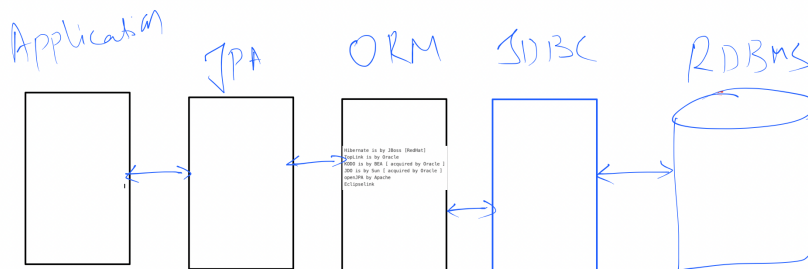
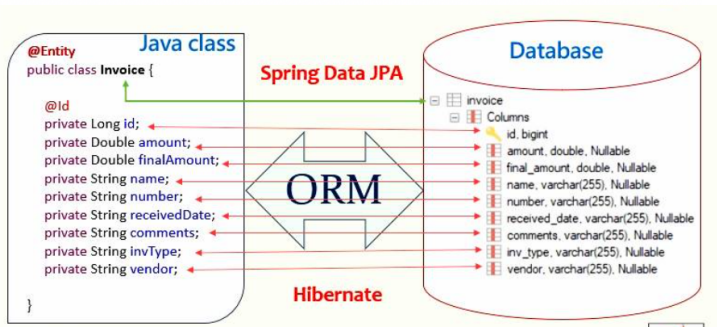
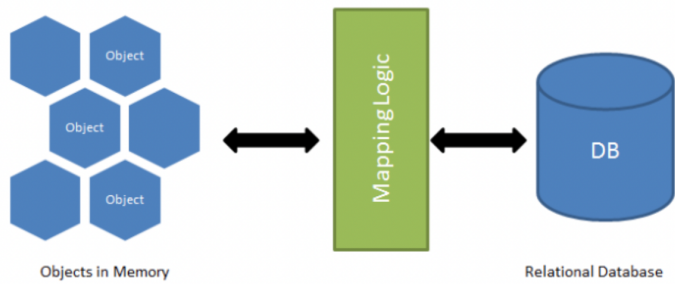


## O/R Mapping



JDBC

ORM

```
@Override
public void addProduct(Product p) {
    Connection con = null;
    String SQL = "INSERT INTO products (id, name, price) VALUES (0, ?, ?)";
    try {
        con = DriverManager.getConnection(URL, USER, PWD);
        PreparedStatement ps = con.prepareStatement(SQL);
        ps.setString(1, p.getName());
        ps.setDouble(2, p.getPrice());
        ps.executeUpdate();
    } catch (SQLException ex) {
        ex.printStackTrace();
    } finally {
        if (con != null) {
            try {
                con.close();
            } catch (SQLException e) {
                throw new RuntimeException(e);
            }
        }
    }
}
```

```
@Override
public void addProduct(Product p) {
    em.persist(p);
}
```

```

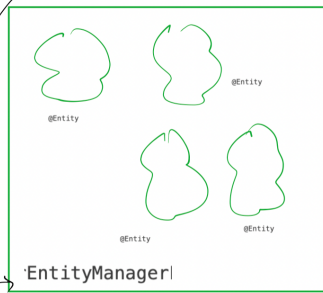
@Configuration
public class AppConfig {

    @Bean
    public LocalContainerEntityManagerFactoryBean entityManagerFactoryBean(DataSource ds) {
        LocalContainerEntityManagerFactoryBean emf = new LocalContainerEntityManagerFactoryBean();
        emf.setDataSource(ds);
        emf.setPackagesToScan("com.cisco.prj.entity");
        emf.setPersistenceUnitName("hibernate-pu");
        ...
        return emf;
    }

    // Factory method
    @Bean
    public DataSource getDataSource() throws Exception {
        ComboPooledDataSource cpds = new ComboPooledDataSource();
        cpds.setDriverClass("com.mysql.jdbc.Driver"); //loads the jdbc driver
        cpds.setJdbcUrl("jdbc:mysql://localhost:3306/cj");
        cpds.setUser("root");
        cpds.setPassword("Welcome123");
        cpds.setMaxPoolSize(5);
        cpds.setAcquireIncrement(5);
        cpds.setMaxPoolSize(20);
        return cpds;
    }
}

```

Entity manager Factory (3)  
 ↑ (2)  
 Hibernate



Pool of DB connection  
 Sync  
 RDBMS

Expand the window to show...

