

```

public class Client {
    public static void main(String[] args) {
        Product p = ...
        ProductDao productDao =
            ProductDaoFactory.getProductDao();
        productDao.addProduct(p);
    }
}

```

```

interface ProductDao {
    void addProduct(Product p);
    List<Product> getProducts();
}

```

SERVER

```

public class ProductDaoJdbcImpl implements ProductDao {
    public void addProduct(Product p) {
        try {
            //
        } catch (SQLException ex) {
            ex.printStackTrace();
        }
    }
}

```

```

public class ProductDaoMongoDbImpl implements ProductDao {
    public void addProduct(Product p) {
        try {
            //
        } catch (MongoException ex) {
            ex.printStackTrace();
        }
    }
}

```

```

public class Client {
    public static void main(String[] args) {
        Product p = ...
        try {
            ProductDao productDao =
                ProductDaoFactory.getProductDao();
            productDao.addProduct(p);
        } catch (SQLException ex) {
            ex.getMessage();
            ex.printStackTrace();
        }
    }
}

```

```

interface ProductDao {
    void addProduct(Product p) throws SQLException;
    List<Product> getProducts() throws SQLException;
}

```

```

public class ProductDaoJdbcImpl implements ProductDao {
    public void addProduct(Product p) throws SQLException {
        // code
    }
}

```

No Abstraction

Tightly Coupled
Exception message

Not understandable
ORA900 unique key constraint

Exception
validation
Exception

```

public class Client {
    public static void main(String[] args) {
        Product p = ...
        try {
            ProductDao productDao =
                ProductDaoFactory.getProductDao();
            productDao.addProduct(p);
        } catch (PersistenceException ex) {
            ex.getMessage();
            ex.printStackTrace();
        }
    }
}

```

```

interface ProductDao {
    void addProduct(Product p) throws PersistenceException;
    List<Product> getProducts() throws FetchException;
}

```

```

public class ProductDaoJdbcImpl implements ProductDao {
    public void addProduct(Product p) throws PersistenceException {
        try {
            // code
        } catch (SQLException ex) {
            // based on error code
            throw new PersistenceException("product with id already exists!!");
        }
    }
}

```

```

public class ProductDaoMongoDbImpl implements ProductDao {
    public void addProduct(Product p) throws PersistenceException {
        try {
            //
        } catch (MongoException ex) {
            throw new PersistenceException("product with id already exists!!");
        }
    }
}

```

```

public class PersistenceException extends Exception {
    PersistenceException(String msg) {
        super(msg);
    }
}

```

```

public class FetchException extends Exception {
    FetchException(String msg) {
        super(msg);
    }
}

```