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Problem Statement

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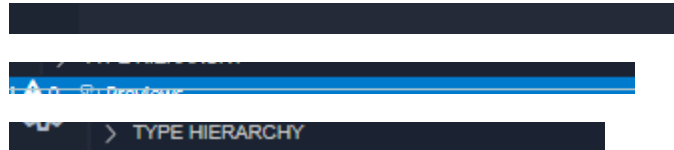
1. Parent and Child POM configuration in Maven

- Click on Project -> Run to execute your scenario

- Click on Run Tests to test your scenario

1. The scenario is based on configuring Parent and Child POM files such that child POM should be able to inherit all the required dependencies from Parent POM.
 2. Configure pom.xml in ParentPOM by adding required dependencies/plugins to generate **surefire report** and **checkstyle report**
 3. Configure pom.xml in ChildPOM to inherit all the dependencies/plugins from pom.xml in ParentPOM directory
- Note: No dependencies/plugins to be added in child pom.xml**

First Run(bash .run) and then Test (bash .score)



Step 1 : Child pom me packaging ke neeche

```
<parent>
  <groupId>ParentPOM</groupId>
  <artifactId>ParentPOM</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <relativePath>../ParentPOM/pom.xml</relativePath> (I missed this)
</parent>
```

Step 2: In Parent pom add pakagaing as pom

```
<packaging>pom</packaging>
```

Step 3: in pom.xml of parent, in dependency add 2 plugins, surefire report plugin and checkstyle report (report word likhoooo)

```
<dependency>

  <groupId>org.apache.maven.plugins</groupId>

  <artifactId>maven-surefire-report-plugin</artifactId> (I missed this)

  <version>3.0.0-M7</version>

</dependency>
```

```
<dependency>

  <groupId>org.apache.maven.plugins</groupId>

  <artifactId>maven-checkstyle-plugin</artifactId>

  <version>3.2.0</version>

</dependency>
```

=====

Parent 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>ParentPOM</groupId>

  <artifactId>ParentPOM</artifactId>

  <version>0.0.1-SNAPSHOT</version>

  <packaging>pom</packaging>
```

```
  <name>ParentPOM</name>

  <url>http://maven.apache.org</url>
```

```

<properties>
<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
</properties>
<dependencies>
  <dependency>
    <groupId>junit</groupId>
    <artifactId>junit</artifactId>
    <version>3.8.1</version>
    <scope>test</scope>
  </dependency>
  <dependency>
    <groupId>org.apache.maven.plugins</groupId>
    <artifactId>maven-surefire-report-plugin</artifactId>
    <version>3.0.0-M7</version>
  </dependency>
  <dependency>
    <groupId>org.apache.maven.plugins</groupId>
    <artifactId>maven-checkstyle-plugin</artifactId>
    <version>3.2.0</version>
  </dependency>
</dependencies>
</project>

```

```

35  </project>

```

```

=====

```

Child 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>ChildPOM</groupId>

<artifactId>ChildPOM</artifactId>

<version>0.0.1-SNAPSHOT</version>

<packaging>jar</packaging>

<parent>

<groupId>ParentPOM</groupId>

<artifactId>ParentPOM</artifactId>

<version>0.0.1-SNAPSHOT</version>

<relativePath>../ParentPOM/pom.xml</relativePath> **(Ye bhul gaya tha)**

</parent>

<name>ChildPOM</name>

<url>http://maven.apache.org</url>

<properties>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

</properties>

<dependencies>

<dependency>

<groupId>junit</groupId>

<artifactId>junit</artifactId>

<version>3.8.1</version>

<scope>test</scope>

</dependency>

</dependencies>

```
</project>
```

```
31 </project>  
32
```

```
=====
```

```
run.sh
```

```
=====
```

```
#!/bin/sh/
```

```
cd ChildPOM; mvn clean install test checkstyle:checkstyle | tee .output.txt
```

```
=====
```

```
Install.sh
```

```
=====
```

```
#!/bin/sh
```

```
sudo apt update;
```

```
sudo apt install maven -y;
```

```
mvn clean;
```

```
=====
```

```
score.sh
```

```
=====
```

```
#!/bin/sh
```

```
pass=0
```

```
fail=0
```

```
TEST_1=$(find ChildPOM/target/surefire-reports/*.xml | wc -l)
```

```
TEST_2=$(find ChildPOM/target/checkstyle-result.xml | wc -l)
```

```
TEST_3=$(find ChildPOM/target/checkstyle-checker.xml | wc -l)
```

```
TEST_4=$(grep -io -e "<parent>" -e "<groupId>ParentPOM</groupId>" -e  
"<relativePath>../ParentPOM/pom.xml</relativePath>" ChildPOM/pom.xml | wc -l)
```

```
TEST_5=$(grep -io -e "Tests run: 1" -e "Failures: 0" -e "Errors: 0" -e "BUILD SUCCESS"  
ChildPOM/.output.txt | wc -l)
```

```
TEST_6=$(grep -io -e "maven-surefire-report-plugin" -e "maven-checkstyle-plugin" ParentPOM/pom.xml
| wc -l)
if [ "$TEST_1" -eq 1 ]
then ((pass++))
else
    ((fail++))
fi;
if [ "$TEST_2" -eq 1 ]
then ((pass++))
else
    ((fail++))
fi;
if [ "$TEST_3" -eq 1 ]
then ((pass++))
else
    ((fail++))
fi;
if [ "$TEST_4" -ge 3 ]
then ((pass++))
else
    ((fail++))
fi;
if [ "$TEST_5" -ge 7 ]
then ((pass++))
else
    ((fail++))
fi;
if [ "$TEST_6" -ge 2 ]
then ((pass++))
```

```
else
    ((fail++))
fi;
echo "Total testcase: 6"
echo "Total testcase passed: $pass"
echo "Total testcase fail: $fail"
echo "total score: $(( ($pass * 100) / 6))"
```

```
42 echo "total testcase fail: $fail"
43 echo "total score: $(( ($pass * 100) / 6))"
```

=====

output.txt

=====

[INFO] Scanning for projects...

[INFO]

[INFO] -----

[INFO] Building ChildPOM 0.0.1-SNAPSHOT

[INFO] -----

[INFO]

[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ ChildPOM ---

[INFO] Deleting /projects/challenge/ChildPOM/target

[INFO]

[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ ChildPOM ---

[INFO] Using 'UTF-8' encoding to copy filtered resources.

[INFO] skip non existing resourceDirectory /projects/challenge/ChildPOM/src/main/resources

[INFO]

[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ ChildPOM ---

[INFO] Changes detected - recompiling the module!

[INFO] Compiling 1 source file to /projects/challenge/ChildPOM/target/classes

[INFO]

[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ ChildPOM ---

[INFO] Using 'UTF-8' encoding to copy filtered resources.

[INFO] skip non existing resourceDirectory /projects/challenge/ChildPOM/src/test/resources

[INFO]

[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ ChildPOM ---

[INFO] Changes detected - recompiling the module!

[INFO] Compiling 1 source file to /projects/challenge/ChildPOM/target/test-classes

[INFO]

[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ ChildPOM ---

[INFO] Surefire report directory: /projects/challenge/ChildPOM/target/surefire-reports

T E S T S

Running ChildPOM.ChildPOM.AppTest

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.002 sec

Results :

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0

[INFO]

[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ ChildPOM ---

[INFO] Building jar: /projects/challenge/ChildPOM/target/ChildPOM-0.0.1-SNAPSHOT.jar

[INFO]

[INFO] --- maven-install-plugin:2.4:install (default-install) @ ChildPOM ---

[INFO] Installing /projects/challenge/ChildPOM/target/ChildPOM-0.0.1-SNAPSHOT.jar to
/home/user/.m2/repository/ChildPOM/ChildPOM/0.0.1-SNAPSHOT/ChildPOM-0.0.1-SNAPSHOT.jar

[INFO] Installing /projects/challenge/ChildPOM/pom.xml to
/home/user/.m2/repository/ChildPOM/ChildPOM/0.0.1-SNAPSHOT/ChildPOM-0.0.1-SNAPSHOT.pom

[INFO]

[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ ChildPOM ---

[INFO] Using 'UTF-8' encoding to copy filtered resources.

[INFO] skip non existing resourceDirectory /projects/challenge/ChildPOM/src/main/resources

[INFO]

[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ ChildPOM ---

[INFO] Nothing to compile - all classes are up to date

[INFO]

[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ ChildPOM ---

[INFO] Using 'UTF-8' encoding to copy filtered resources.

[INFO] skip non existing resourceDirectory /projects/challenge/ChildPOM/src/test/resources

[INFO]

[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ ChildPOM ---

[INFO] Nothing to compile - all classes are up to date

[INFO]

[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ ChildPOM ---

[INFO] Skipping execution of surefire because it has already been run for this configuration

[INFO]

[INFO] --- maven-checkstyle-plugin:3.2.0:checkstyle (default-cli) @ ChildPOM ---

[INFO] Rendering content with org.apache.maven.skins:maven-default-skin:jar:1.3 skin.

[INFO] There are 12 errors reported by Checkstyle 9.3 with sun_checks.xml ruleset.

[WARNING] Unable to locate Source XRef to link to - DISABLED

[WARNING] Unable to locate Test Source XRef to link to - DISABLED

[INFO] -----

[INFO] BUILD SUCCESS

[INFO] -----

[INFO] Total time: 9.048 s

[INFO] Finished at: 2022-11-08T08:24:56+00:00

[INFO] Final Memory: 47M/782M

[INFO] -----

=====

parent java code

=====

Location: ParentPOM/src/main/java/ParentPOM/ParentPOM/App.java

```
package ParentPOM.ParentPOM;
```

```
/**
```

```
 * Hello world!
```

```
 *
```

```
 */
```

```
public class App
```

```
{
```

```
    public static void main( String[] args )
```

```
    {
```

```
        System.out.println( "Hello World!" );
```

```
    }
```

```
}
```

=====

child java code

=====

Location: ChildPOM/src/main/java/ChildPOM/ChildPOM/App.java

```
package ChildPOM.ChildPOM;
```

```
/**
```

```
 * Hello world!
```

```
 *
```

```
 */
```

```
public class App
```

```

{
    public static void main( String[] args )
    {
        System.out.println( "Hello World!" );
    }
}

```

=====

Step 1. Add modules and packaging as pom in parent.pom

```

<modules>
    <module>business</module>
    <module>data</module>
    <module>service</module>
</modules>

```

```

<packaging>pom</packaging>

```

Step 2: Add parent block in all submodules, relative path is added jab submodule parent ke andar nahi hai toh, yaha parent k andar hai so nahi add kia

```

<parent>
    <groupId>MavenMultiModule</groupId>
    <artifactId>MavenMultiModule</artifactId>
    <version>0.0.1-SNAPSHOT</version>
</parent>

```

Step 3: If module is dependent on other module add it in dependency section, here below id pom section of data.pom where it depends on business so added like this

```

<dependencies>
    <dependency>

```

```
    <groupId>MavenMultiModule</groupId>
    <artifactId>business</artifactId>
    <version>0.0.1-SNAPSHOT</version>
  </dependency>
</dependencies>
```

=====

Parent Pom

=====

```
<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>MavenMultiModule</groupId>
  <artifactId>MavenMultiModule</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <packaging>pom</packaging>
  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.12</version>
      <scope>test</scope>
    </dependency>
  </dependencies>

  <modules>
    <module>business</module>
    <module>data</module>
```

```
<module>service</module>
```

```
</modules>
```

```
</project>
```

```
22 </project>
```

```
=====
```

```
data.pom
```

```
=====
```

```
<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>
```

```
<parent>
```

```
<groupId>MavenMultiModule</groupId>
```

```
<artifactId>MavenMultiModule</artifactId>
```

```
<version>0.0.1-SNAPSHOT</version>
```

```
</parent>
```

```
<artifactId>data</artifactId>
```

```
<dependencies>
```

```
<dependency>
```

```
<groupId>MavenMultiModule</groupId>
```

```
<artifactId>business</artifactId>
```

```
<version>0.0.1-SNAPSHOT</version>
```

```
</dependency>
```

```
</dependencies>
```

```
</project>
```

```
23 </project>
```

=====

business.pom

=====

```
<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>
```

```
<parent>
```

```
<groupId>MavenMultiModule</groupId>
```

```
<artifactId>MavenMultiModule</artifactId>
```

```
<version>0.0.1-SNAPSHOT</version>
```

```
</parent>
```

```
<artifactId>business</artifactId>
```

```
<dependencies>
```

```
<dependency>
```

```
<groupId>MavenMultiModule</groupId>
```

```
<artifactId>service</artifactId>
```

```
<version>0.0.1-SNAPSHOT</version>
```

```
</dependency>
```

```
</dependencies>
```

```
</project>
```

```
</project>
```

=====

service.pom

=====

```
<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>
```

```
<parent>
```

```
<groupId>MavenMultiModule</groupId>
```

```
<artifactId>MavenMultiModule</artifactId>
```

```
<version>0.0.1-SNAPSHOT</version>
```

```
</parent>
```

```
<artifactId>service</artifactId>
```

```
</project>
```



=====

Pts To remember

=====

when child is inside the parent no need to specify the relative path in child pom

```
<relativePath>../MavenMultiModule/pom.xml</relativePath>
```

Below image me target me pom dekho

