Google Cloud

Edge API Lifecycle and Tools

Maven Deploy Plugin

Prerequisites

1. Java

2. Maven

3. Use of Maven in CI tooling

Why Choose Maven Plugin?

More time to focus on what really matters by automating repetitive tasks

Innovation ready and extensible plugin-based platform

Promotes productivity. Promotes usage of CLI (Command-Line Interface). No need for IDEs

Easy to adopt, no need of CLI

Eclipse IDE Support through M2E, IntellijIDEA and WebStorm

Easy to configure and to track changes. All of its artifacts can live in version control as text files

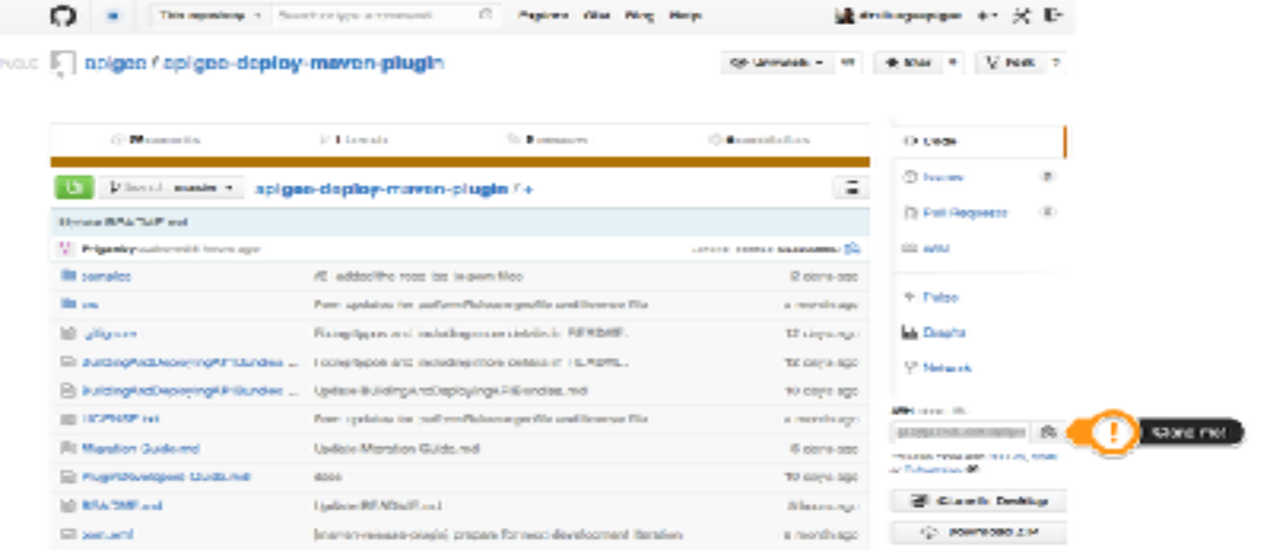
Multilanguage support

Tens of Thousands plugins ready in Maven Central

Backed up by the open source community

Download Maven Plugin Artifacts

- Get samples first by cloning this repo
- https://github.com/apigee/apigee-deploy-maven-plugin

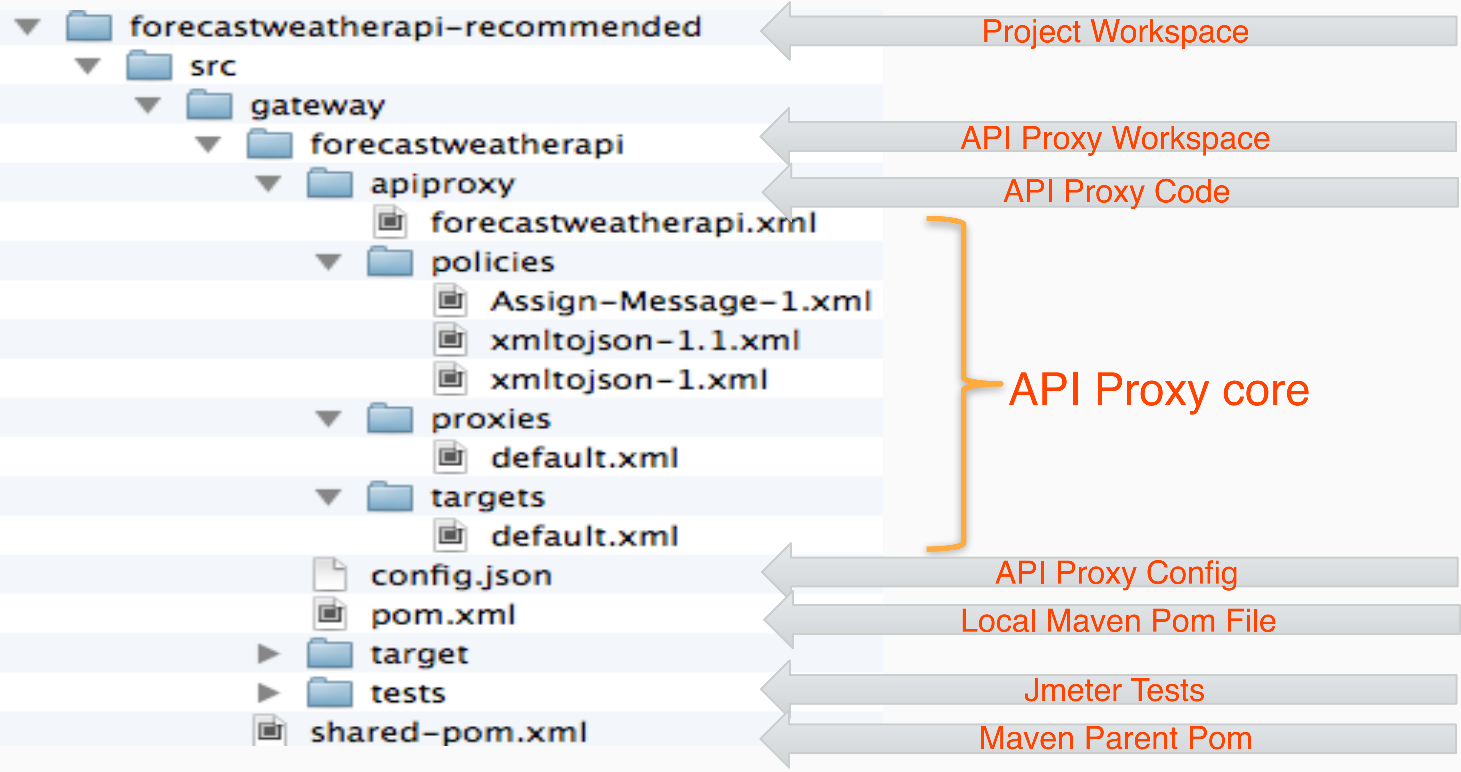


apigee / apigee-deploy-maven-plugin

apigee-deploy-maven-plugin

samples	[illegible]	[illegible]
src	[illegible]	a month ago
.gitignore	[illegible]	[illegible]
BuildingAndDeployingAPIBundles ...	[illegible]	[illegible]
BuildingAndDeployingAPIBundles ...	Update BuildingAndDeployingAPIBundles.md	10 days ago
[illegible]	[illegible]	a month ago
Migration Guide.md	Update Migration Guide.md	[illegible]
PluginDevelopment Guide.md	[illegible]	10 days ago
README.md	Update README.md	[illegible]
pom.xml	[maven-release-plugin] prepare for next development iteration	a month ago

Structure Your Offline Code



```
▼ forecastweatherapi-recommended
    ▼ src
        ▼ gateway
            ▼ forecastweatherapi
                ▼ apiproxy
                      forecastweatherapi.xml
                    ▼ policies
                          Assign-Message-1.xml
                          xmltojson-1.1.xml
                          xmltojson-1.xml
                    ▼ proxies
                          default.xml
                    ▼ targets
                          default.xml
                  config.json
                  pom.xml
                ▶ target
                ▶ tests
              shared-pom.xml
```

Project Workspace

API Proxy Workspace

API Proxy Code

API Proxy core

API Proxy Config

Local Maven Pom File

Jmeter Tests

Maven Parent Pom

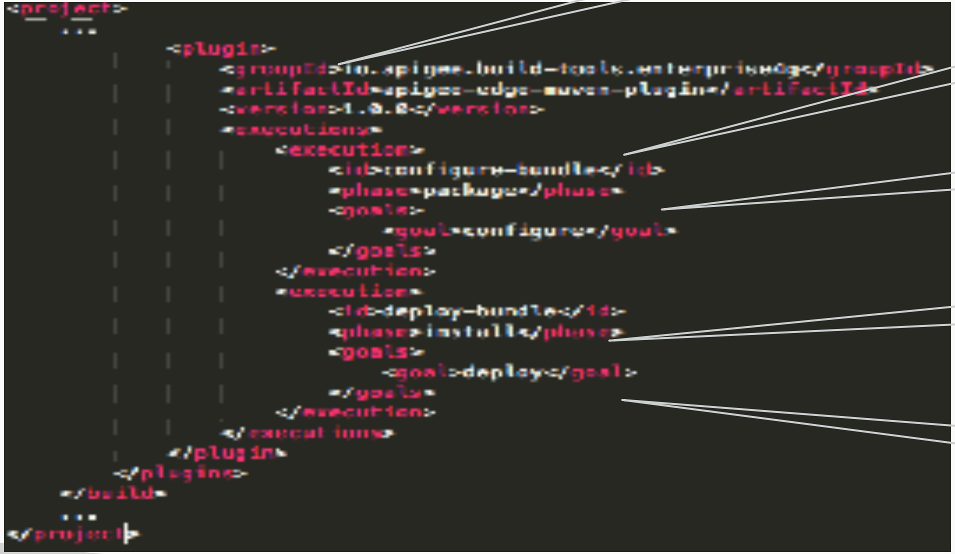
Maven Plugin Components – Parent POM

The maven parent pom file (shared-pom.xml) contains the maven configuration that can be used across all Apigee Edge API proxies.

Location: src/gateway

Contains common dependencies across all bundles

Enables common behavior through inheritance



```
<project>
    ...
            <plugin>
                <groupId>io.apigee.build-tools.enterprise4g</groupId>
                <artifactId>apigee-edge-maven-plugin</artifactId>
                <version>1.0.0</version>
                <executions>
                    <execution>
                        <id>configure-bundle</id>
                        <phase>package</phase>
                        <goals>
                            <goal>configure</goal>
                        </goals>
                    </execution>
                    <execution>
                        <id>deploy-bundle</id>
                        <phase>install</phase>
                        <goals>
                            <goal>deploy</goal>
                        </goals>
                    </execution>
                </executions>
            </plugin>
        </plugins>
    </build>
    ...
</project>
```

Plugin coordinates
1.0.1

Phase

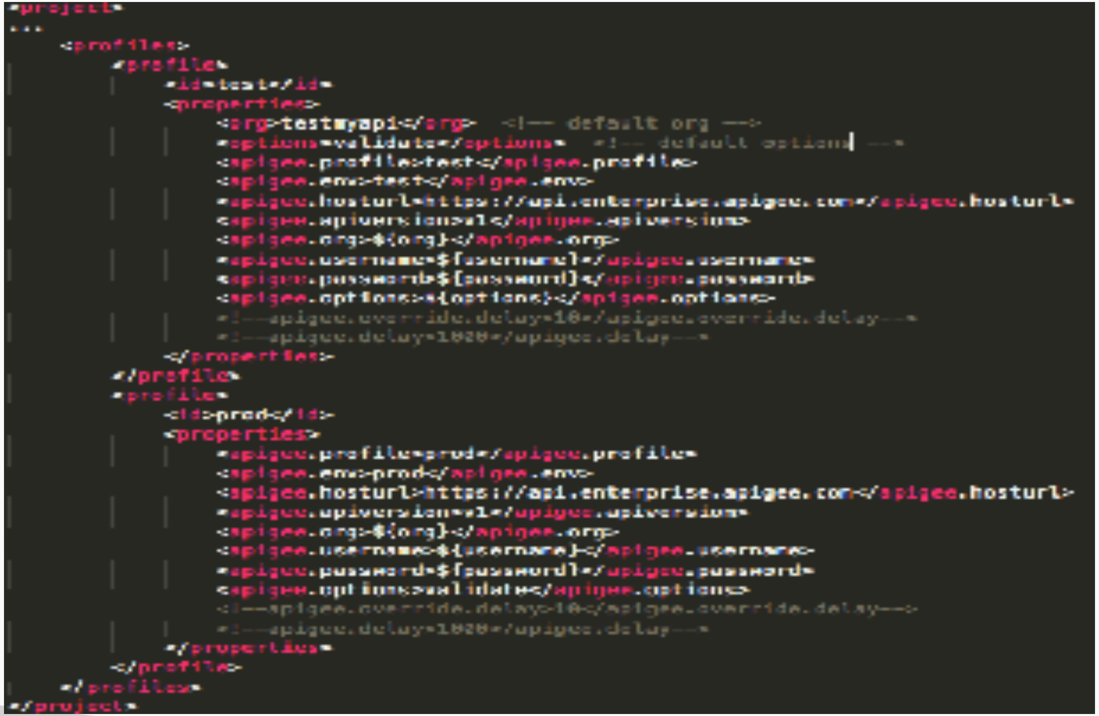
Goal

Phase

Goal

Maven Profiles Configuration – Parent POM

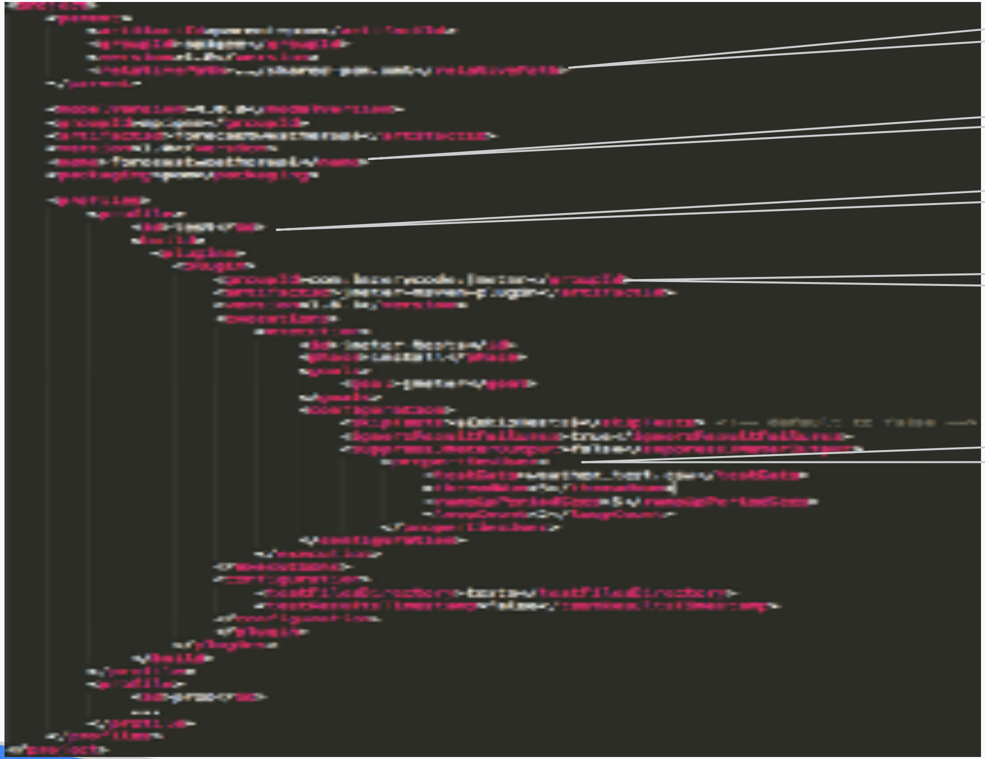
Also in the maven parent pom file (shared-pom.xml), you should include Apigee Edge organization and environment configurations as these are common to all APIs. These are defined using maven ***profiles***.



```
<project>
...
    <profiles>
        <profile>
            <id>test</id>
            <properties>
                <org>testmyapi</org>  <!-- default org -->
                <options>validate</options>  <!-- default options -->
                <apigee.profile>test</apigee.profile>
                <apigee.env>test</apigee.env>
                <apigee.hosturl>https://api.enterprise.apigee.com</apigee.hosturl>
                <apigee.apiversion>v1</apigee.apiversion>
                <apigee.org>${org}</apigee.org>
                <apigee.username>${username}</apigee.username>
                <apigee.password>${password}</apigee.password>
                <apigee.options>${options}</apigee.options>
                <!--apigee.override.delay>10</apigee.override.delay-->
                <!--apigee.delay>1000</apigee.delay-->
            </properties>
        </profile>
        <profile>
            <id>prod</id>
            <properties>
                <apigee.profile>prod</apigee.profile>
                <apigee.env>prod</apigee.env>
                <apigee.hosturl>https://api.enterprise.apigee.com</apigee.hosturl>
                <apigee.apiversion>v1</apigee.apiversion>
                <apigee.org>${org}</apigee.org>
                <apigee.username>${username}</apigee.username>
                <apigee.password>${password}</apigee.password>
                <apigee.options>validate</apigee.options>
                <!--apigee.override.delay>10</apigee.override.delay-->
                <!--apigee.delay>1000</apigee.delay-->
            </properties>
        </profile>
    </profiles>
</project>
```

Specific Maven Config API Proxy Local POM

Local POM - pom.xml



```
<project>
    <parent>
        <artifactId>parent-pom</artifactId>
        <groupId>apigee</groupId>
        <version>1.0</version>
        <relativePath>../shared-pom.xml</relativePath>
    </parent>

    <modelVersion>4.0.0</modelVersion>
    <groupId>apigee</groupId>
    <artifactId>forecastweatherapi</artifactId>
    <version>1.0</version>
    <name>forecastweatherapi</name>
    <packaging>pom</packaging>

    <profiles>
        <profile>
            <id>test</id>
            <build>
              <plugins>
                <plugin>
                    <groupId>com.lazerycode.jmeter</groupId>
                    <artifactId>jmeter-maven-plugin</artifactId>
                    <version>1.8.1</version>
                    <executions>
                        <execution>
                            <id>jmeter-tests</id>
                            <phase>install</phase>
                            <goals>
                                <goal>jmeter</goal>
                            </goals>
                            <configuration>
                                <skipTests>${skipTests}</skipTests> <!-- default to false -->
                                <ignoreResultFailures>true</ignoreResultFailures>
                                <suppressJMeterOutput>false</suppressJMeterOutput>
                                    <propertiesUser>
                                        <testData>weather_test.csv</testData>
                                        <threadNum>5</threadNum>
                                        <rampUpPeriodSecs>5</rampUpPeriodSecs>
                                        <loopCount>2</loopCount>
                                    </propertiesUser>
                            </configuration>
                        </execution>
                    </executions>
                    <configuration>
                        <testFilesDirectory>tests</testFilesDirectory>
                        <testResultsTimestamp>false</testResultsTimestamp>
                    </configuration>
                </plugin>
              </plugins>
            </build>
        </profile>
        <profile>
            <id>prod</id>
            ...
        </profile>
    </profiles>
</project>
```

Parent POM definition

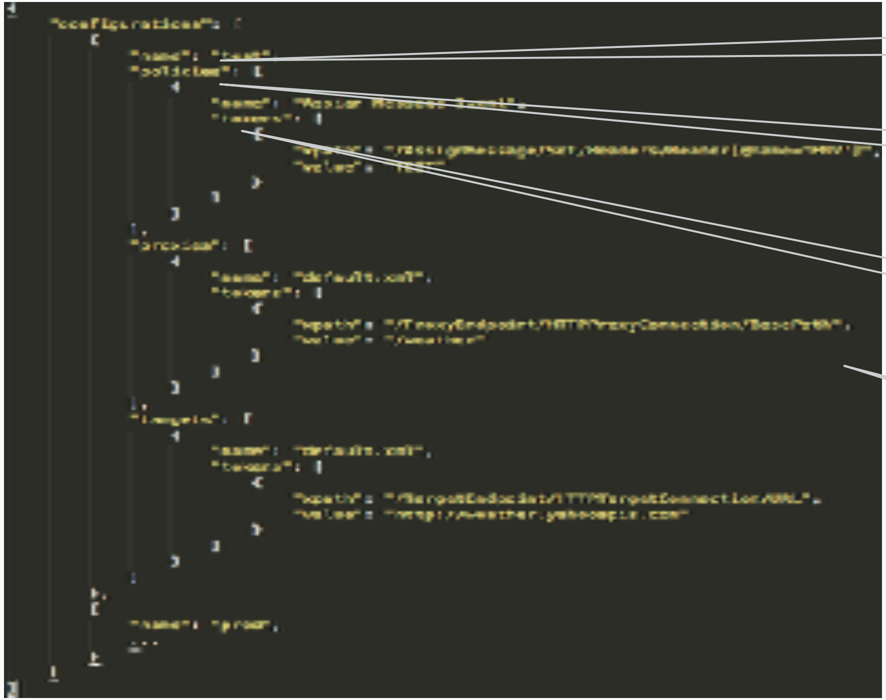
API Name

Profile (env)

JMeter Plugin

JMeter parameters

Applying API Proxy Configs w/ config.json



```
{
    "configurations": [
        {
            "name": "test",
            "policies": [
                {
                    "name": [illegible],
                    "tokens": [
                        {
                            "xpath": "/AssignMessage/Set/Headers/Header[@name='ENV']",
                            "value": "TEST"
                        }
                    ]
                }
            ],
            "proxies": [
                {
                    "name": "default.xml",
                    "tokens": [
                        {
                            "xpath": "/ProxyEndpoint/HTTPProxyConnection/BasePath",
                            "value": "/weather"
                        }
                    ]
                }
            ],
            "targets": [
                {
                    "name": "default.xml",
                    "tokens": [
                        {
                            "xpath": "/TargetEndpoint/HTTPTargetConnection/URL",
                            "value": "http://weather.yahooapis.com"
                        }
                    ]
                }
            ]
        },
        {
            "name": "prod",
            ...
        }
    ]
}
```

Top level array is **apigee.profile** from parent POM

Policies mapped in an array – each is an object

Tokens hold elements to apply configuration

Xpath used for search and replace

Executing Maven Deploy

Using the default apigee.option configuration “validate” creates new revision in Apigee Edge when executing the maven command to build/deploy the API proxy.

```
mvn install -Ptest -Dusername=$ae_username -Dpassword=$ae_password -Dorg=testmyapi
```

Getting Started – Apigee Maven Plugin

Other useful maven command options:

Skips tests **-DskipTests=true**

Overrides current revision **-Doptions=validate,update**

Deletes currently deployed bundle **-Doptions=clean**

Imports without deploying **-Doptions=inactive**

Packages bundle **mvn package -Ptest**

Runs JMeter Tests **mvn jmeter:jmeter -Ptest -Dusername=$ae_username -Dpassword=$ae_password -Dorg=testmyapi -DtestData=weather_test.csv -DthreadNum=5 -DrampUpPeriodSecs=5 -DloopCount=2**

Lab

Disclaimer

- Open source project GitHub project
  https://github.com/apigee/apigee-deploy-maven-plugin
- Contribute and join the community
- Use community.apigee.com to ask questions
- File issues in GitHub to report bugs or enhancements

THANK YOU