : NUMBER

EMPLOYEES
- EMPLOYEE_ID : NUMBER
- FIRST_NAME : VARCHAR2
- LAST_NAME : VARCHAR2
- EMAIL : VARCHAR2
- PHONE_NUMBER : VARCHAR2
- HIRE_DATE : DATE
- JOB_ID : VARCHAR2
- SALARY : NUMBER
- COMMISSION_PCT : NUMBER
- MANAGER_ID : NUMBER
- DEPARTMENT_ID : NUMBER

LOCATIONS
- LOCATION_ID : NUMBER
- STREET_ADDRESS : VARCHAR2
- POSTAL_CODE : VARCHAR2
- CITY : VARCHAR2
- STATE_PROVINCE : VARCHAR2
- COUNTRY_ID : CHAR

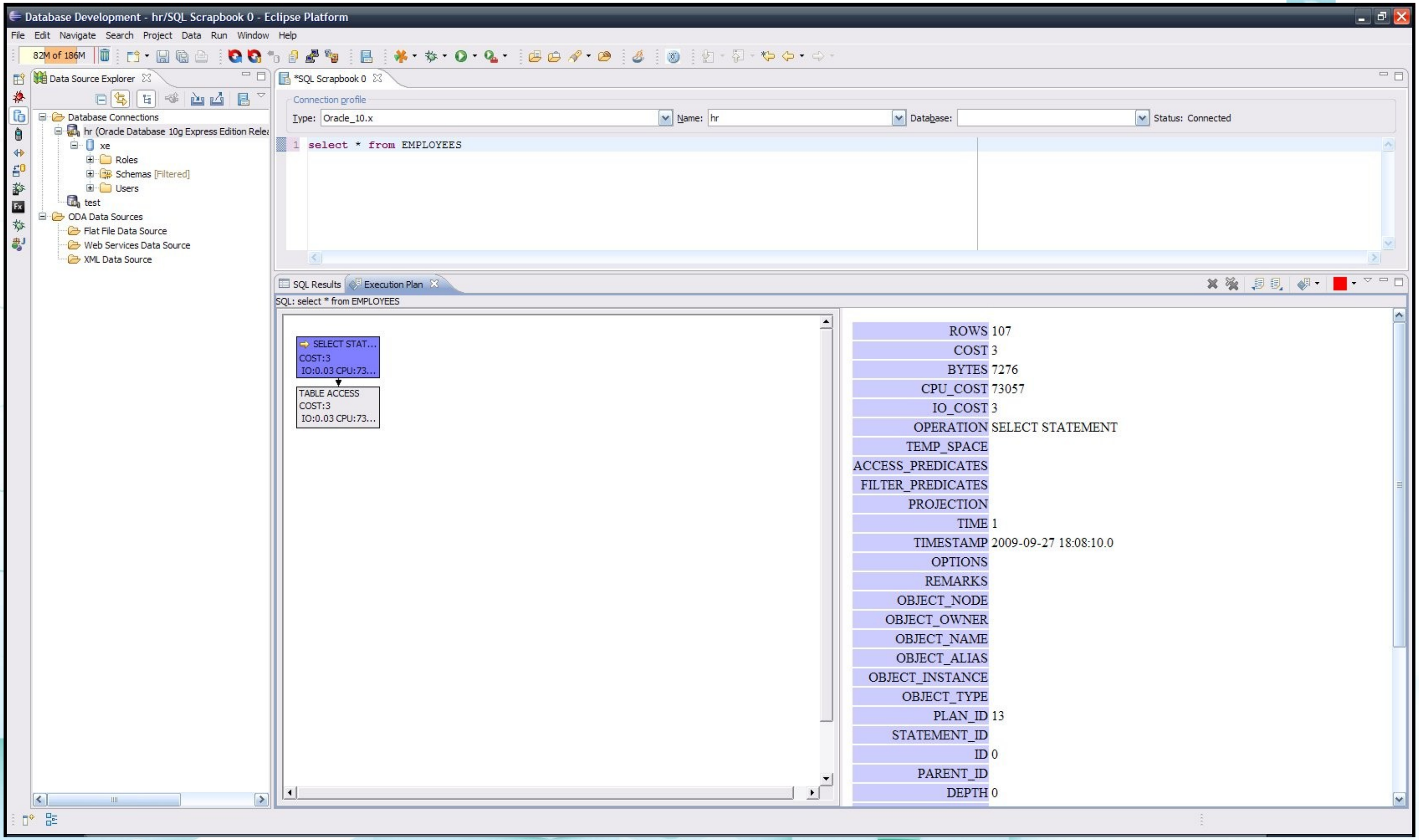
COUNTRIES
- COUNTRY_ID : CHAR
- COUNTRY_NAME : VARCHAR2
- REGION_ID : NUMBER

JOBS
- JOB_ID : VARCHAR2
- JOB_TITLE : VARCHAR2
- MIN_SALARY : NUMBER
- MAX_SALARY : NUMBER

REGIONS
- REGION_ID : NUMB
- REGION_NAME : VA

Manipulacija baze podataka 2

- SQL scrap-book



Connection profile

Type: Oracle_10.x Name: hr Database: Status: Connected

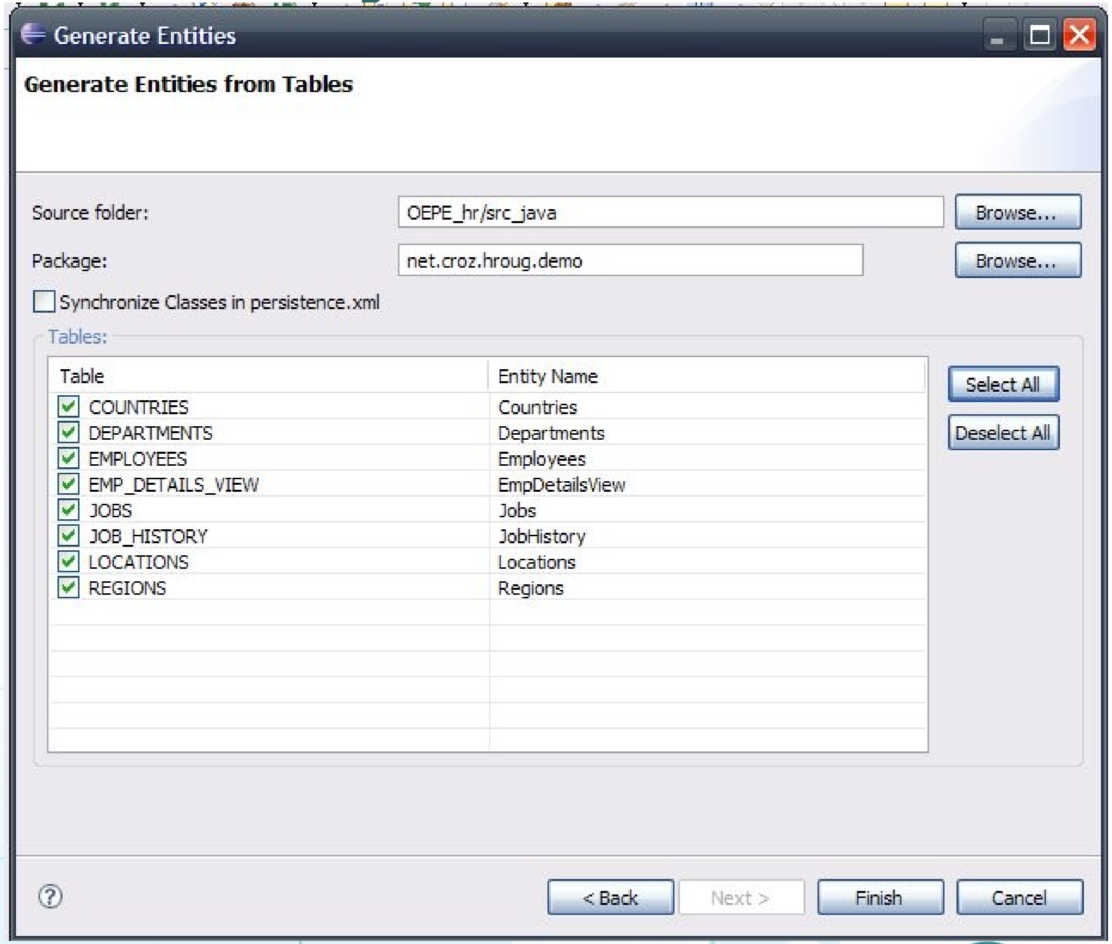
```
select * from EMPLOYEES
```

SQL: select * from EMPLOYEES

```
SELECT STAT...
COST:3
IO:0.03 CPU:73...

TABLE ACCESS
COST:3
IO:0.03 CPU:73...
```

ROWS	107
COST	3
BYTES	7276
CPU_COST	73057
IO_COST	3
OPERATION	SELECT STATEMENT
TEMP_SPACE	
ACCESS_PREDICATES	
FILTER_PREDICATES	
PROJECTION	
TIME	1
TIMESTAMP	2009-09-27 18:08:10.0
OPTIONS	
REMARKS	
OBJECT_NODE	
OBJECT_OWNER	
OBJECT_NAME	
OBJECT_ALIAS	
OBJECT_INSTANCE	
OBJECT_TYPE	
PLAN_ID	13
STATEMENT_ID	
ID	0
PARENT_ID	
DEPTH	0

Generiranje JPA entiteta



Generate Entities from Tables

Source folder: OEPE_hr/src_java

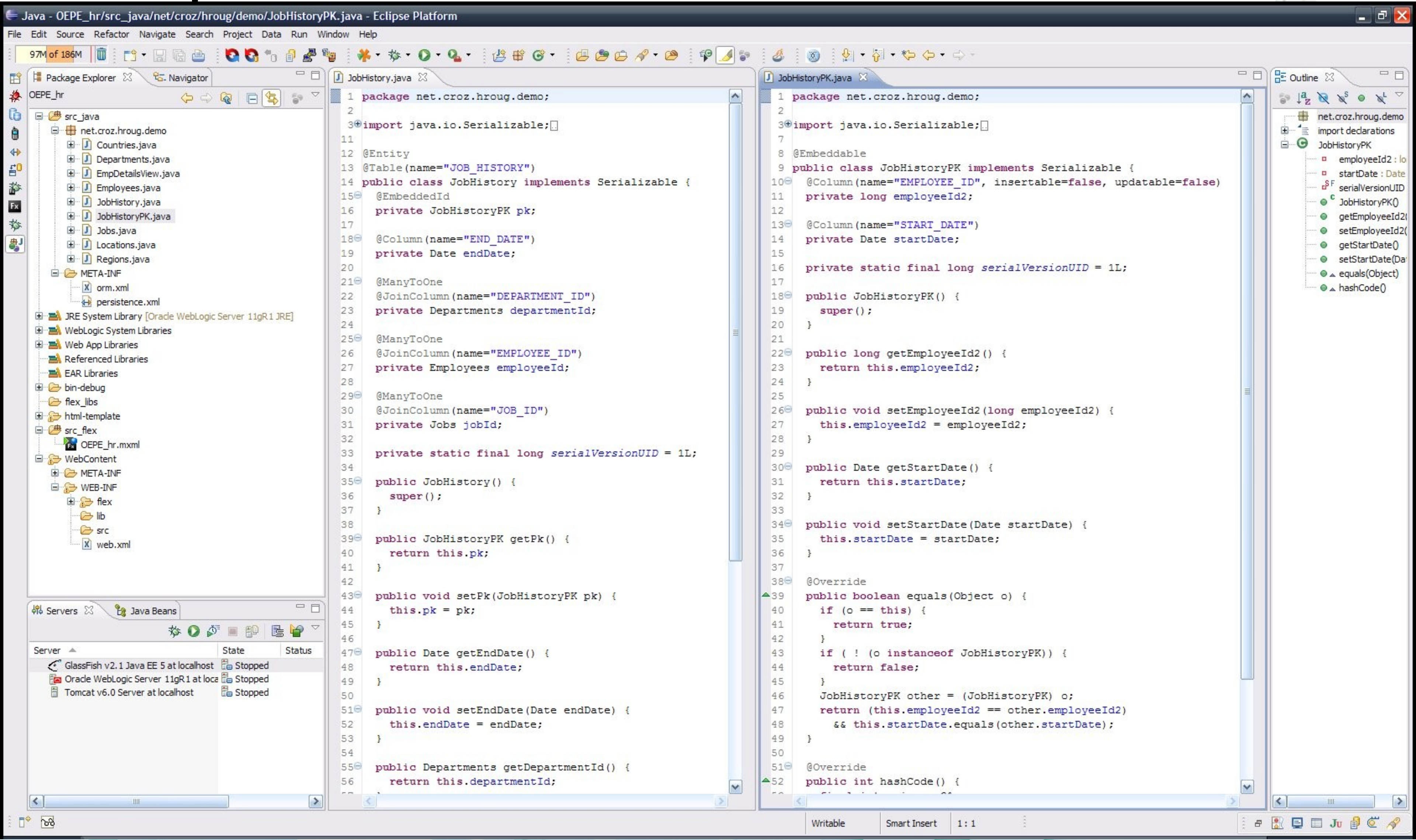
Package: net.croz.hroug.demo

□ Synchronize Classes in persistence.xml

Tables:

Table	Entity Name
☑ COUNTRIES	Countries
☑ DEPARTMENTS	Departments
☑ EMPLOYEES	Employees
☑ EMP_DETAILS_VIEW	EmpDetailsView
☑ JOBS	Jobs
☑ JOB_HISTORY	JobHistory
☑ LOCATIONS	Locations
☑ REGIONS	Regions

Generiranje JPA entiteta 2



Server	State	Status
GlassFish v2.1 Java EE 5 at localhost	Stopped	
Oracle WebLogic Server 11gR1 at loca	Stopped	
Tomcat v6.0 Server at localhost	Stopped	

JobHistory.java:

```java
package net.croz.hroug.demo;

import java.io.Serializable;□

@Entity
@Table(name="JOB_HISTORY")
public class JobHistory implements Serializable {
	@EmbeddedId
	private JobHistoryPK pk;

	@Column(name="END_DATE")
	private Date endDate;

	@ManyToOne
	@JoinColumn(name="DEPARTMENT_ID")
	private Departments departmentId;

	@ManyToOne
	@JoinColumn(name="EMPLOYEE_ID")
	private Employees employeeId;

	@ManyToOne
	@JoinColumn(name="JOB_ID")
	private Jobs jobId;

	private static final long serialVersionUID = 1L;

	public JobHistory() {
		super();
	}

	public JobHistoryPK getPk() {
		return this.pk;
	}

	public void setPk(JobHistoryPK pk) {
		this.pk = pk;
	}

	public Date getEndDate() {
		return this.endDate;
	}

	public void setEndDate(Date endDate) {
		this.endDate = endDate;
	}

	public Departments getDepartmentId() {
		return this.departmentId;
```

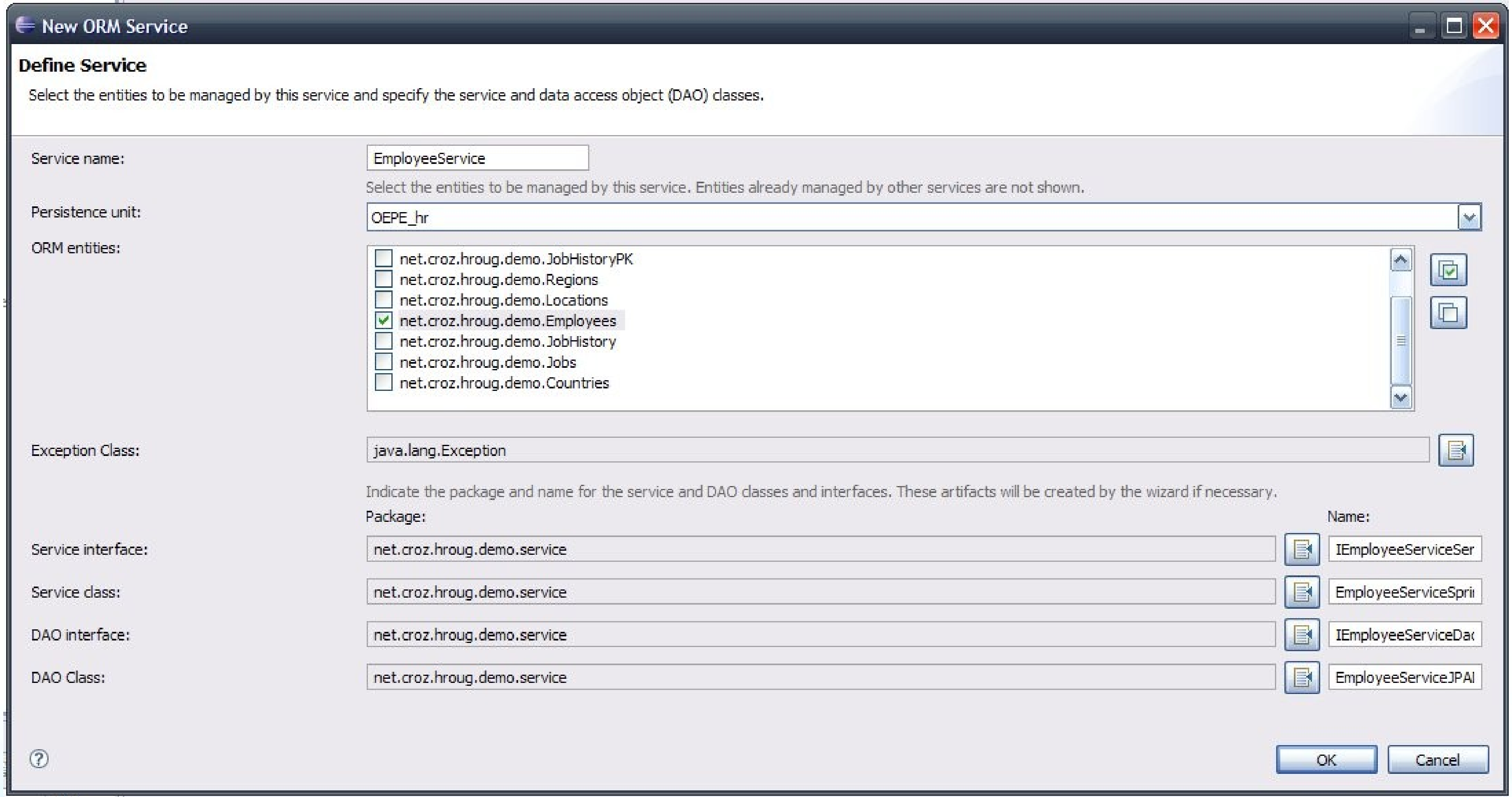
JobHistoryPK.java:

```java
package net.croz.hroug.demo;

import java.io.Serializable;□

@Embeddable
public class JobHistoryPK implements Serializable {
	@Column(name="EMPLOYEE_ID", insertable=false, updatable=false)
	private long employeeId2;

	@Column(name="START_DATE")
	private Date startDate;

	private static final long serialVersionUID = 1L;

	public JobHistoryPK() {
		super();
	}

	public long getEmployeeId2() {
		return this.employeeId2;
	}

	public void setEmployeeId2(long employeeId2) {
		this.employeeId2 = employeeId2;
	}

	public Date getStartDate() {
		return this.startDate;
	}

	public void setStartDate(Date startDate) {
		this.startDate = startDate;
	}

	@Override
	public boolean equals(Object o) {
		if (o == this) {
			return true;
		}
		if ( ! (o instanceof JobHistoryPK)) {
			return false;
		}
		JobHistoryPK other = (JobHistoryPK) o;
		return (this.employeeId2 == other.employeeId2)
			&& this.startDate.equals(other.startDate);
	}

	@Override
	public int hashCode() {
```

Generiranje Spring servisa

- www.springsource.org
- Vodeća platforma za razvoj enterprise Java aplikacija
- SpringIDE – integracija Springa i Eclipse IDE (OEPE), dodaci za Eclipse

Generiranje Spring servisa 2



Define Service

Select the entities to be managed by this service and specify the service and data access object (DAO) classes.

Service name: EmployeeService

Select the entities to be managed by this service. Entities already managed by other services are not shown.

Persistence unit: OEPE_hr

ORM entities:

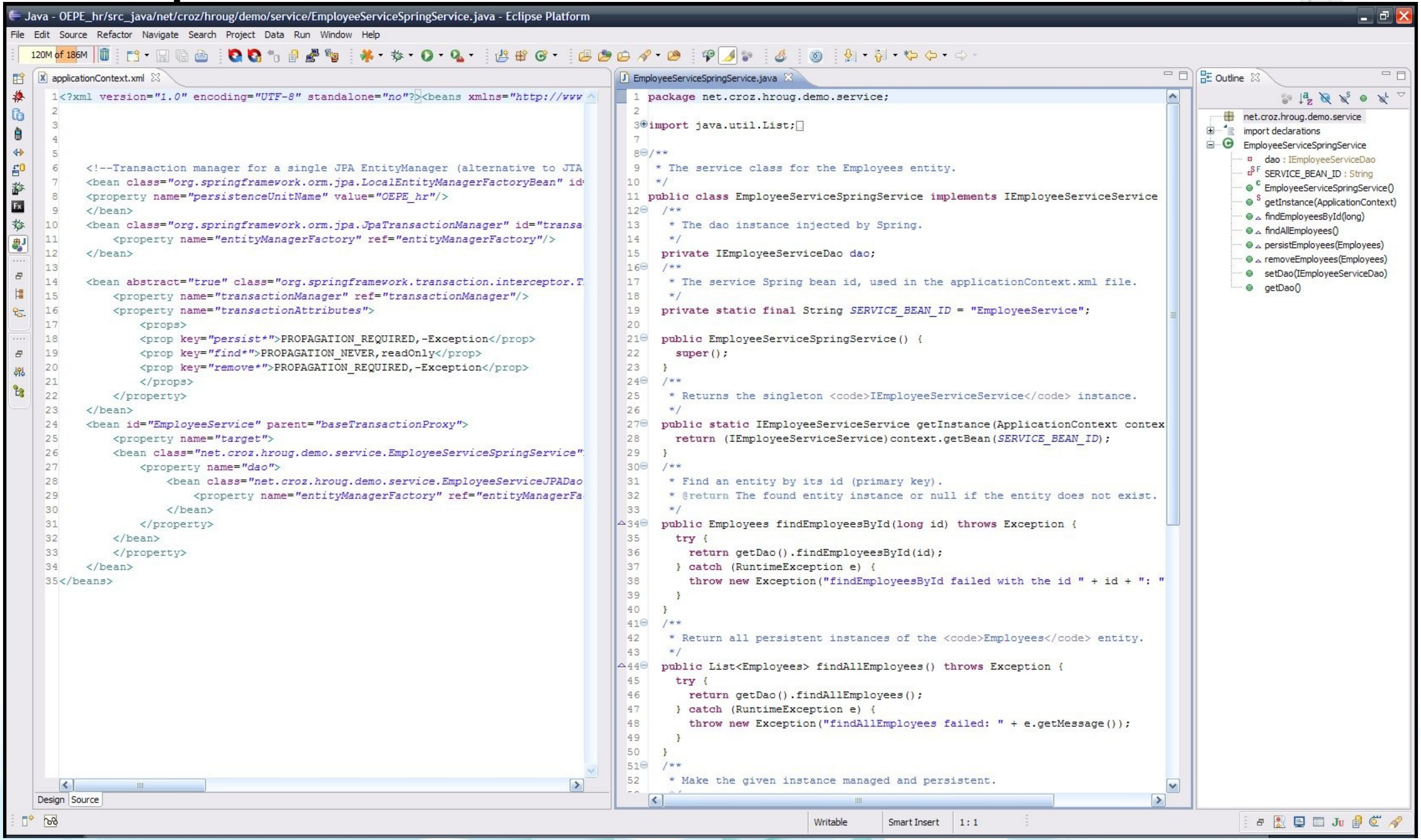
- □ net.croz.hroug.demo.JobHistoryPK
- □ net.croz.hroug.demo.Regions
- □ net.croz.hroug.demo.Locations
- ☑ net.croz.hroug.demo.Employees
- □ net.croz.hroug.demo.JobHistory
- □ net.croz.hroug.demo.Jobs
- □ net.croz.hroug.demo.Countries

Exception Class: java.lang.Exception

Indicate the package and name for the service and DAO classes and interfaces. These artifacts will be created by the wizard if necessary.

	Package:	Name:
Service interface:	net.croz.hroug.demo.service	IEmployeeServiceSer
Service class:	net.croz.hroug.demo.service	EmployeeServiceSprii
DAO interface:	net.croz.hroug.demo.service	IEmployeeServiceDa(
DAO Class:	net.croz.hroug.demo.service	EmployeeServiceJPAI

Generiranje Spring servisa 3


Java - OEPE_hr/src_java/net/croz/hroug/demo/service/EmployeeServiceSpringService.java - Eclipse Platform
File Edit Source Refactor Navigate Search Project Data Run Window Help
120M of 186M
applicationContext.xml
EmployeeServiceSpringService.java
Outline
net.croz.hroug.demo.service
import declarations
EmployeeServiceSpringService
dao : IEmployeeServiceDao
SERVICE_BEAN_ID : String
EmployeeServiceSpringService()
getInstance(ApplicationContext)
findEmployeesById(long)
findAllEmployees()
persistEmployees(Employees)
removeEmployees(Employees)
setDao(IEmployeeServiceDao)
getDao()
Design
Source
Writable
Smart Insert
1 : 1

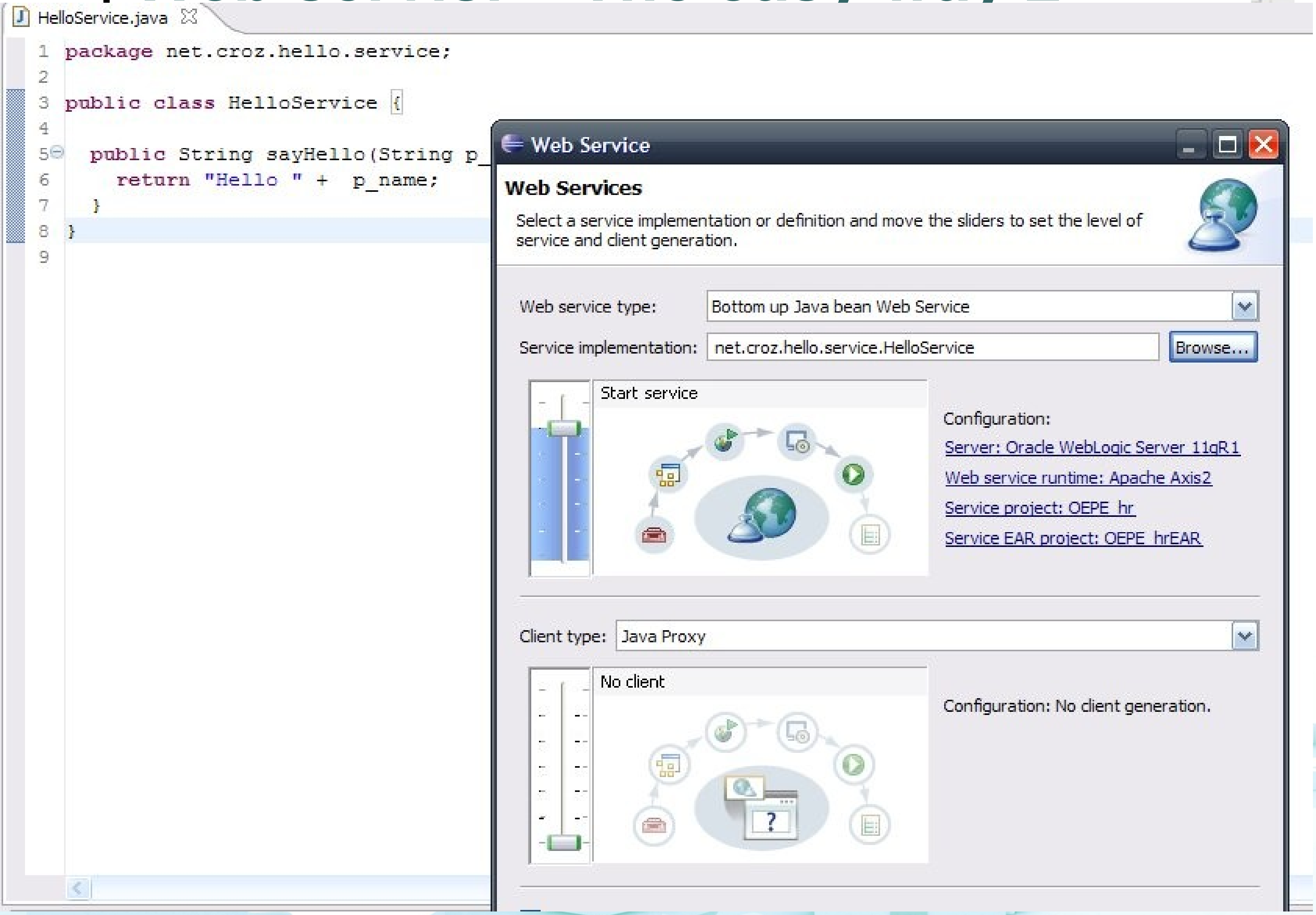
```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?><beans xmlns="http://www




    <!--Transaction manager for a single JPA EntityManager (alternative to JTA
    <bean class="org.springframework.orm.jpa.LocalEntityManagerFactoryBean" id
    <property name="persistenceUnitName" value="OEPE_hr"/>
    </bean>
    <bean class="org.springframework.orm.jpa.JpaTransactionManager" id="transa
        <property name="entityManagerFactory" ref="entityManagerFactory"/>
    </bean>

    <bean abstract="true" class="org.springframework.transaction.interceptor.T
        <property name="transactionManager" ref="transactionManager"/>
        <property name="transactionAttributes">
            <props>
            <prop key="persist*">PROPAGATION_REQUIRED,-Exception</prop>
            <prop key="find*">PROPAGATION_NEVER,readOnly</prop>
            <prop key="remove*">PROPAGATION_REQUIRED,-Exception</prop>
            </props>
        </property>
    </bean>
    <bean id="EmployeeService" parent="baseTransactionProxy">
        <property name="target">
        <bean class="net.croz.hroug.demo.service.EmployeeServiceSpringService"
            <property name="dao">
                <bean class="net.croz.hroug.demo.service.EmployeeServiceJPADao
                    <property name="entityManagerFactory" ref="entityManagerFa
                </bean>
            </property>
        </bean>
        </property>
    </bean>
</beans>
```

```java
package net.croz.hroug.demo.service;

import java.util.List;

/**
 * The service class for the Employees entity.
 */
public class EmployeeServiceSpringService implements IEmployeeServiceService
  /**
   * The dao instance injected by Spring.
   */
  private IEmployeeServiceDao dao;
  /**
   * The service Spring bean id, used in the applicationContext.xml file.
   */
  private static final String SERVICE_BEAN_ID = "EmployeeService";

  public EmployeeServiceSpringService() {
    super();
  }
  /**
   * Returns the singleton <code>IEmployeeServiceService</code> instance.
   */
  public static IEmployeeServiceService getInstance(ApplicationContext contex
    return (IEmployeeServiceService)context.getBean(SERVICE_BEAN_ID);
  }
  /**
   * Find an entity by its id (primary key).
   * @return The found entity instance or null if the entity does not exist.
   */
  public Employees findEmployeesById(long id) throws Exception {
    try {
      return getDao().findEmployeesById(id);
    } catch (RuntimeException e) {
      throw new Exception("findEmployeesById failed with the id " + id + ": "
    }
  }
  /**
   * Return all persistent instances of the <code>Employees</code> entity.
   */
  public List<Employees> findAllEmployees() throws Exception {
    try {
      return getDao().findAllEmployees();
    } catch (RuntimeException e) {
      throw new Exception("findAllEmployees failed: " + e.getMessage());
    }
  }
  /**
   * Make the given instance managed and persistent.
```

Web servisi – The easy way

- Web servisi – servisi preko weba/mreže
- Podrška za jednostavno kreiranje web servisa te generiranje java klijenata za njih

Web servisi – The easy way 2



HelloService.java

```
package net.croz.hello.service;

public class HelloService {

  public String sayHello(String p_
    return "Hello " +  p_name;
  }
}
```

Web Services

Select a service implementation or definition and move the sliders to set the level of service and client generation.

Web service type: Bottom up Java bean Web Service

Service implementation: net.croz.hello.service.HelloService

Configuration:

Server: Oracle WebLogic Server 11gR1

Web service runtime: Apache Axis2

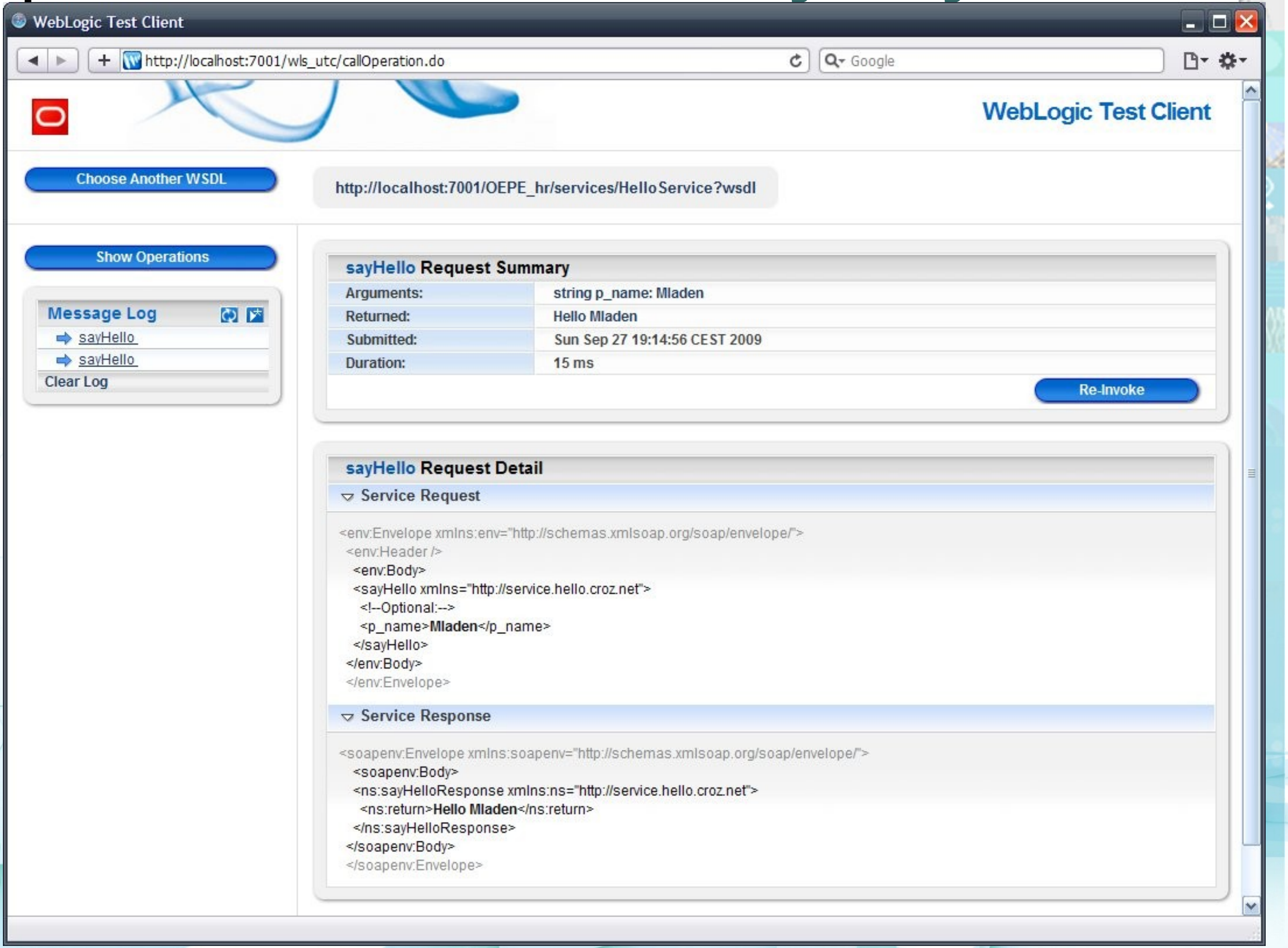
Service project: OEPE_hr

Service EAR project: OEPE_hrEAR

Client type: Java Proxy

Configuration: No client generation.

Web servisi – The easy way 3



http://localhost:7001/OEPE_hr/services/HelloService?wsdl

sayHello Request Summary

Arguments:	string p_name: Mladen
Returned:	Hello Mladen
Submitted:	Sun Sep 27 19:14:56 CEST 2009
Duration:	15 ms

sayHello Request Detail

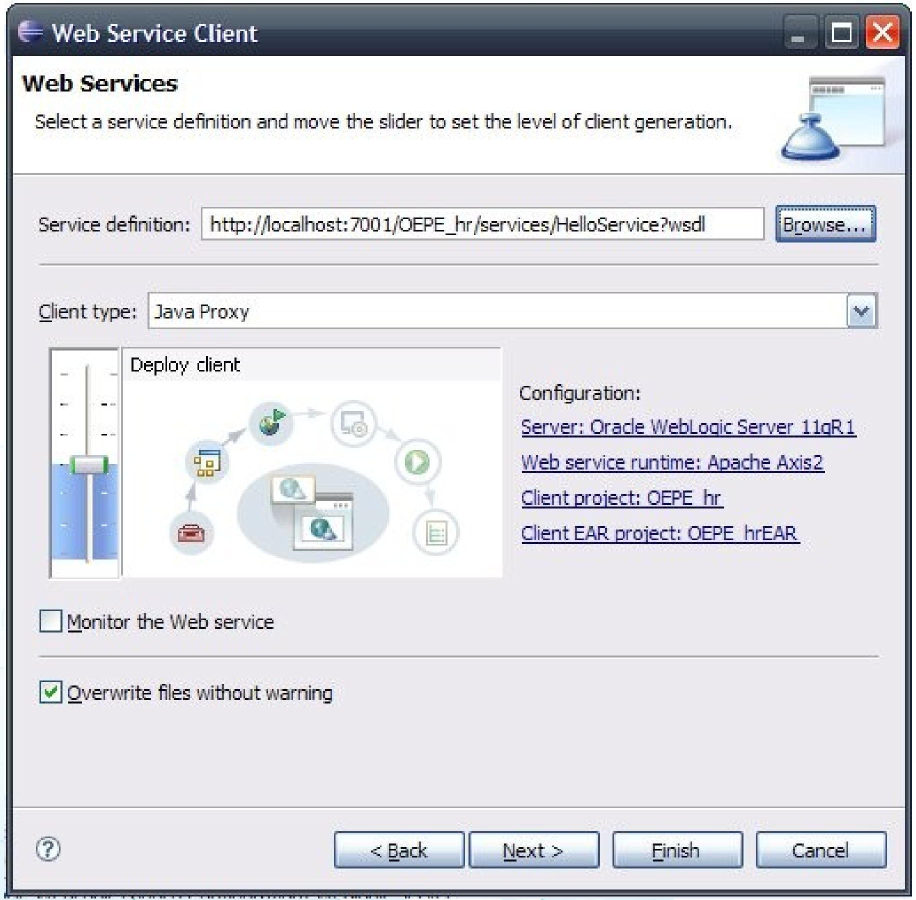
▽ Service Request

```
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
 <env:Header />
  <env:Body>
  <sayHello xmlns="http://service.hello.croz.net">
   <!--Optional:-->
   <p_name>Mladen</p_name>
  </sayHello>
 </env:Body>
 </env:Envelope>
```

▽ Service Response

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
  <ns:sayHelloResponse xmlns:ns="http://service.hello.croz.net">
   <ns:return>Hello Mladen</ns:return>
  </ns:sayHelloResponse>
 </soapenv:Body>
 </soapenv:Envelope>
```

Web servisi – The easy way 4



Web Service Client

Web Services

Select a service definition and move the slider to set the level of client generation.

Service definition: http://localhost:7001/OEPE_hr/services/HelloService?wsdl

Client type: Java Proxy

Deploy client

Configuration:

Server: Oracle WebLogic Server 11gR1

Web service runtime: Apache Axis2

Client project: OEPE_hr

Client EAR project: OEPE_hrEAR

☐ Monitor the Web service

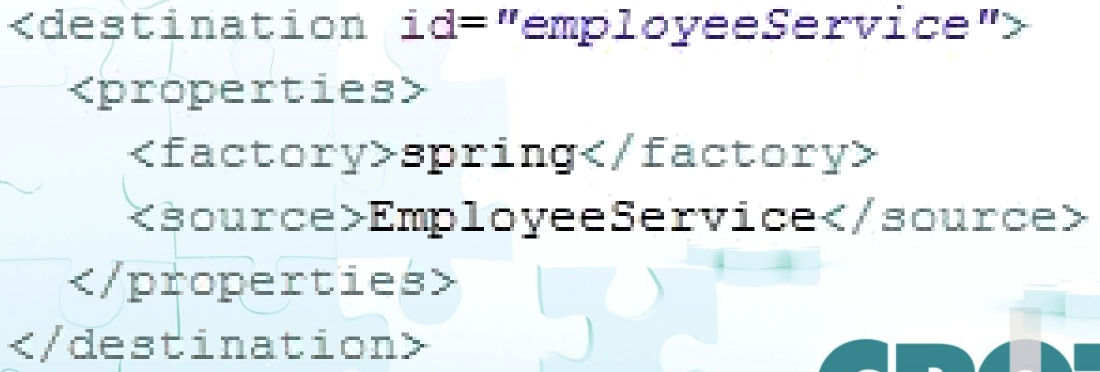
☑ Overwrite files without warning

Flex Demo

- Adobe Flex - RIA framework, koristi Flash player
- FlexBuilder – IDE (Eclipse baziran) za razvoj Flex aplikacija
- Prozivanje web servisa na jednostavan način
- Jednostavna integracija sa Spring servisima

Flex Demo 2

- Definirati spring servis koji se proziva u flex konfiguraciji
- Prozvati servis iz Flex aplikacije referencirajući se na kofiguraciju

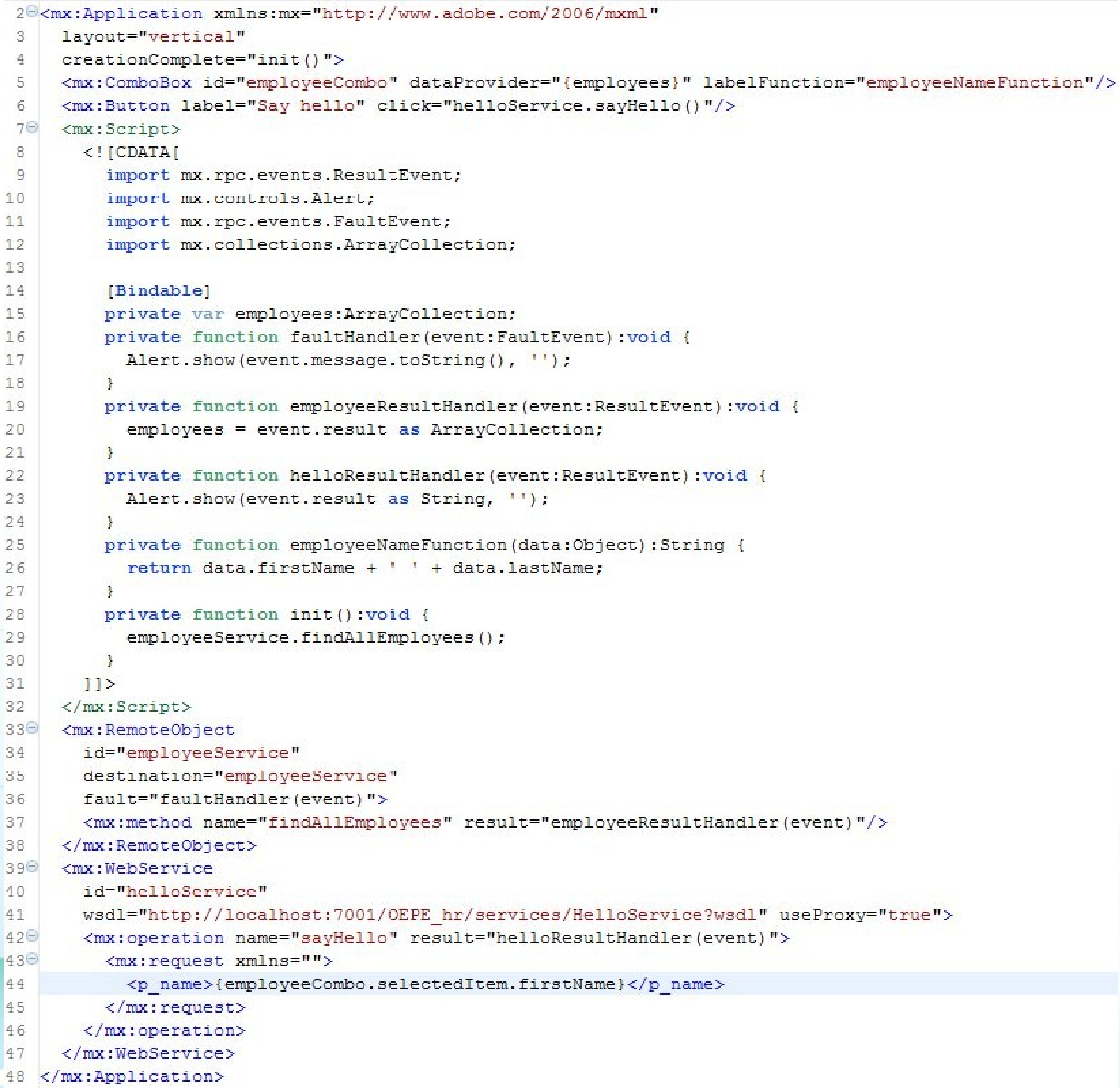


```
<destination id="employeeService">
  <properties>
    <factory>spring</factory>
    <source>EmployeeService</source>
  </properties>
</destination>
```

Flex Demo 3

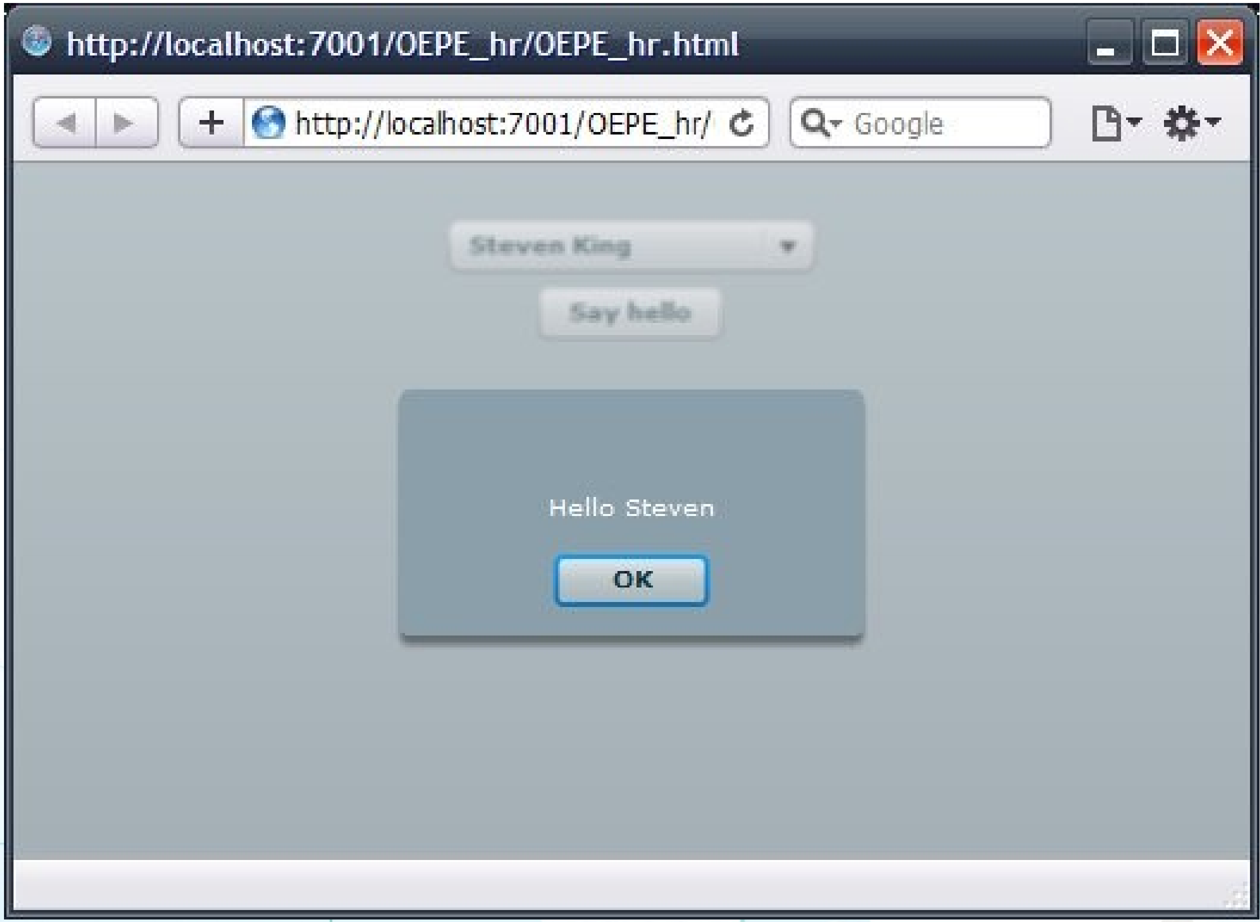
- Web servis se koristi takoreći bez konfiguracije
- Navede se WSDL url te krenemo s prozivanjem servisa

Flex Demo 4



```
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml"
  layout="vertical"
  creationComplete="init()">
  <mx:ComboBox id="employeeCombo" dataProvider="{employees}" labelFunction="employeeNameFunction"/>
  <mx:Button label="Say hello" click="helloService.sayHello()"/>
  <mx:Script>
    <![CDATA[
      import mx.rpc.events.ResultEvent;
      import mx.controls.Alert;
      import mx.rpc.events.FaultEvent;
      import mx.collections.ArrayCollection;

      [Bindable]
      private var employees:ArrayCollection;
      private function faultHandler(event:FaultEvent):void {
        Alert.show(event.message.toString(), '');
      }
      private function employeeResultHandler(event:ResultEvent):void {
        employees = event.result as ArrayCollection;
      }
      private function helloResultHandler(event:ResultEvent):void {
        Alert.show(event.result as String, '');
      }
      private function employeeNameFunction(data:Object):String {
        return data.firstName + ' ' + data.lastName;
      }
      private function init():void {
        employeeService.findAllEmployees();
      }
    ]]>
  </mx:Script>
  <mx:RemoteObject
    id="employeeService"
    destination="employeeService"
    fault="faultHandler(event)">
    <mx:method name="findAllEmployees" result="employeeResultHandler(event)"/>
  </mx:RemoteObject>
  <mx:WebService
    id="helloService"
    wsdl="http://localhost:7001/OEPE_hr/services/HelloService?wsdl" useProxy="true">
    <mx:operation name="sayHello" result="helloResultHandler(event)">
      <mx:request xmlns="">
        <p_name>{employeeCombo.selectedItem.firstName}</p_name>
      </mx:request>
    </mx:operation>
  </mx:WebService>
</mx:Application>
```

Flex Demo 5



http://localhost:7001/OEPE_hr/OEPE_hr.html

Hello Steven

Kraj

- Što smo napravili ?
- Što dalje ?
- Pitanja....