Accuracy Test of SACC-Tools: Benchmark Test – Score Form

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| --- |
| SACCT Benchmark Test: <Tool Name> |
| Accuracy of Dependency Detection |
| **Direct dependencies**  **Indirect dependencies**  **Name of the tool: x**  **Version: y**  **Website: z**  **End date test: d** |
|  |

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## Direct Dependencies: Summary - Dependency Detection and Violation Reporting

Summary of the findings from the test: + = detected; ± = partially detected (explanation in comment); - = not detected.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Category** | **Dependency Types** | **Dependency detected** | **Violation reported** | **Comment** |
| 1 | Call | Instance method |  |  |  |
|  |  | instance method, inherited |  |  |  |
|  |  | Class method |  |  |  |
|  |  | Constructor |  |  |  |
|  |  | Inner class method |  |  |  |
|  |  | Interface method |  |  |  |
|  |  | Library class method |  |  |  |
| 2 | Access | Instance variable |  |  |  |
|  |  | Instance variable, constant |  |  |  |
|  |  | Instance variable, inherited |  |  |  |
|  |  | Class variable |  |  |  |
|  |  | Class variable, constant |  |  |  |
|  |  | Class variable, interface |  |  |  |
|  |  | Enumeration |  |  |  |
|  |  | Object reference, ref. variable |  |  |  |
|  |  | Object reference, var within if |  |  |  |
| 3 | Inheritance | Extends class |  |  |  |
|  |  | Extends abstract class |  |  |  |
|  |  | Implements interface |  |  |  |
| 4 | Declaration (type) | Instance variable |  |  |  |
|  |  | Class variable |  |  |  |
|  |  | Local variable |  |  |  |
|  |  | Parameter |  |  |  |
|  |  | Return type |  |  |  |
|  |  | Exception |  |  |  |
|  |  | Type cast |  |  |  |
| 5 | Annotation | Class annotation |  |  |  |
| 6 | Import | Class import |  |  |  |

## Direct Dependencies: Test Results - Expected Violations

The following test cases all include dependencies:  
**From a class in**: domain.direct.violating  
**To a class in**: technology.direct.dao

Except when specified differently: four test cases make use of technology.direct.subclass.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test cases per Dependency type** | **Dependencies** | **Dependency detected?**  **+(Yes), -(No)** | **Violation**  **reported?**  **+(Yes), -(No)** | **Comment** |
| **Access** |  |  |  |  |
| Type: Access – Class variable  From: AccessClassVariable  To: CheckInDAO | 1-Import  2-Access- class variable |  |  |  |
| Type: Access – Class variable - Constant  From: AccessClassVariableConstant  To: UserDAO | 1-Import  2-Access- class -constant |  |  |  |
| Type: Access – Class variable - Interface  From: AccessClassVariableInterface  To: ISierraDAO | 1-Import  2-Access-class variable-interface |  |  |  |
| Type: Access – Enumeration  From: AccessEnumeration  To: TipDAO | 1-Import  2-Access-Enumeration |  |  |  |
| Type: Access – Instance variable – Read  From: AccessInstanceVariableRead  To: ProfileDAO | 1-Access-instance var. |  |  |  |
| Type: Access – Instance variable – Write  From: AccessInstanceVariableWrite  To: ProfileDAO | 1-Access-instance var. |  |  |  |
| Type: Access – Instance variable - Constant  From: AccessInstanceVariableConstant  To: UserDAO | 1-Access-instance-constant |  |  |  |
| Type: Access – Instance variable – Inherited  From: AccessInstanceVariableSuperClass  To: technology.direct.subclass.CallInstanceSubClassDOA. VariableOnSuperClass  **Note**: Also OK if access to technology.direct.dao.CallInstanceSuperClassDAO is reported. Write as comment the reported class(es). | 1- Access-instance -inherited |  |  |  |
| Type: Access – Instance variable – Inherited of 2nd super cl.  From: AccessInstanceVariableSuperSuperClass  To: technology.direct.subclass.CallInstanceSubSubClassDOA  **Note**: Also OK if access to technology.direct.subclass.CallInstanceSubClassDOA or technology.direct.dao.CallInstanceSuperClassDAO is reported. Write a comment! | 1- Access-instance - inherited |  |  |  |
| Type: Access – Object reference – Ref.Variable - Parameter  From: AccessObjectReferenceAsParameter  To: ProfileDAO | 1-Access-object ref-param |  |  |  |
| Type: Access – Object reference – Ref.Variable – If exists  From: AccessObjectReferenceWithinIfStatement  To: ProfileDAO | 1-Access-object ref-in if |  |  |  |
|  |  |  |  |  |
| **Annotation** |  |  |  |  |
| Type: Class annotation From: AnnotationDependency To: SettingsAnnotation | 1-Import  2-Annotation |  |  |  |
|  |  |  |  |  |
| **Call** |  |  |  |  |
| Type: Call – Class method  From: CallClassMethod  To: BadgesDAO | 1-Import  2- Call-class method |  |  |  |
| Type: Call – Constructor  From: CallConstructor  To: AccountDAO | 1-Import  2- Call-constructor |  |  |  |
| Type: Call – Constructor – Library class  From: CallConstructorLibraryClass  To: fi.foyt.foursquare.api.FoursquareApi | 1-Import 2x  2- Call-constructor-library |  |  |  |
| Type: Call – Instance method  From: CallInstance  To: ProfileDAO | 1- Call-instance |  |  |  |
| Type: Call – Instance method – Inner class  From: CallInstanceInnerClass  To: CallInstanceInnerClassDAO within CallInstanceOuterClassDAO | 1-Call-instance-inner class |  |  |  |
| Type: Call – Instance method - Interface  From: CallInstanceInterface  To: CallInstanceInterfaceDAO | 1-Call-instance-interface |  |  |  |
| Type: Call – Instance method – Library class  From: CallInstanceLibraryClass  To: fi.foyt.foursquare.api.FoursquareApi | 1- Call-instance-library |  |  |  |
| Type: Call – Instance method – Inherited (Virtual call)  From: CallInstanceSuperClass  To: technology.direct.subclass.CallInstanceSubClassDOA  **Note**: Also OK if a call to technology.direct.dao.CallInstanceSuperClassDAO is reported. Write as comment the reported class(es). | 1- Call-instance-inherited |  |  |  |
| Type: Call – Instance method – Inherited of 2nd super class  From: CallInstanceSuperSuperClass  To: technology.direct.subclass.CallInstanceSubSubClassDOA  **Note**: Also OK if a call to technology.direct.subclass.CallInstanceSubClassDOA or technology.direct.dao.CallInstanceSuperClassDAO is reported. Write a comment! | 1- Call-instance- inherited |  |  |  |
|  |  |  |  |  |
| **Declaration (of type)** |  |  |  |  |
| Type: Declaration – Exception (throws) From: DeclarationExceptionThrows To: StaticsException | 1-Import  2-Declaration-exception  3- Call-constructor (throw new) |  |  |  |
| Type: Declaration -Parameter From: DeclarationParameter To: ProfileDAO | 1-Import  2-Declaration-param. |  |  |  |
| Type: Declaration – Return type From: DeclarationReturnType To: VenueDAO | 1-Import  2-Declaration-return type |  |  |  |
| Type: Declaration – Type cast From: DeclarationTypeCast To: ProfileDAO | 1-Import  2-Declaration- type cast |  |  |  |
| Type: Declaration – Type cast – Within argument section From: DeclarationTypeCastOfArgument To: ProfileDAO | 1-Import  2-Declaration- type cast |  |  |  |
| Type: Declaration – Variable – Instance From: DeclarationVariableInstance To: ProfileDAO | 1-Import  2-Declaration-variable |  |  |  |
| Type: Declaration – Variable – Local From: DeclarationVariableLocal To: ProfileDAO | 1-Import  2-Declaration-variable |  |  |  |
| Type: Declaration – Variable – Local - Initialized From: DeclarationVariableLocal\_Initialized To: ProfileDAO | 1-Import  2-Declaration-variable |  |  |  |
| Type: Declaration – Variable – Static From: DeclarationVariableStatic To: ProfileDAO | 1-Import  2-Declaration-variable |  |  |  |
|  |  |  |  |  |
| **Import** |  |  |  |  |
| Type: Class import - Unused  From: ImportDependencyUnused  To: AccountDAO | 1-Import |  |  |  |
|  |  |  |  |  |
| **Inheritance** |  |  |  |  |
| Type: Inheritance – Extends class  From: InheritanceExtends  To: HistoryDAO | 1-Import  2- Inheritance-extends |  |  |  |
| Type: Inheritance – Extends class – Abstract class  From: InheritanceExtendsAbstractClass  To: FriendsDAO | 1-Import  2- Inheritance-extends-abstract |  |  |  |
| Type: Inheritance – Implements interface  From: InheritanceImplementsInterface  To: IMapDAO | 1-Import  2-Inheritance-interface |  |  |  |

### Gathered Evidence Direct Dependencies: Expected

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## Direct Dependencies: Test Results - Unexpected Violations

No violating dependencies should be reported between:  
From: domain.direct.allowed  
To: technology.direct.dao

If an unexpected violation is reported, make a note in the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test cases** | **Dependencies** | **Dependency detected?**  **+(Yes), -(No)** | **Violation**  **reported?**  **+(Yes), -(No)** | **Comment** |
| Type:  From:  To: |  |  |  |  |

* + 1. **Gathered Evidence Direct Dependencies: Unexpected**

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## Indirect Dependencies: Summary - Dependency Detection and Violation Reporting

Summary of the findings from the test: + = detected; ± = partially detected (explanation in comment); - = not detected.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Category** | **Dependency Types** | **Dependency detected** | **Violation reported** | **Comment** |
| 1 | Call | Instance method |  |  |  |
|  |  | Instance method, inherited |  |  |  |
|  |  | Class method |  |  |  |
| 2 | Access | Instance variable |  |  |  |
|  |  | Instance variable, inherited |  |  |  |
|  |  | Class variable |  |  |  |
|  |  | Object reference – Reference variable |  |  |  |
|  |  | Object reference – Return value |  |  |  |
| 3 | Inheritance | Extends - extends |  |  |  |
|  |  | Extends - implements |  |  |  |
|  |  | Implements - extends |  |  |  |
|  |  |  |  |  |  |

## Indirect Dependencies: Test Results - Expected Violations

The following test cases all include dependencies:   
**From a class in:** domain.indirect.violatingfrom   
**Via a class in**: domain.indirect.intermediate  
**To a class in:** domain.indirect.violatingto  
Except when specified differently: four test cases in domain.indirect.violatingfrom make use of technology.direct.dao.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test cases per Dependency type** | **Dependencies** | **Dependency detected?**  **+(Yes), -(No)** | **Violation**  **reported?**  **+(Yes), -(No)** | **Comment** |
| **Access** |  |  |  |  |
| Type: Access – Instance variable  From: AccessInstanceVariableIndirect\_MethodVar  Via: BackgroundService.getServiceOne()  To: ServiceOne.name | 1- Access -Instance |  |  |  |
| Type: Access – Instance variable  From: AccessInstanceVariableIndirect\_VarVar  Via: BackgroundService.serviceOne  To: ServiceOne.name | 1- Access-Instance |  |  |  |
| Type: Access – Instance variable  From: AccessInstanceVariableIndirect\_VarVarToString  Via: BackgroundService.serviceOne  To: ServiceOne.day | 1- Access -Instance |  |  |  |
| Type: Access – Instance variable – Double indirect  From: AccessInstanceVariableIndirectIndirect\_MethodVarVar  Via: BackgroundService.getServiceTwo()  Via: ServiceTwo.serviceOne  To: ServiceOne.name | 1- Access -Instance |  |  |  |
| Type: Access – Instance variable – Double indirect  From: AccessInstanceVariableIndirectIndirect\_VarVarVar  Via: BackgroundService.serviceTwo  Via: ServiceTwo.serviceOne  To: ServiceOne.name | 1- Access -Instance |  |  |  |
| Type: Access – Instance variable – Inherited  From: AccessInstanceVariableIndirect\_SuperClass  Via: technology.direct.subclass.CallInstanceSubClassDOA  To: CallInstanceSuperClassDAO.VariableOnSuperClass  **Note:** Only OK if access to the super class is reported. | 1-Access-instance- inherited |  |  | To: Technology.Direct.Dao contains ServiceTwo |
| Type: Access – Instance variable – Inherited of 2nd super class  From: AccessInstanceVariableIndirect\_SuperSuperClass  Via: technology.direct.subclass.CallInstanceSubSubClassDOA and technology.direct.subclass.CallInstanceSubClassDOA  To: CallInstanceSuperClassDAO.VariableOnSuperClass  **Note:** Only OK if access to the super class is reported. | 1-Access-instance- inherited |  |  | To: Technology.Direct.Dao contains ServiceTwo |
| Type: Access – Object reference – Reference Variable  From: AccessObjectReferenceIndirect\_AsParameter\_POI  Via: ServiceTwo.getServiceOne() and ServiceOne.poi  To: POI | 1- Access –Object reference |  |  |  |
| Type: Access – Object reference – As return value  From: AccessObjectReferenceIndirect\_AsParameter  Via: ServiceTwo.getServiceOne()  To: ServiceOne | 1- Access –Object reference |  |  |  |
| Type: Access – Object reference – Reference Variable  From: AccessObjectReferenceIndirect\_WithinIfStament\_POI  Via: ServiceTwo.getServiceOne() and ServiceOne.poi  To: POI | 1- Access –Object reference |  |  |  |
| Type: Access – Object reference – As return value  From: AccessObjectReferenceIndirect\_WithinIfStament  Via: ServiceTwo.getServiceOne()  To: ServiceOne | 1- Access –Object reference |  |  |  |
| Type: Access – Static variable  From: AccessStaticVariableIndirect\_MethodVar  Via: BackgroundService.getServiceOne()  To: ServiceOne.*sName* | 1- Access -Static |  |  |  |
| Type: Access – Static variable  From: AccessStaticVariableIndirect\_VarVar  Via: BackgroundService.serviceOne  To: ServiceOne.*sName* | 1- Access -Static |  |  |  |
| Type: Access – Static variable  From: AccessStaticVariableIndirect\_VarVarToString  Via: BackgroundService.serviceOne  To: ServiceOne.*sName* | 1- Access -Static |  |  |  |
| Type: Access – Static variable – Double indirect  From: AccessStaticVariableIndirectIndirect\_MethodVarVar  Via: BackgroundService.getServiceTwo()  Via: ServiceTwo.serviceOne  To: ServiceOne.*sName* | 1- Access -Static |  |  |  |
| Type: Access – Static variable – Double indirect  From: AccessStaticVariableIndirectIndirect\_VarVarVar  Via: BackgroundService.serviceTwo  Via: ServiceTwo.serviceOne  To: ServiceOne.*sName* | 1- Access -Static |  |  |  |
|  |  |  |  |  |
| **Call** |  |  |  |  |
| Type: Call – Instance method  From: CallInstanceMethodIndirect\_MethodMethod  Via: BackgroundService.serviceOne  To: ServiceOne.getName() | 1- Call-Instance |  |  |  |
| Type: Call – Instance method  From: CallInstanceMethodIndirect\_MethodMethodToString  Via: BackgroundService.getServiceOne()  To: ServiceOne.getDay() | 1- Call-Instance |  |  |  |
| Type: Call – Instance method  From: CallInstanceMethodIndirect\_MethodMethod\_ViaConstructor  Via: new BackgroundService.getServiceOne()  To: ServiceOne.getName() | 1- Call-Instance |  |  |  |
| Type: Call – Static method  From: CallInstanceMethodIndirect\_StaticMethodInstanceMethod  Via: BackgroundService.*getServiceOneviaStaticAttribute*()  To: ServiceOne.getName() | 1-Call-Instance |  |  |  |
| Type: Call – Instance method – Inherited (Virtual call)  From: CallInstanceMethodIndirect\_SuperClass  Via: CallInstanceSubClassDOA  To: CallInstanceSuperClassDAO.MethodOnSuperClass()  **Note:** Only OK if a call to the super class is reported. | 1-Call-instance- inherited |  |  | To: Technology.Direct.Dao contains ServiceTwo |
| Type: Call – Instance method – Inherited of 2nd super class  From: CallInstanceMethodIndirect\_SuperSuperClass  Via: CallInstanceSubSubClassDOA and CallInstanceSubClassDOA  To: CallInstanceSuperClassDAO.MethodOnSuperClass()  **Note:** Only OK if a call to the super class is reported. | 1-Call-instance- inherited |  |  | To: Technology.Direct.Dao contains ServiceTwo |
| Type: Call – Instance method  From: CallInstanceMethodIndirect\_VarMethod  Via: BackgroundService.serviceOne  To: ServiceOne.getName() | 1- Call-Instance |  |  |  |
| Type: Call – Instance method – Double indirect  From: CallInstanceMethodIndirectIndirect\_MethodVarMethod  Via: BackgroundService.getServiceTwo()  Via: ServiceTwo.serviceOne  To: ServiceOne.getName() | 1- Call-Instance |  |  |  |
| Type: Call – Instance method – Double indirect  From: CallInstanceMethodIndirectIndirect\_VarVarMethod  Via: BackgroundService.serviceTwo  Via: ServiceTwo.serviceOne  To: ServiceOne.getName() | 1- Call-Instance |  |  |  |
| Type: Call – Static method  From: CallStaticMethodIndirect\_MethodStaticMethod  Via: BackgroundService.getServiceOne()  To: ServiceOne.*getsName*() | 1- Call-Instance |  |  |  |
| Type: Call – Static method  From: CallStaticMethodIndirect\_VarStaticMethod  Via: BackgroundService.serviceOne  To: ServiceOne.*getsName*() | 1- Call-Instance |  |  |  |
|  |  |  |  |  |
| **Inheritance** |  |  |  |  |
| Type: Inheritance – Extends -extends  From: InheritanceExtendsExtendsIndirect  Via: MapsService (extends POI)  To: POI | 1- Inheritance-extends |  |  |  |
| Type: Inheritance – Extends - implements  From: InheritanceExtendsImplementsIndirect  Via: Whrrl (implements IPreferences)  To: IPreferences | 1-Inheritance-implements |  |  |  |
| Type: Inheritance – Implements - extends  From: InheritanceImplementsExtendsIndirect  Via: IWhrrl (extends IPreferences)  To: IPreferences | 1- Inheritance-extends |  |  |  |
|  |  |  |  |  |

### Gathered Evidence Indirect Dependencies: Expected

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## Indirect Dependencies: Test Results - Unexpected Violations

No violations are expected from domain.indirect.allowedfrom to:

* domain.indirect.indirectto
* technology.direct.dao

If an unexpected violation is reported, make a note in the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test cases** | **Dependencies** | **Dependency detected?**  **+(Yes), -(No)** | **Violation**  **reported?**  **+(Yes), -(No)** | **Comment** |
| Type:  From:  To: |  |  |  |  |

### Gathered Evidence Indirect Dependencies: Unexpected

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