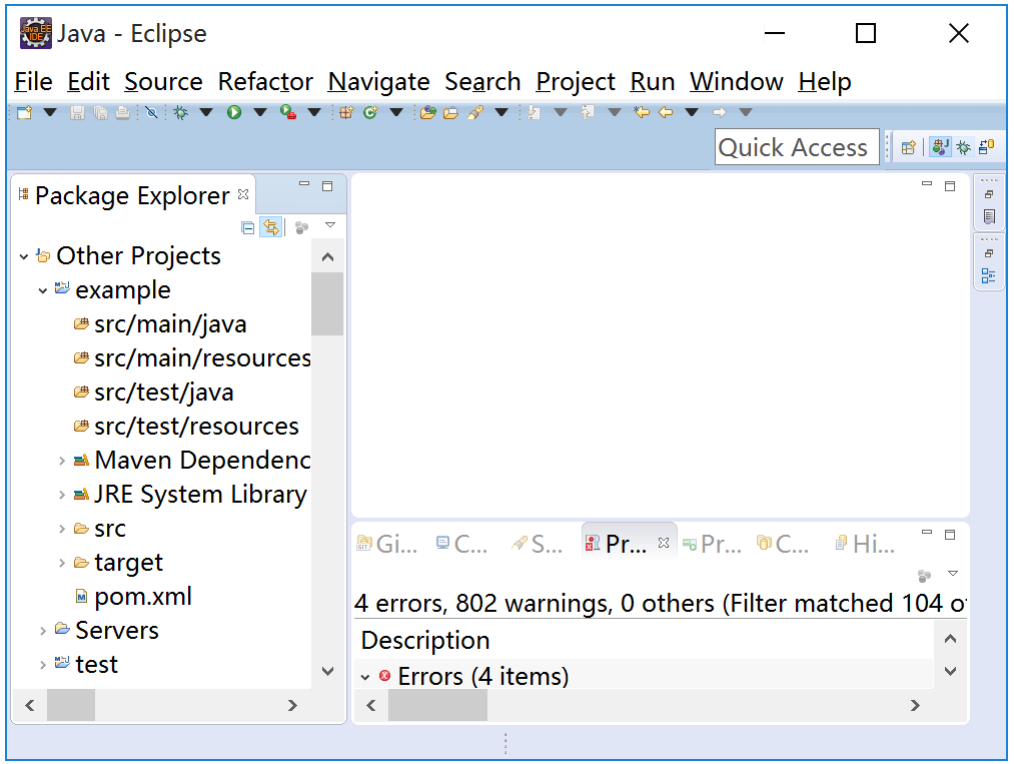
云应用开发

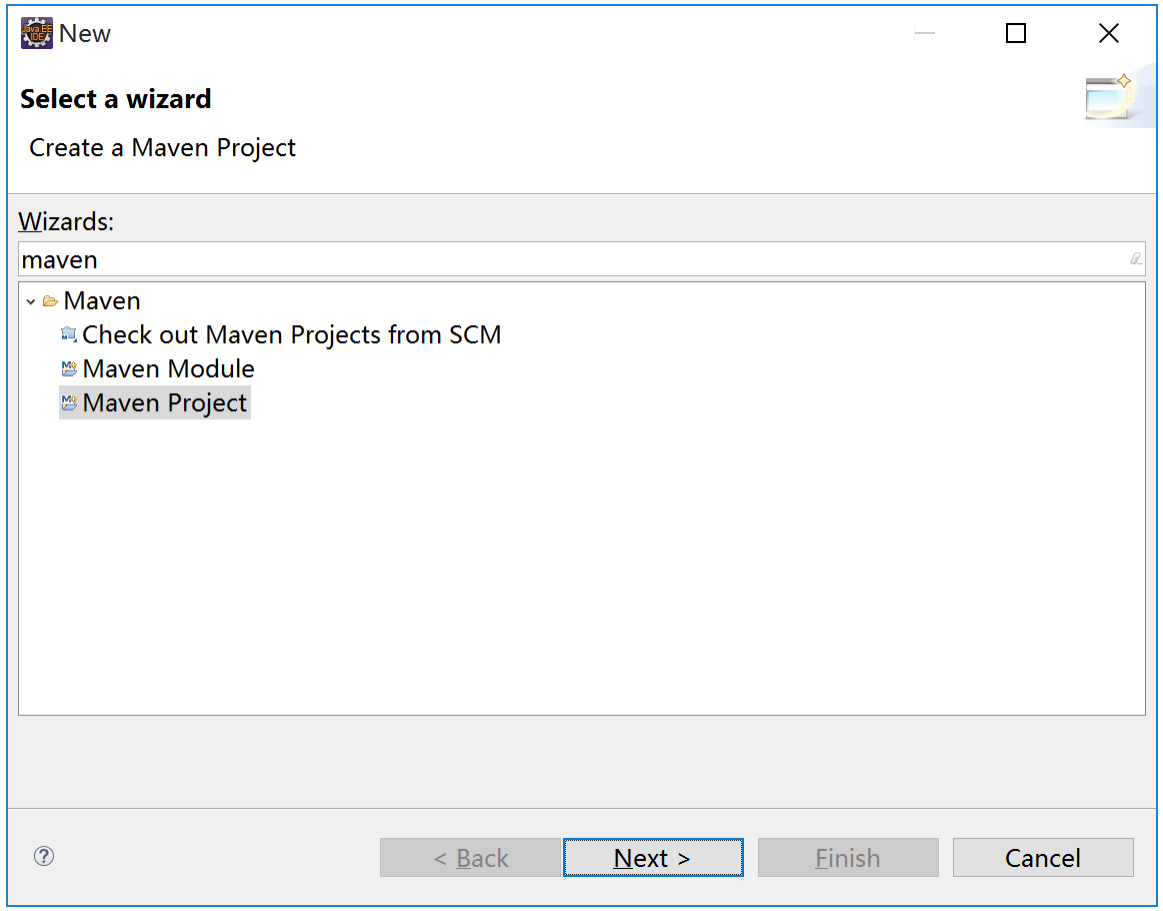
搭建开发环境&开发规范

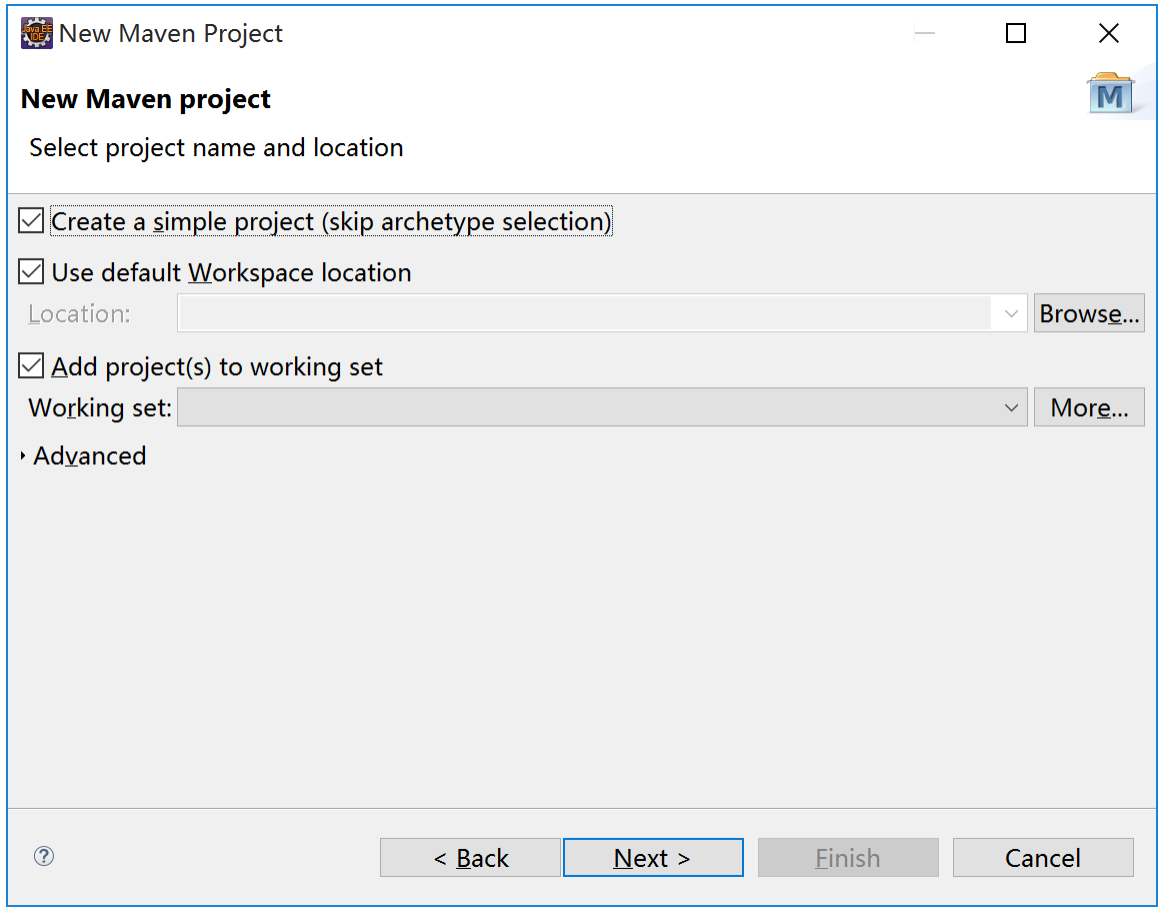
开发工具

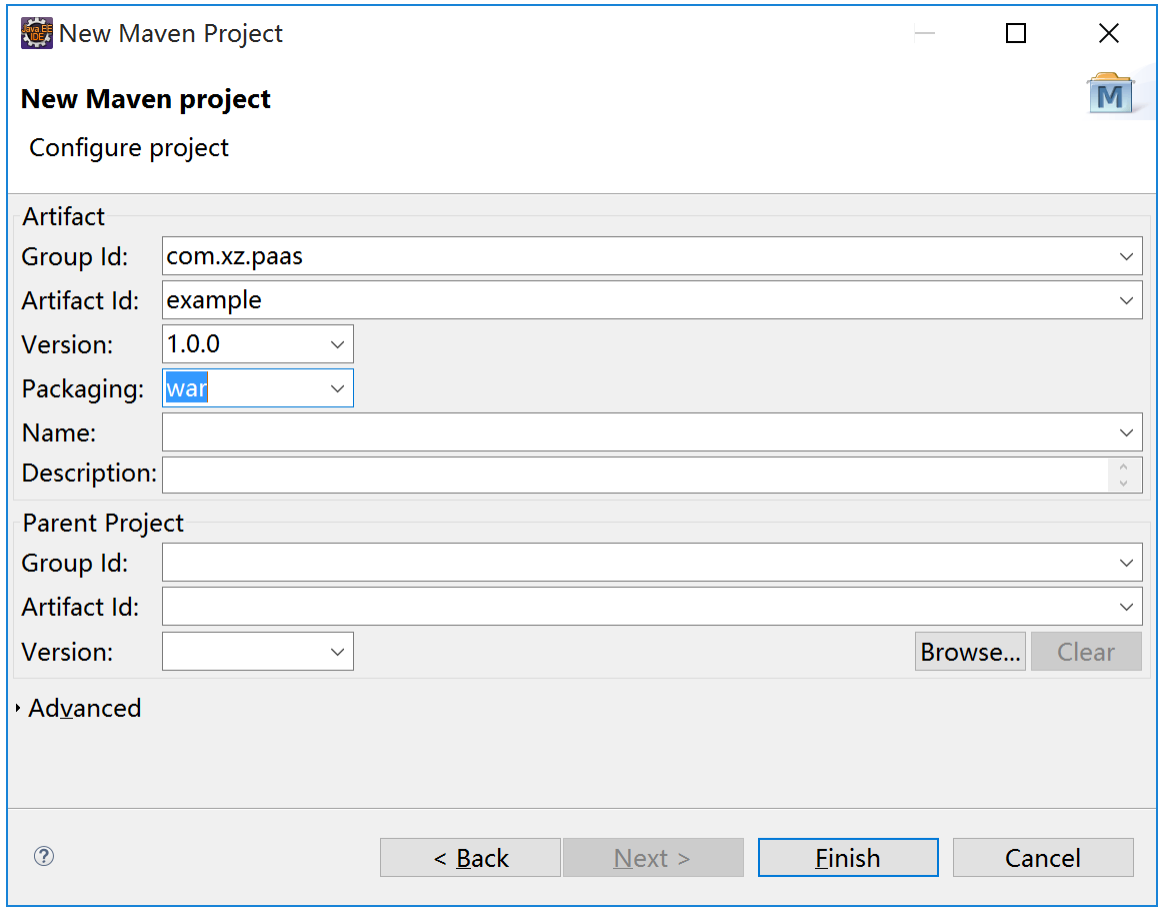
- 使用开源的IDE Eclipse （jee）；
- 使用Maven管理依赖（非必须）



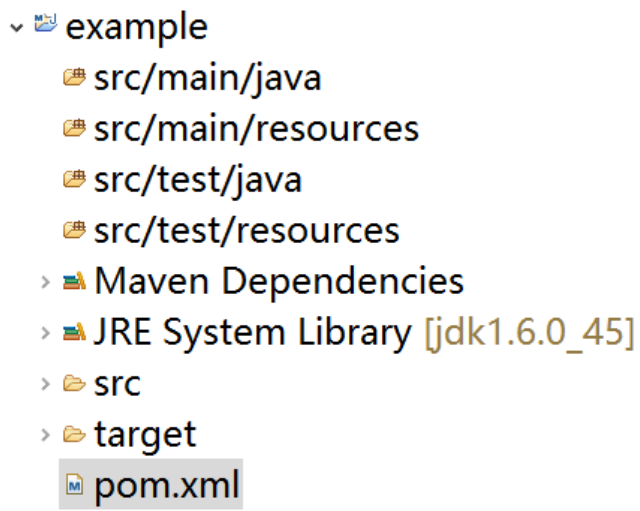
示例：新建一个 Maven Web 项目



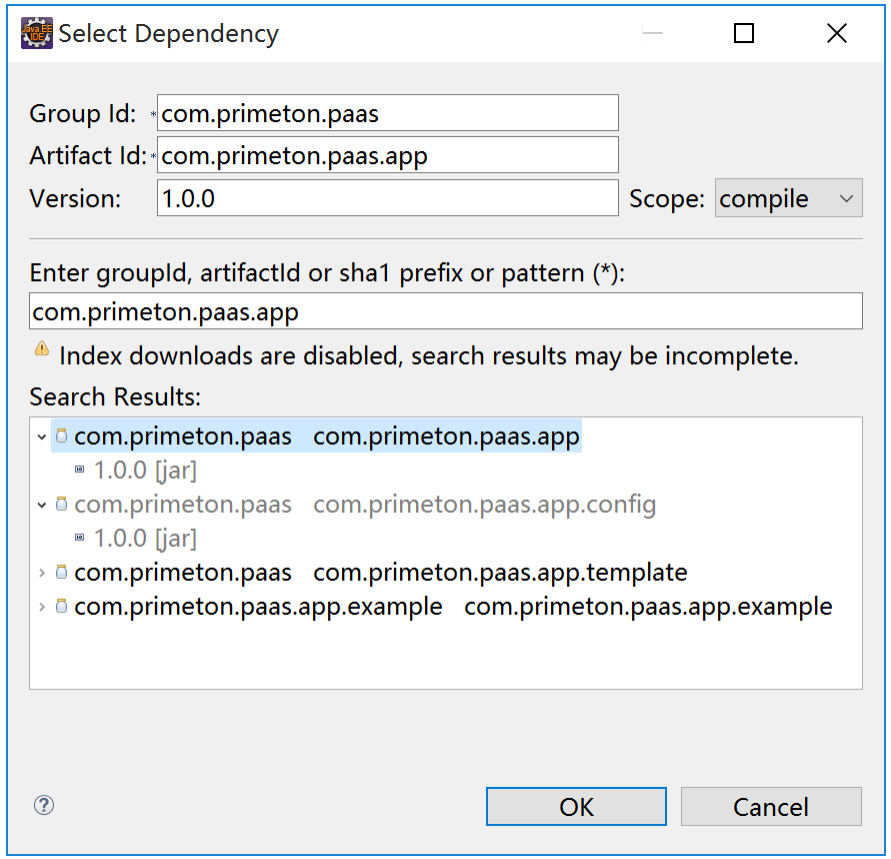

New Maven Project
New Maven project
Select project name and location
Create a simple project (skip archetype selection)
Use default Workspace location
Location:
Browse...
Add project(s) to working set
Working set:
More...
Advanced
< Back
Next >
Finish
Cancel


New Maven Project
New Maven project
Configure project
Artifact
Group Id:
com.xz.paas
Artifact Id:
example
Version:
1.0.0
Packaging:
war
Name:
Description:
Parent Project
Group Id:
Artifact Id:
Version:
Browse...
Clear
Advanced
< Back
Next >
Finish
Cancel

项目目录结构


example
src/main/java
src/main/resources
src/test/java
src/test/resources
Maven Dependencies
JRE System Library [jdk1.6.0_45]
src
target
pom.xml

添加PAAS SDK依赖



pom.xml

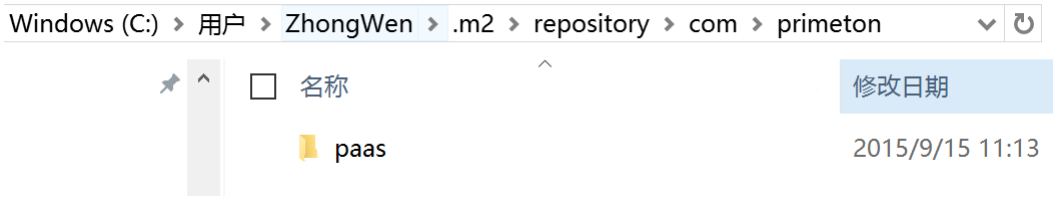
```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd">
<modelVersion>4.0.0</modelVersion>
<groupId>com.xz.paas</groupId>
<artifactId>example</artifactId>
<version>1.0.0</version>
<packaging>war</packaging>

<dependencies>
<dependency>
<groupId>com.primeton.paas</groupId>
<artifactId>com.primeton.paas.app</artifactId>
<version>1.0.0</version>
</dependency>
<dependency>
<groupId>com.primeton.paas</groupId>
```

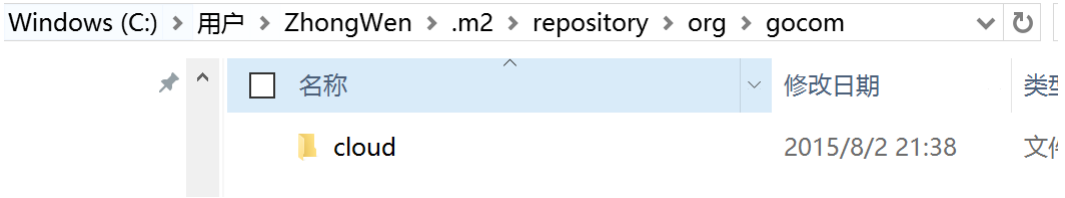
依赖信息


example
src/main/java
src/main/resources
src/test/java
src/test/resources
Maven Dependencies
amqp-client-3.5.4.jar - C:\Users\ZhongWen\.m2\repository\com\r
c3p0-0.9.0.jar - C:\Users\ZhongWen\.m2\repository\c3p0\c3p0\0.
commons-io-2.0.1.jar - C:\Users\ZhongWen\.m2\repository\comm
commons-lang3-3.1.jar - C:\Users\ZhongWen\.m2\repository\org\
commons-logging-1.1.1.jar - C:\Users\ZhongWen\.m2\repository\
httpclient-4.2.5.jar - C:\Users\ZhongWen\.m2\repository\org\apac
commons-codec-1.6.jar - C:\Users\ZhongWen\.m2\repository\con
httpcore-4.2.4.jar - C:\Users\ZhongWen\.m2\repository\org\apach
jsoup-1.6.0.jar - C:\Users\ZhongWen\.m2\repository\org\jsoup\jsc
javax.mail-1.4.4.jar - C:\Users\ZhongWen\.m2\repository\com\sun
activation-1.1.jar - C:\Users\ZhongWen\.m2\repository\javax\activ
servlet-api-2.5.jar - C:\Users\ZhongWen\.m2\repository\javax\serv
slf4j-api-1.7.5.jar - C:\Users\ZhongWen\.m2\repository\org\slf4j\sl
xalan-2.5.0.jar - C:\Users\ZhongWen\.m2\repository\xalan\xalan\2
mybatis-3.2.5.jar - C:\Users\ZhongWen\.m2\repository\org\mybat
xmemcached-1.4.3.jar - C:\Users\ZhongWen\.m2\repository\com\
ibatis2-common-2.1.7.597.jar - C:\Users\ZhongWen\.m2\repositor
ibatis2-dao-2.1.7.597.jar - C:\Users\ZhongWen\.m2\repository\cor
ibatis2-sqlmap-2.1.7.597.jar - C:\Users\ZhongWen\.m2\repository\
log4j-1.2.16.jar - C:\Users\ZhongWen\.m2\repository\log4j\log4j\1
mysql-connector-java-5.1.23.jar - C:\Users\ZhongWen\.m2\reposi
jackson-mapper-asl-1.9.5.jar - C:\Users\ZhongWen\.m2\repository
jettison-1.3.2.jar - C:\Users\ZhongWen\.m2\repository\org\codeha
stax-api-1.0.1.jar - C:\Users\ZhongWen\.m2\repository\stax\stax-a
zookeeper-3.4.6.jar - C:\Users\ZhongWen\.m2\reposit
slf4j-log4j12-1.6.1.jar - C:\Users\ZhongWen\.m2\repos
jline-0.9.94.jar - C:\Users\ZhongWen\.m2\repository\jl
junit-3.8.1.jar - C:\Users\ZhongWen\.m2\repository\ju
netty-3.7.0.Final.jar - C:\Users\ZhongWen\.m2\reposit
jackson-core-asl-1.9.5.jar - C:\Users\ZhongWen\.m2\re
com.primeton.paas.app
com.primeton.paas.app.config
com.primeton.paas.collect.common
com.primeton.paas.mail.model
org.gocom.cloud.cesium.common
org.gocom.cloud.cesium.config
org.gocom.cloud.cesium.manage.runtime
org.gocom.cloud.cesium.model
org.gocom.cloud.cesium.mqclient
org.gocom.cloud.cesium.zkclient
org.gocom.cloud.common.exception
org.gocom.cloud.common.logger
org.gocom.cloud.common.utility

配置Maven仓库

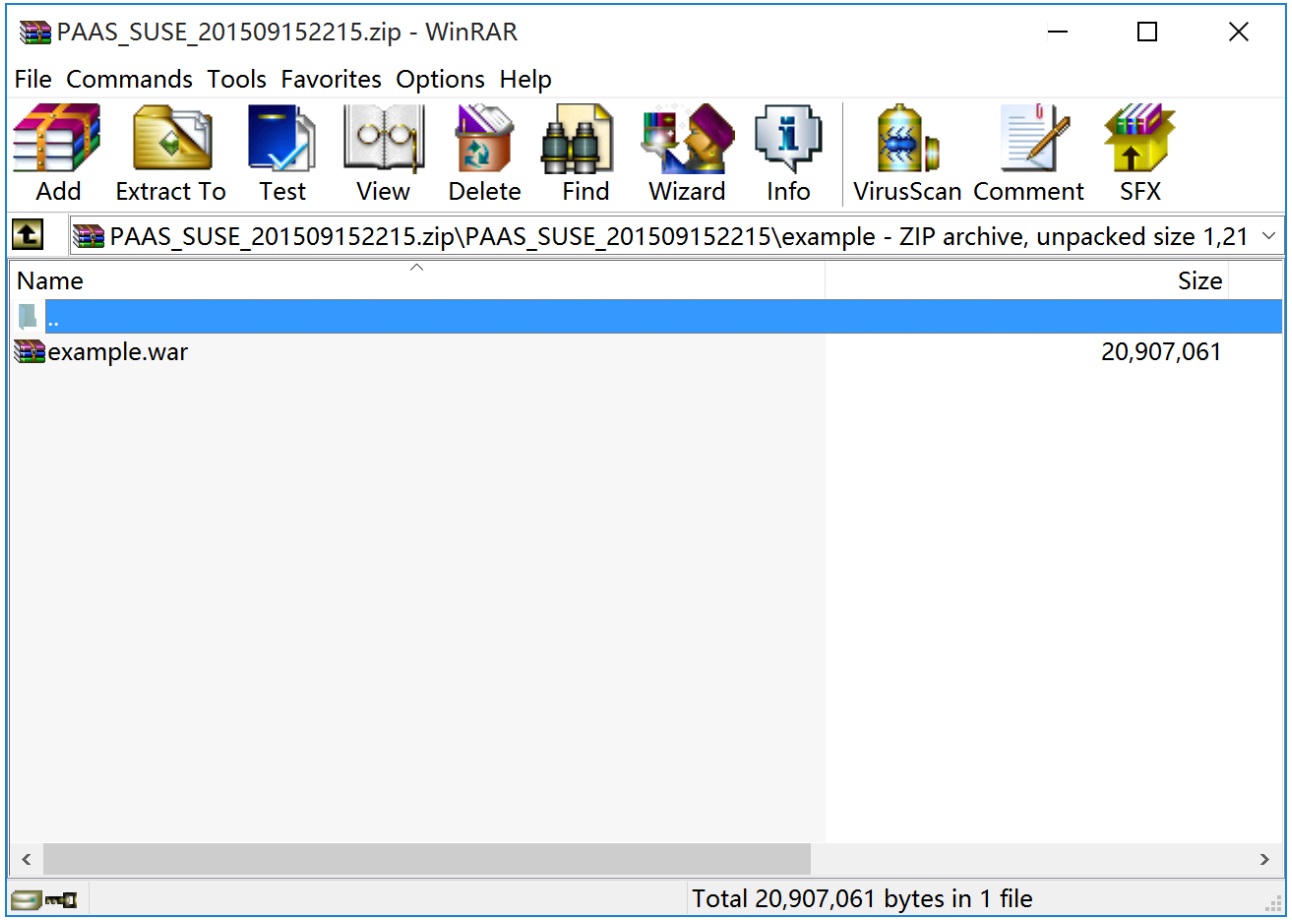
- 上面添加依赖可能找不到，请先配置Maven仓库再添加依赖，或添加完成后再去刷新项目也可以；
- 需要先把普元提供的PAAS Maven库拷贝到本地的Maven仓库中或上传到公司内部的Maven仓库上（只包含PAAS部分的，第三方的请直接依赖Maven中央仓库或其他私有库）

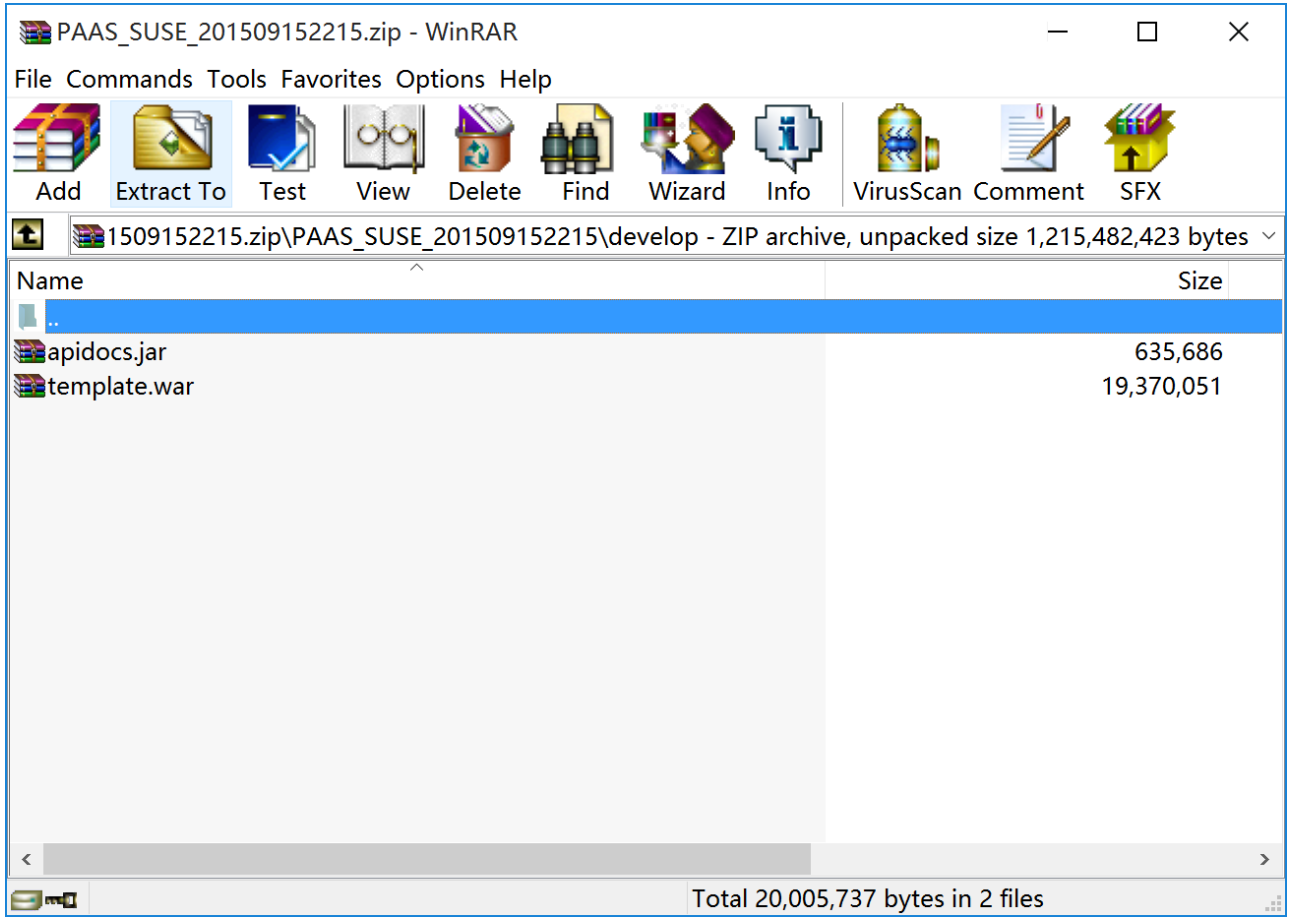




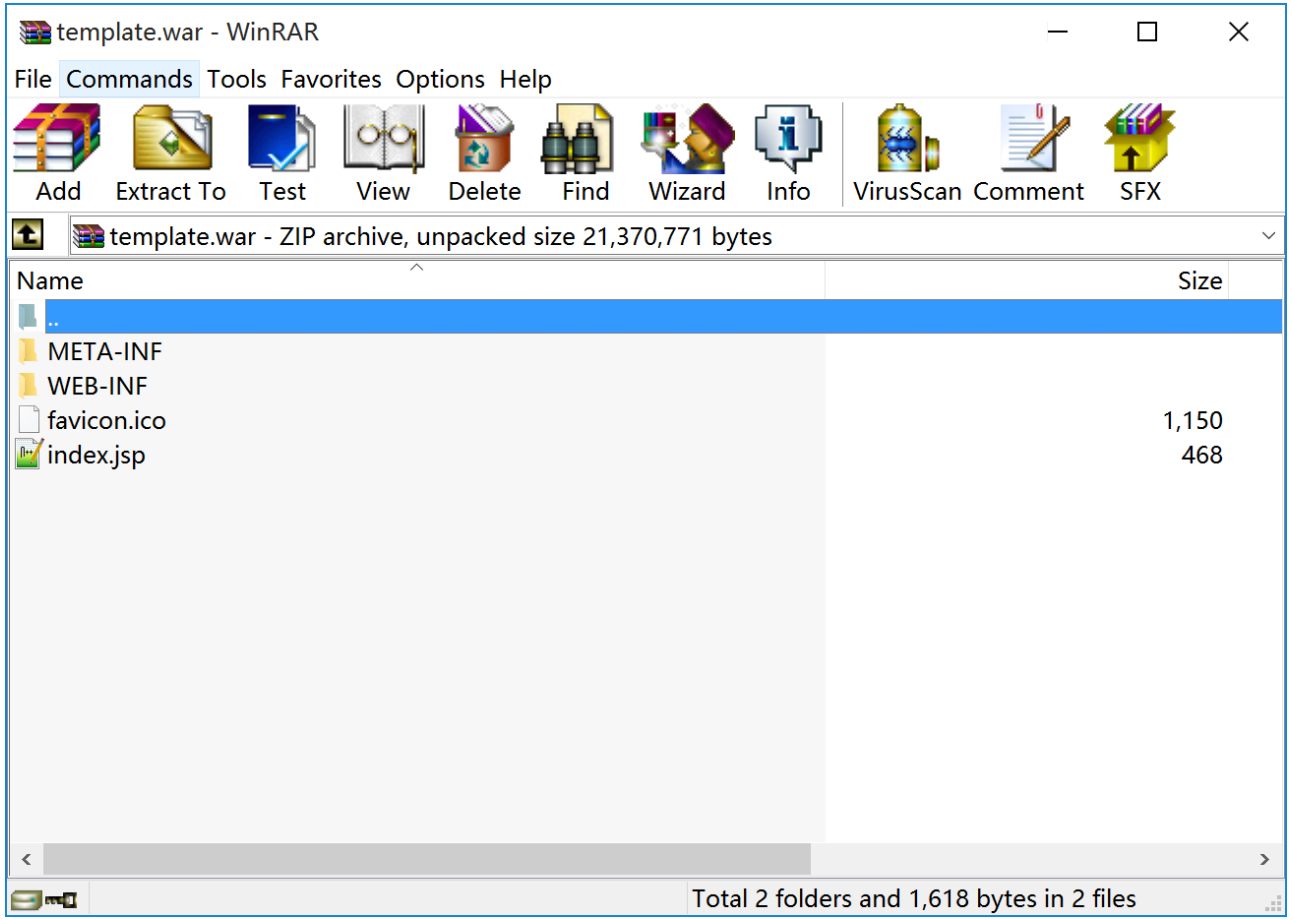
添加SDK配置文件

- 可以从普元PAAS的安装介质中获取，example.war和template.war中都包含了配置文件，可以参考这两个WAR来新建Maven Web项目；
- 如果不使用Maven，则直接拷贝template.war中的类库和配置文件到你的项目中即可；

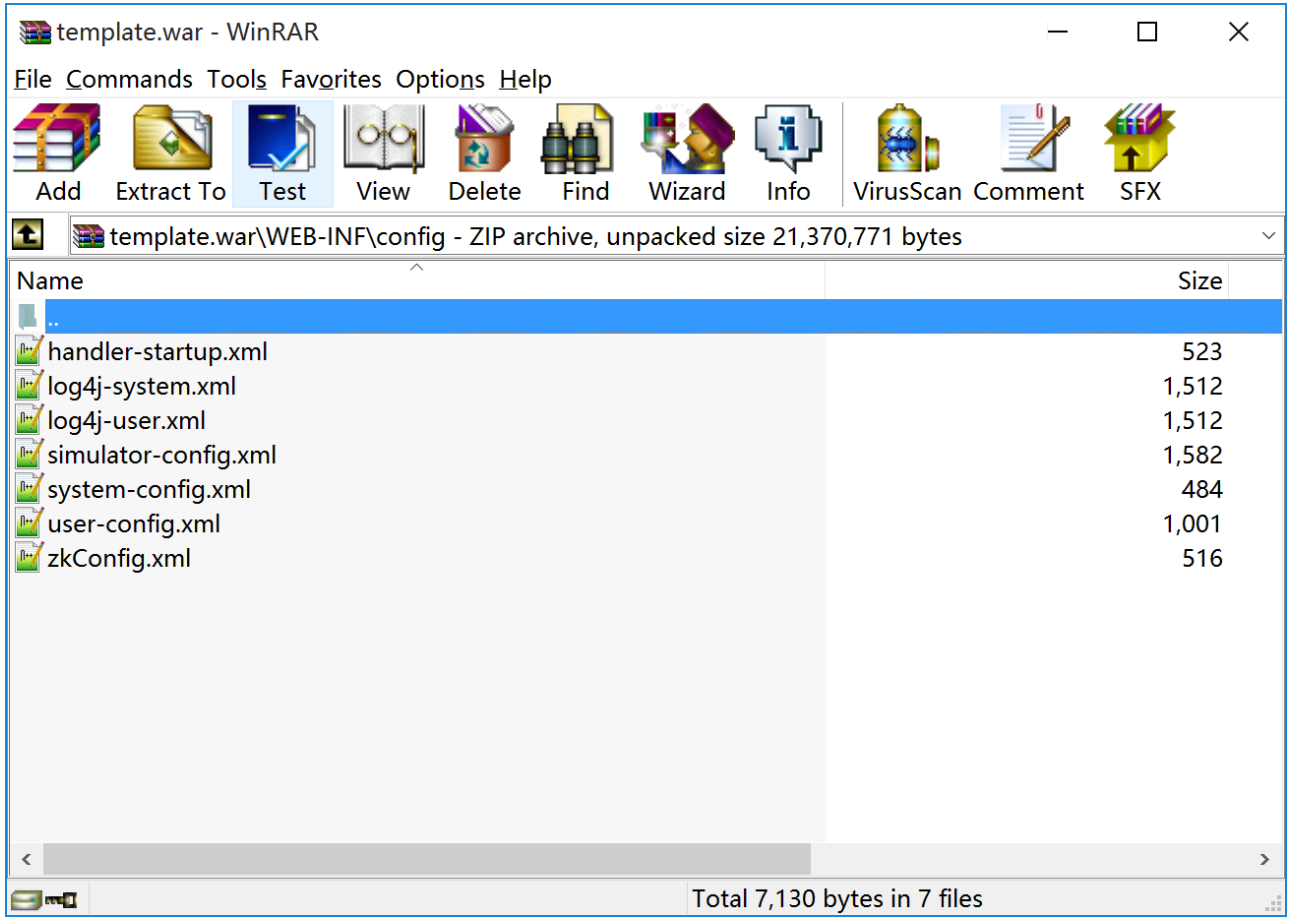

PAAS_SUSE_201509152215.zip - WinRAR
File Commands Tools Favorites Options Help
Add
Extract To
Test
View
Delete
Find
Wizard
Info
VirusScan
Comment
SFX
PAAS_SUSE_201509152215.zip\PAAS_SUSE_201509152215\example - ZIP archive, unpacked size 1,21
Name
Size
..
example.war
20,907,061
Total 20,907,061 bytes in 1 file


PAAS_SUSE_201509152215.zip - WinRAR
File Commands Tools Favorites Options Help
Add
Extract To
Test
View
Delete
Find
Wizard
Info
VirusScan
Comment
SFX
1509152215.zip\PAAS_SUSE_201509152215\develop - ZIP archive, unpacked size 1,215,482,423 bytes
Name
Size
..
apidocs.jar
635,686
template.war
19,370,051
Total 20,005,737 bytes in 2 files

template.war



配置文件，WEB-INF/config/*.xml

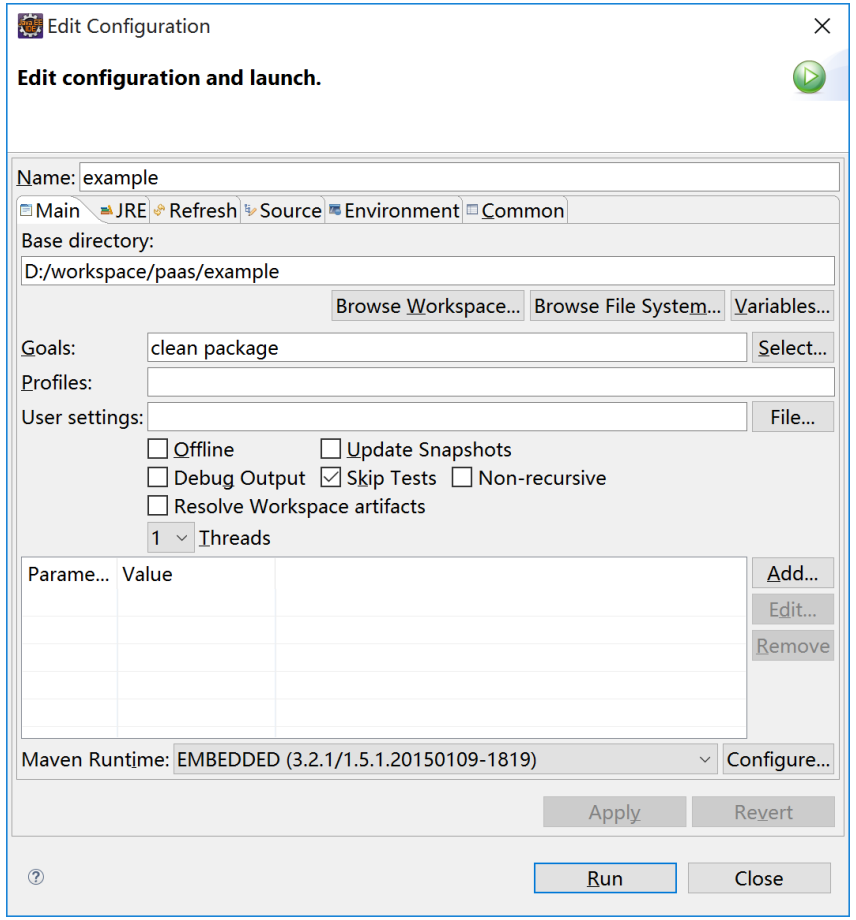


web.xml配置PAAS的监听器

```
<!-- Don't delete this listener, and ensure load first. (Necessary for system
    running.) -->
<listener>
    <listener-class>com.primeton.paas.app.startup.StartupService</listener-class>
</listener>
```

编译WAR

- 上述pom.xml配置了使用maven-war-plugin插件编译项目
- 运行Maven编译，尝试编译一下
- 选择项目，右键菜单选择“Run As …”-“Maven build”，弹出配置Maven编译对话框，参考下图：


Edit Configuration
Edit configuration and launch.
Name: example
Main
JRE
Refresh
Source
Environment
Common
Base directory:
D:/workspace/paas/example
Browse Workspace...
Browse File System...
Variables...
Goals:
clean package
Select...
Profiles:
User settings:
File...
Offline
Update Snapshots
Debug Output
Skip Tests
Non-recursive
Resolve Workspace artifacts
1
Threads
Parame...
Value
Add...
Edit...
Remove
Maven Runtime:
EMBEDDED (3.2.1/1.5.1.20150109-1819)
Configure...
Apply
Revert
Run
Close

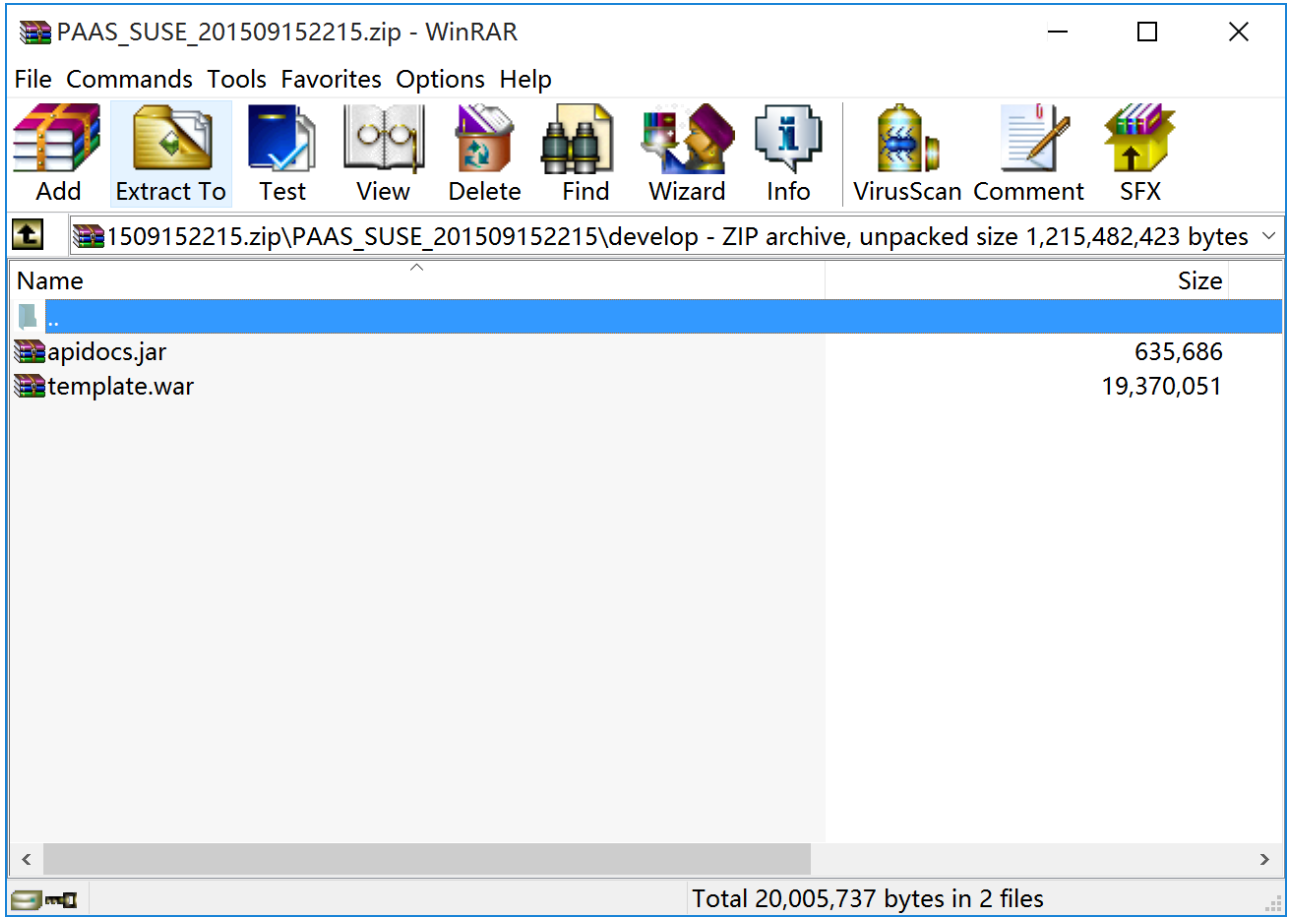
编译日志

```
[INFO] Scanning for projects...
[INFO]
[INFO] Using the builder
org.apache.maven.lifecycle.internal.builder.singlethreaded.SingleThreadedBuilder
with a thread count of 1
[INFO]
[INFO] ------------------------------------------------------------------------
[INFO] Building example 1.0.0
[INFO] ------------------------------------------------------------------------
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ example ---
[INFO] Deleting D:\workspace\paas\example\target
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ example ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e.
build is platform dependent!
[INFO] Copying 0 resource
[INFO]
```

编译产物


example
src/main/java
src/main/resources
src/test/java
src/test/resources
Maven Dependencies
JRE System Library [jdk1.6.0_45]
src
main
test
target
example
m2e-wtp
maven-archiver
example.war
pom.xml

JavaDoc:应用开发SDK的Java文档



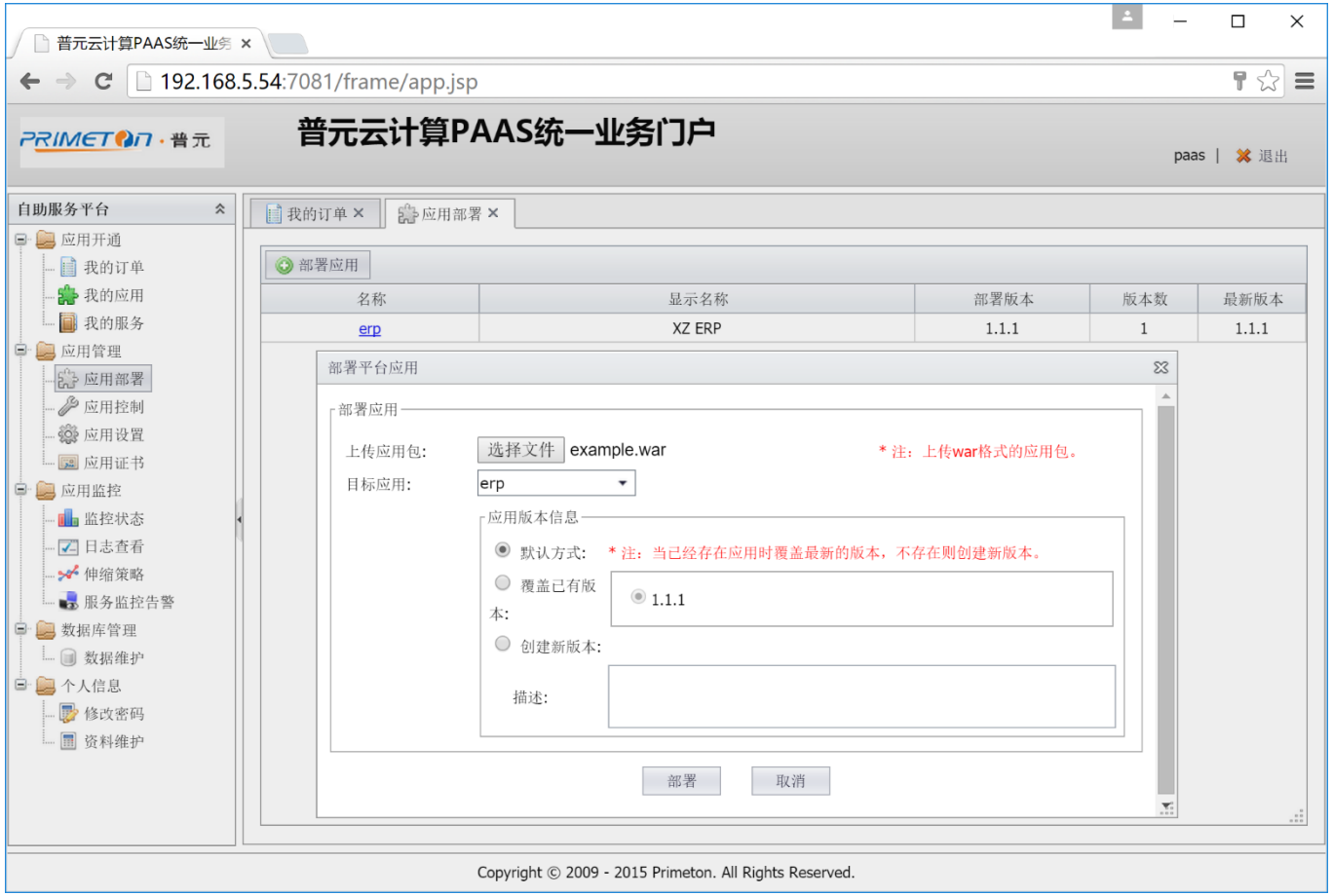
WAR测试

- 可以直接利用Maven把编译后的war上传到云平台进行测试；
- 也可以在本地的Eclipse开发环境中配置一个如Tomcat/Jetty容器来进行测试；本地测试只有部分服务可以，如访问数据库，对于页面开发测试来说，可以使用本地方式，对于后台业务测试请尽量部署到云上进行测试；
- 如果在本地测试，且应用使用MySQL数据源，则修改simulator-config.xml，配置MySQL c3p0数据源参数即可（在云环境下，这个文件是不起作用的，上生产无需修改该文件）。

本地数据源配置

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<application xmlns="http://www.unionpay.com/xmlns/upaas/1.0">
<module name="SimulatorDataSource">
<!--模拟数据源配置-->
<group name="default">
<configValue key="c3p0.driverClass">com.mysql.jdbc.Driver</configValue>
<configValue key="c3p0.jdbcUrl">jdbc:mysql://127.0.0.1:3306/test</configValue>
<configValue key="c3p0.user">root</configValue>
<configValue key="c3p0.password">root</configValue>
<configValue key="c3p0.initialPoolSize">5</configValue>
<configValue key="c3p0.minPoolSize">5</configValue>
<configValue key="c3p0.maxPoolSize">10</configValue>
<configValue key="c3p0.acquireRetryAttempts">1</configValue>
<configValue key="c3p0.acquireRetryDelay">1000</configValue>
<configValue key="c3p0.acquireIncrement">2</configValue>
<configValue key="c3p0.checkoutTimeout">60000</configValue>
<configValue key="c3p0.idleConnectionTestPeriod">60000</configValue>
<configValue key="c3p0.preferredTestQuery"></configValue>
</group>
</module></application>
```

部署WAR到云上


普元云计算PAAS统一业务
192.168.5.54:7081/frame/app.jsp
普元云计算PAAS统一业务门户
paas | 退出
自助服务平台
应用开通
我的订单
我的应用
我的服务
应用管理
应用部署
应用控制
应用设置
应用证书
应用监控
监控状态
日志查看
伸缩策略
服务监控告警
数据库管理
数据维护
个人信息
修改密码
资料维护
我的订单
应用部署
部署应用
名称
显示名称
部署版本
版本数
最新版本
erp
XZ ERP
1.1.1
1
1.1.1
部署平台应用
部署应用
上传应用包:
选择文件
example.war
* 注：上传war格式的应用包。
目标应用:
erp
应用版本信息
默认方式:
* 注：当已经存在应用时覆盖最新的版本，不存在则创建新版本。
覆盖已有版本:
1.1.1
创建新版本:
描述:
部署
取消
Copyright © 2009 - 2015 Primeton. All Rights Reserved.

部署到本地Tomcat/Jetty/etc

- 启动Tomcat/Jetty需要添加以下JVM启动参数：

```
-Dpaas.srvType="Tomcat" -Dpaas.instId="10000" -Dpaas.clusterName="20000" -
Dpaas.appName="default" -DrunMode="develop" -
Dpaas.workDir="D:\\default\\10000" -Dpaas.fileRootDir="D:\\default\\10000"
```