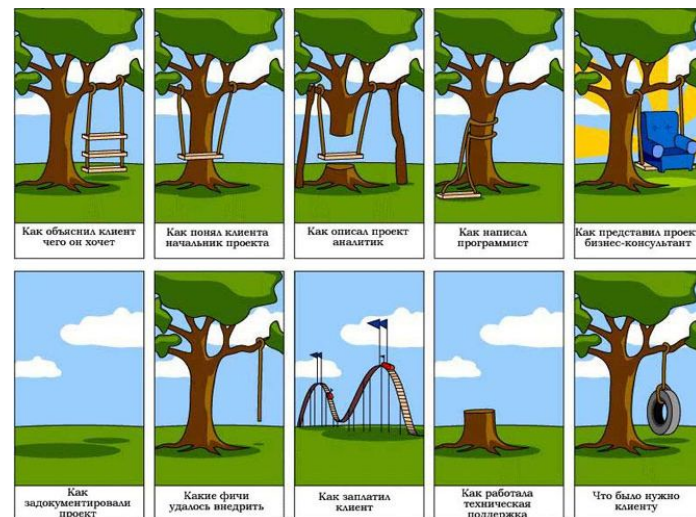


2014

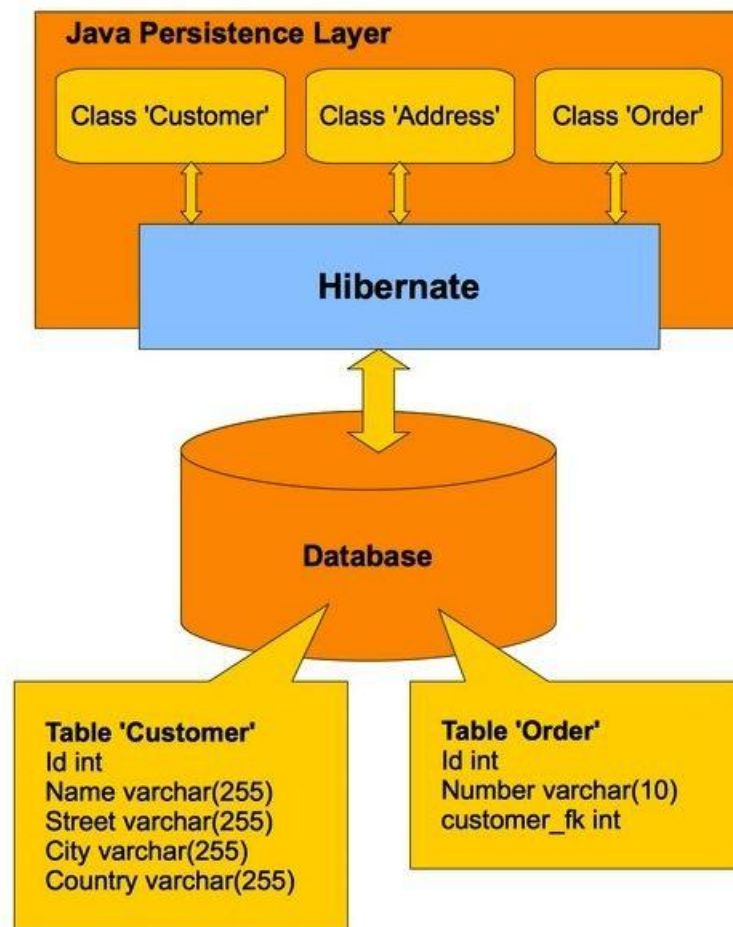
Hibernate.

Углубленный курс. Специализация

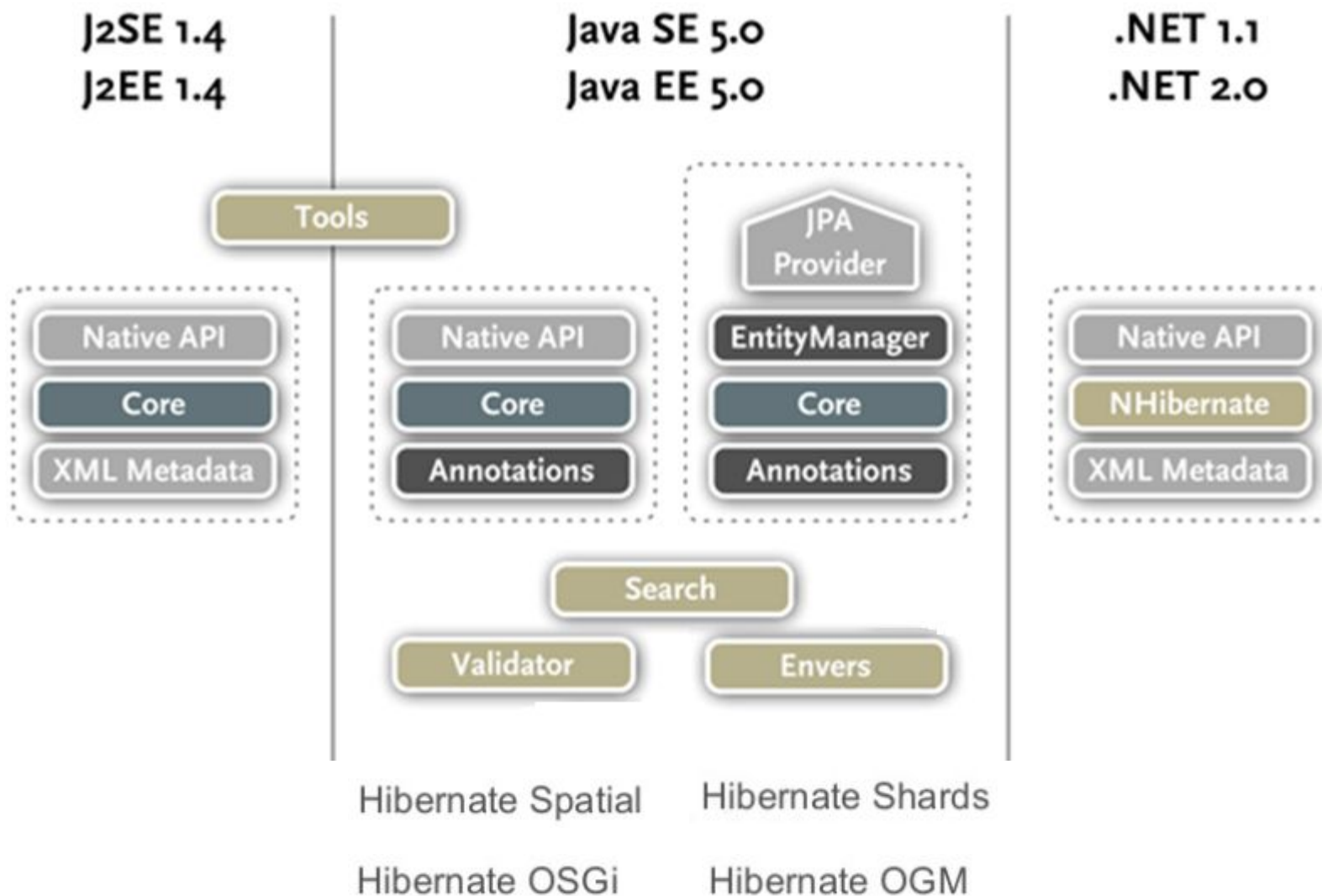
Иван Спресов
Юлий Слабко



Несколько слов о Hibernate

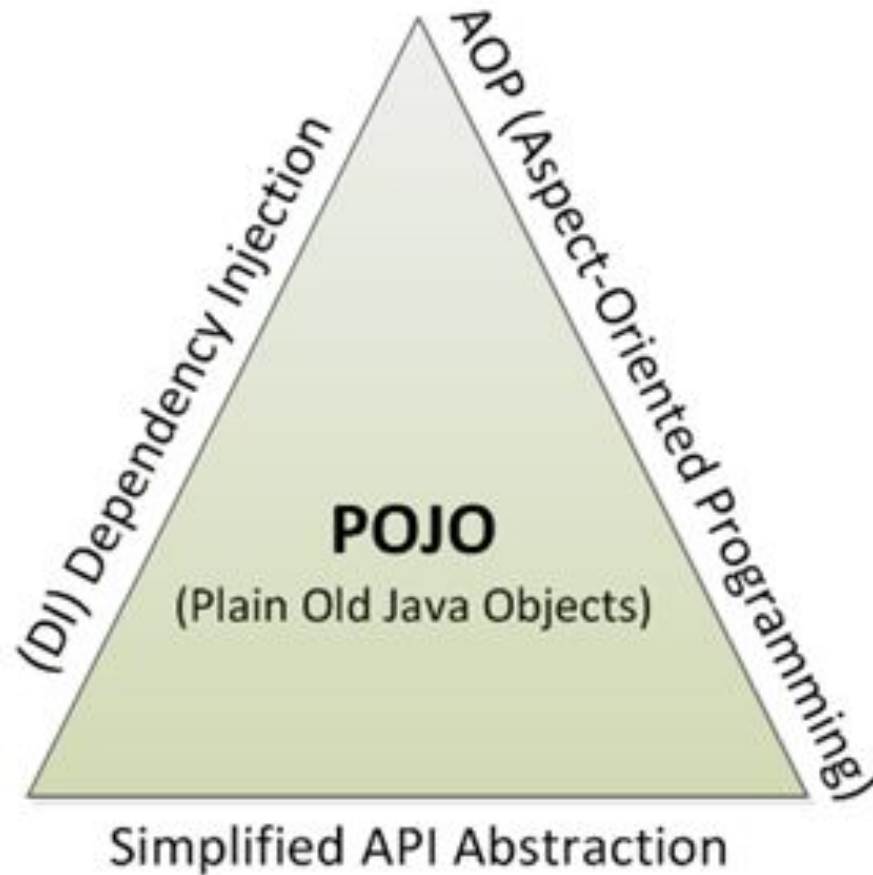


Несколько слов о Hibernate



ВАШИ ВОПРОСЫ?

POJO - Plain Old Java Object



POJO - Plain Old Java Object

T_PERSON	
«column»	
*PK	<u>F_ID</u> : NUMBER(8,2)
*	F_NAME: NVARCHAR2(50)
*	F_SURNAME: NVARCHAR2(50)
*	F_AGE: NUMBER(8,2)
«PK»	
+	PK_T_PERSON(NUMBER)

Person	
«column»	
-	age: int
-	id: int
-	name: char
-	surname: char
«Access»	
+	getAge() : int
+	getId() : char
+	getName() : char
+	getSurname() : void
+	setAge(int) : void
+	setId(int) : void
+	setName(char) : void
+	setSurname(char) : void

POJO - Plain Old Java Object

```
@Entity
@Table
public class Person implements Serializable {
    private static final long serialVersionUID = 1L;
    @Id
    @GeneratedValue(strategy = GenerationType.AUTO)
    private Integer id;
    @Column
    private Integer age;
    @Column
    private String name;
    @Column
    private String surname;

    public Person() {
    }
}
```


POJO - Plain Old Java Object

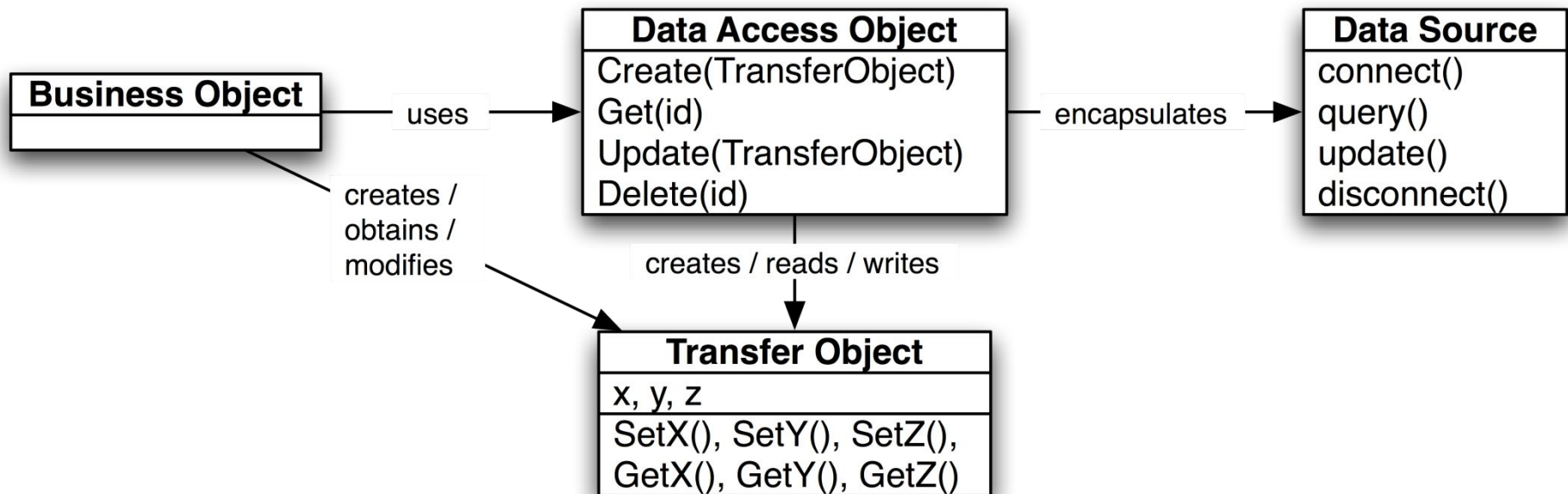
```
@Override
public boolean equals(Object o) {
    if (this == o) return true;
    if (!(o instanceof Person)) return false;

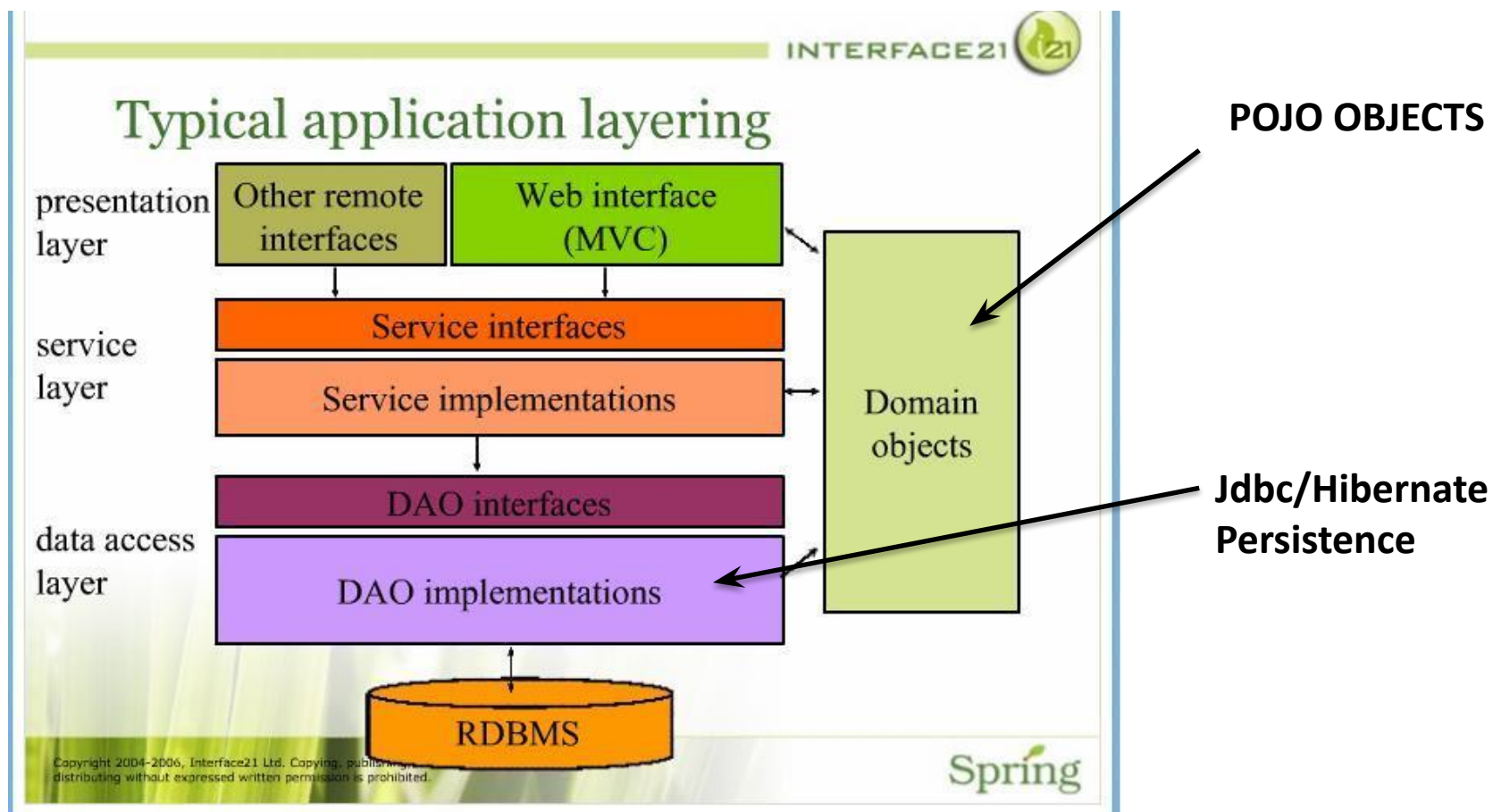
    Person person = (Person) o;

    if (!age.equals(person.age)) return false;
    if (!id.equals(person.id)) return false;
    if (!name.equals(person.name)) return false;
    if (!surname.equals(person.surname)) return false;

    return true;
}

@Override
public int hashCode() {
    int result = id.hashCode();
    result = 31 * result + name.hashCode();
    result = 31 * result + surname.hashCode();
    result = 31 * result + age.hashCode();
    return result;
}
```





ВАШИ ВОПРОСЫ?

СОХРАНЕНИЕ ДАННЫХ В СУБД С ПОМОЩЬЮ HIBERNATE

Person

«column»

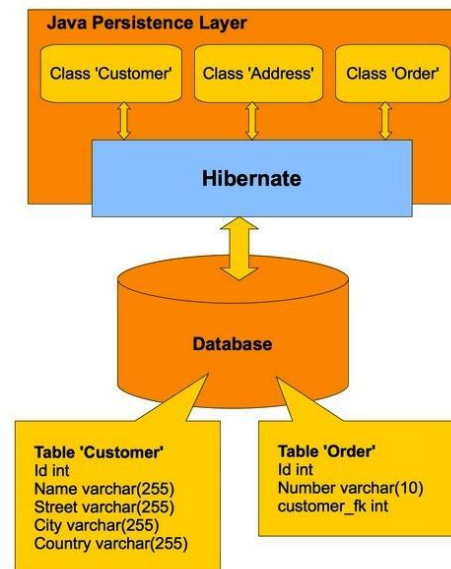
- age: int
- id: int
- name: char
- surname: char

«Access»

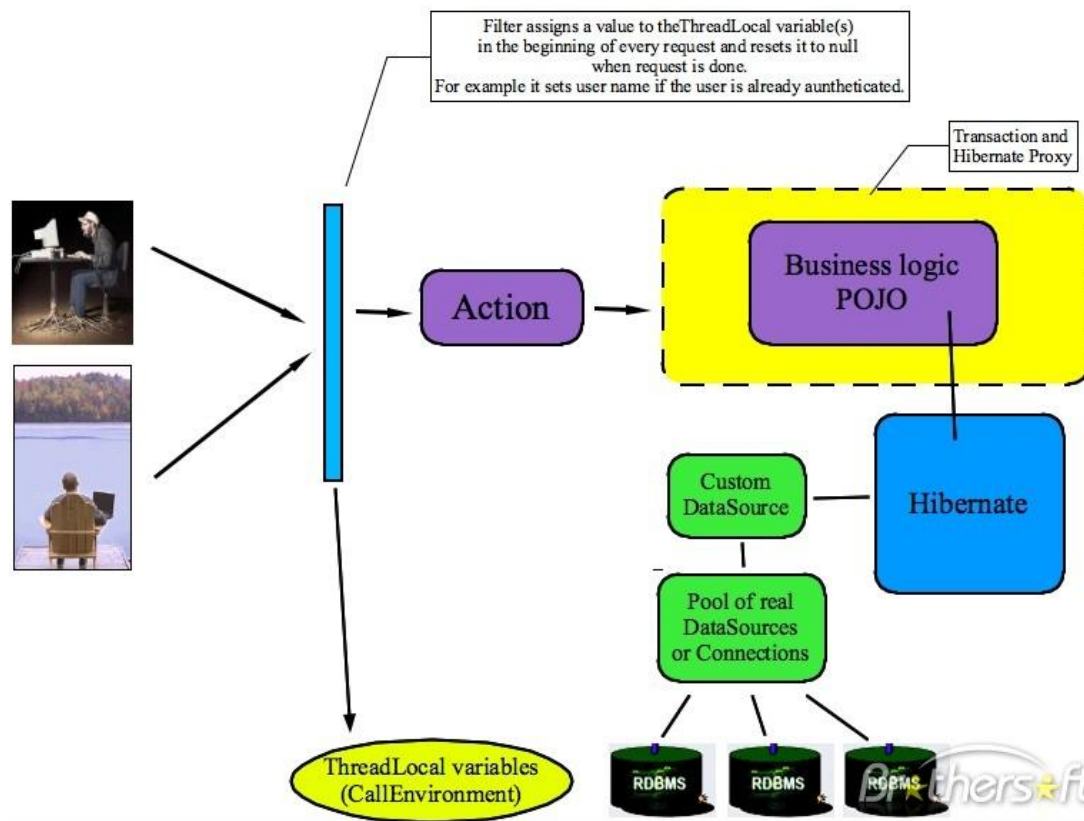
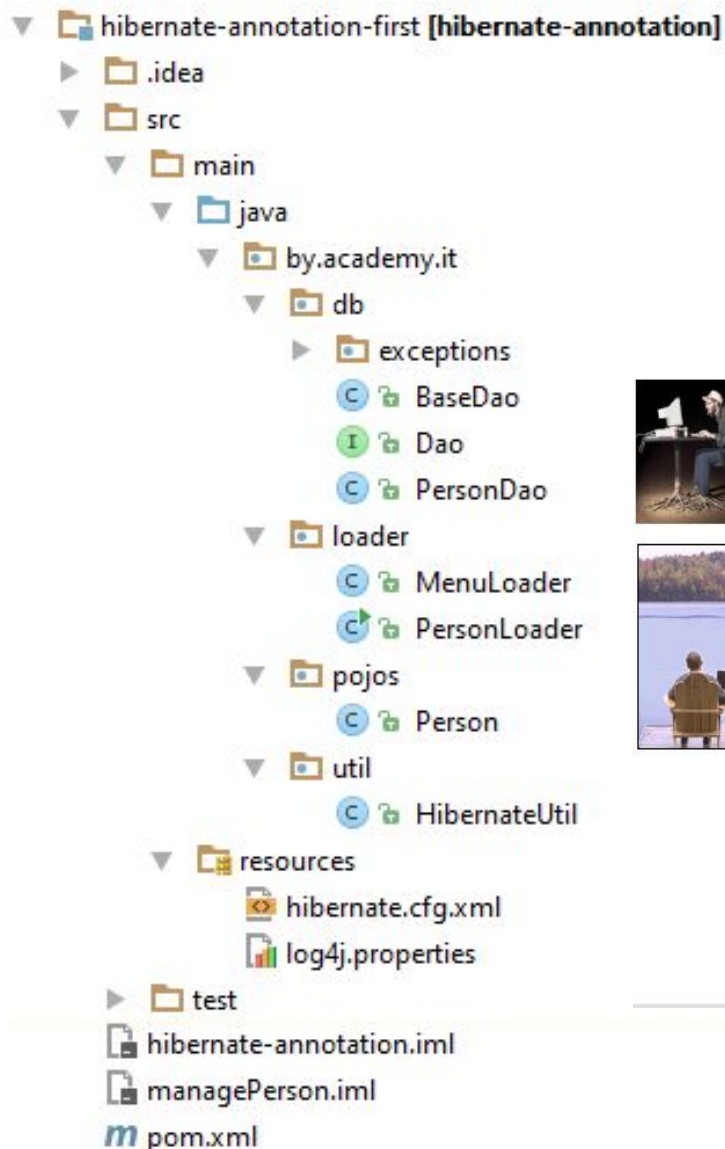
- + getAge() : int
- + getId() : char
- + getName() : char
- + getSumame() : void
- + setAge(int) : void
- + setId(int) : void
- + setName(char) : void
- + setSumame(char) : void

PersonDao

- + deletePerson(int) : void
- + findPerson(int) : Person
- + saveOrUpdate(Person) : void



Структура проекта



```
<groupId>by.it</groupId>
<artifactId>hibernate-annotation</artifactId>
<version>1.0</version>
<packaging>jar</packaging>
<name>managePerson</name>
<build...>
<properties>
  <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
  <hibernate.version>4.3.11.Final</hibernate.version>
</properties>
<repositories...>
<dependencies>
  <dependency...>
  <dependency>
    <groupId>org.slf4j</groupId>
    <artifactId>slf4j-log4j12</artifactId>
    <version>1.5.6</version>
  </dependency>
  <dependency>
    <groupId>org.hibernate</groupId>
    <artifactId>hibernate-core</artifactId>
    <version>${hibernate.version}</version>
  </dependency>
  <dependency>
    <groupId>org.hibernate</groupId>
    <artifactId>hibernate-entitymanager</artifactId>
    <version>${hibernate.version}</version>
  </dependency>
  <dependency>
    <groupId>mysql</groupId>
    <artifactId>mysql-connector-java</artifactId>
    <version>5.1.34</version>
  </dependency>
</dependencies>
```


Файл настройки Hibernate (**hibernate.cfg.xml**)

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE hibernate-configuration PUBLIC "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
    "http://hibernate.sourceforge.net/hibernate-configuration-3.0.dtd">
<hibernate-configuration>
    <session-factory>
        <property name="hibernate.connection.driver_class">com.mysql.jdbc.Driver</property>
        <property name="hibernate.connection.url">jdbc:mysql://localhost:3306/personDB</property>
        <property name="hibernate.connection.username">root</property>
        <property name="hibernate.connection.password">pwd</property>
        <property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
        <property name="hibernate.connection.pool_size">10</property>
        <property name="show_sql">true</property>
        <property name="hibernate.hbm2ddl.auto">create</property>

        <mapping class="by.academy.it.pojos.Person"/>
    </session-factory>
</hibernate-configuration>
```

Log4j.properties

```
log4j.rootLogger=INFO, CONSOLE
#log4j.rootLogger=INFO, FILE
log4j.appender.CONSOLE=org.apache.log4j.ConsoleAppender
log4j.appender.CONSOLE.Target=System.err
log4j.appender.CONSOLE.layout=org.apache.log4j.PatternLayout
log4j.appender.CONSOLE.layout.conversionPattern=%d{yyyy-MM-dd HH:mm:ss,SSS} %-5p - %m%n
log4j.appender.FILE=org.apache.log4j.RollingFileAppender
log4j.appender.FILE.File=log4j.log
log4j.appender.FILE.MaxFileSize=512KB
log4j.appender.FILE.MaxBackupIndex=3
log4j.appender.FILE.layout=org.apache.log4j.PatternLayout
log4j.appender.FILE.layout.conversionPattern=%d{yyyy-MM-dd HH:mm:ss,SSS} %-5p - %m%n
```

Конфигурация фабрики сессий

```
public class HibernateUtil {
    private static HibernateUtil util = null;
    private static Logger log = Logger.getLogger(HibernateUtil.class);
    private SessionFactory sessionFactory = null;
    private final ThreadLocal sessions = new ThreadLocal();

    private HibernateUtil() {
        try {
            Configuration configuration = new Configuration().configure();
            /*.configure(HibernateUtil.class.getResource("/hibernate.cfg.xml"));*/
            StandardServiceRegistryBuilder serviceRegistryBuilder = new StandardServiceRegistryBuilder();
            serviceRegistryBuilder.applySettings(configuration.getProperties());
            ServiceRegistry serviceRegistry = serviceRegistryBuilder.build();
            sessionFactory = configuration.buildSessionFactory(serviceRegistry);
        } catch (Throwable ex) {
            log.error("Initial SessionFactory creation failed." + ex);
            System.exit(0);
        }
    }
}
```

Конфигурация фабрики сессий

```
public Session getSession () {  
    Session session = (Session) sessions.get();  
    if (session == null) {  
        session = sessionFactory.openSession();  
        sessions.set(session);  
    }  
    return session;  
}  
  
public static synchronized HibernateUtil getHibernateUtil(){  
    if (util == null){  
        util = new HibernateUtil();  
    }  
    return util;  
}  
}
```

```
interface Dao<T> {  
    void saveOrUpdate(T t) throws DaoException;  
  
    T get(Serializable id) throws DaoException;  
  
    T load(Serializable id) throws DaoException;  
  
    void delete(T t) throws DaoException;  
}
```

Операция сохранения сущности

```
public class BaseDao<T> implements Dao<T> {  
    private static Logger log = Logger.getLogger(BaseDao.class);  
    private Transaction transaction = null;  
    public BaseDao() { }  
  
    public void saveOrUpdate(T t) throws DaoException{  
        try {  
            Session session = util.getSession();  
            transaction = session.beginTransaction();  
            session.saveOrUpdate(t);  
            log.info("saveOrUpdate(t):" + t);  
            transaction.commit();  
            log.info("Save or update (commit):" + t);  
        } catch (HibernateException e) {  
            log.error("Error save or update PERSON in Dao" + e);  
            transaction.rollback();  
            throw new DaoException(e);  
        }  
    }  
}
```


Запуск и стартовое меню.

```
public class PersonLoader {  
    public static HibernateUtil util = null;  
    public static void main(String[] args) throws Exception {  
  
        Locale.setDefault(Locale.US);  
        util = HibernateUtil.getHibernateUtil();  
        Person person = new Person(null, 35, "Yuli", "Slabko");  
        Session session = util.getSession();  
        session.saveOrUpdate(person);  
        System.out.println("Start Menu");  
        menu();  
    }  
}
```


ВАШИ ВОПРОСЫ?

Создайте стандартный проект maven. Настройте зависимости. Создайте mapping-файлы, конфигурацию и соберите проект. Проверьте, что все библиотеки есть в на

