

Merge tool - Not detecting outgoing and incoming changes class additions

Keywords: git, compare and merge, merge-tool, class diagram

SW version info:

- BridgePoint 4.1.0.
- Egit 2.3.1.201302201838-r

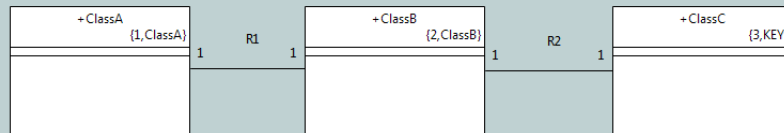
Description

When performing merge operations on a class diagram merge tool does not correctly detect outgoing and incoming changes on a class diagram.

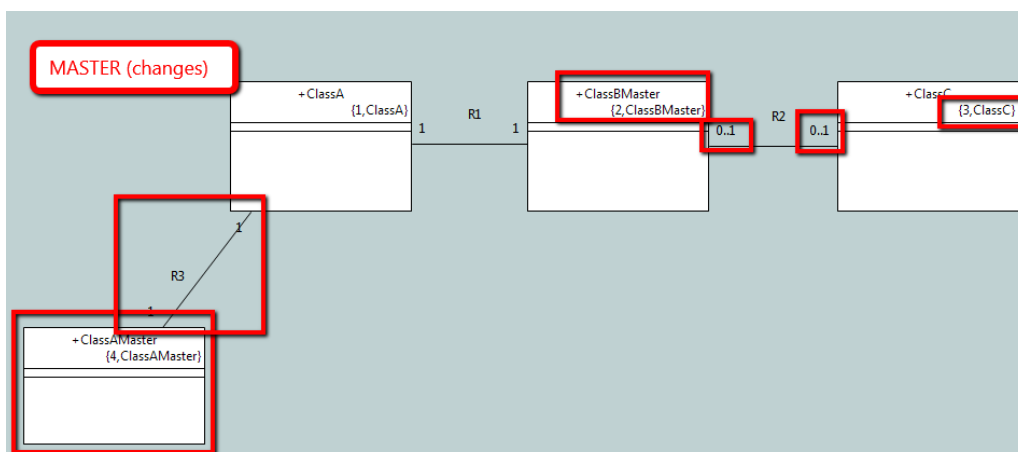
In the scenario that brings up this issue we compare class diagram that is modified in two branches. In both branches we add two classes (one in each branch) but merge tool does not report these two class additions as being outgoing or incoming changes. Adding to the inconsistency, merge tool **does report** outgoing and incoming changes for the graphical representation of these two classes.

Details:

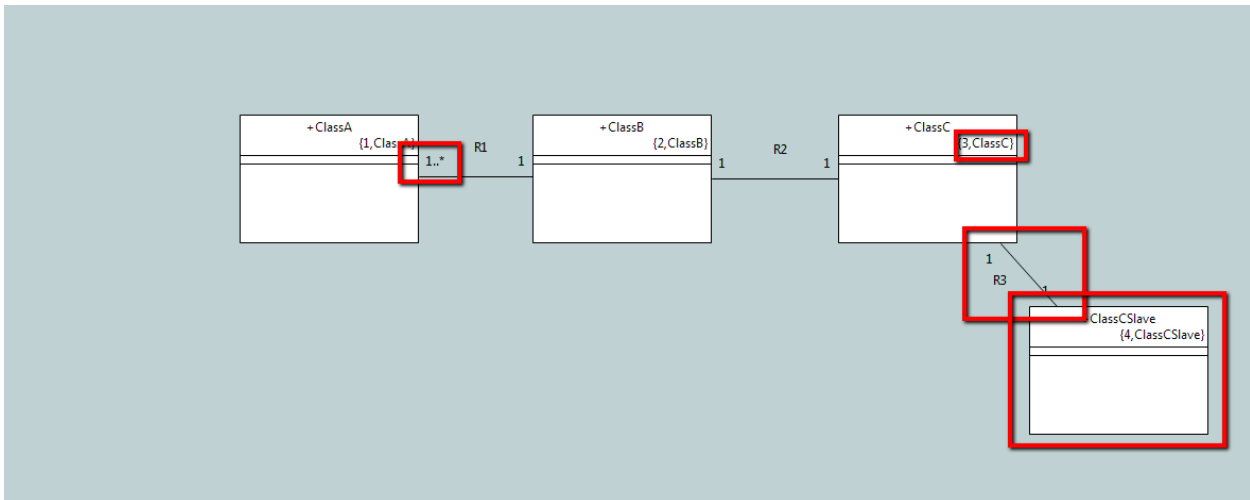
This is the initial class diagram;



These are changes performed in the master branch:



And these are changes done in the slave branch:



After the merge operation "slave into master" is performed, this is how the merge tools looks like:

Repository: 'compareandmergedemo': Merging 'slave change' into 'refs/heads/master'

Structure Compare

- CompareAndMergeDemo
 - models
 - CompareAndMergeDemo
 - Comp
 - modifiedCommonComp
 - impl
 - implLutuml

BridgePoint Structural Differences

- impl
 - R1
 - ClassA
 - Multiplicity
 - R2
 - ClassBMaster
 - Conditionality
 - ClassC
 - Conditionality
 - R3
 - Graphical Data
 - Graphical Element
 - Shape
 - Anchor Point
 - Graphical Element
 - Shape
 - Anchor Point
 - Graphical Element
 - Graphical Element
 - Graphical Element
 - Graphical Element

BridgePoint Structural Compare

master state - 96154b7...

Elements	Values
impl	impl
Package Name	
Package Description	
Number Range	0
Visibility	Public
R1	
Association Number	1
Association Description	
ClassA	
Multiplicity	One
Conditionality	Unconditional
Text Phrase	
Related	ClassA
ClassBMaster	
R2	
R3	
Graphical Data	

slave change - 9b5c56b...

Elements	Values
impl	impl
Package Name	
Package Description	
Number Range	0
Visibility	Public
R1	
Association Number	1
Association Description	
ClassA	
Multiplicity	Many
Conditionality	Unconditional
Text Phrase	
Related	ClassA
ClassB	
R2	
R3	
Graphical Data	

More detailed look at the structure:

BridgePoint Structural Differences

- impl
 - R1
 - ClassA
 - Multiplicity
 - R2
 - ClassBMaster
 - Conditionality
 - ClassC
 - Conditionality
 - R3
 - Graphical Data
 - Graphical Element
 - Shape
 - Anchor Point
 - Graphical Element
 - Shape
 - Anchor Point
 - Graphical Element
 - Graphical Element
 - Graphical Element
 - Graphical Element

model elements

graphical elements

Note following suspicious items:

- ClassAMaster and ClassBSlave are not reported as outgoing and incoming changes, while relations to them are reported as either incoming or outgoing (instead of conflicts)
- Relation R3 should be perhaps reported as a conflict

Here are some screenshots from the compare part of the merge tool:

→ This (below) looks all right

<div> <div>ClassA</div> <ul style="list-style-type: none"> Multiplicity: One Conditionality: Unconditional Text Phrase: Related: ClassA </div> <div> <div>R2</div> <ul style="list-style-type: none"> Association Number: 2 Association Description: ClassBMaster Multiplicity: One Conditionality: Conditional Text Phrase: Related: ClassBMaster </div> <div> <div>ClassC</div> <ul style="list-style-type: none"> Multiplicity: One Conditionality: Conditional Text Phrase: </div>		<div> <div>ClassA</div> <ul style="list-style-type: none"> Multiplicity: Many Conditionality: Unconditional Text Phrase: Related: ClassA </div> <div> <div>R2</div> <ul style="list-style-type: none"> Association Number: 2 Association Description: ClassB Multiplicity: One Conditionality: Unconditional Text Phrase: Related: ClassB </div> <div> <div>ClassC</div> <ul style="list-style-type: none"> Multiplicity: One Conditionality: Unconditional Text Phrase: </div>
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→ This (below) looks kind of suspicious, since R3 should be perhaps shown here as being a conflicting. Nevertheless, problem is surely the fact that neither ClassAMaster, nor ClassCSlave are not reported as being outgoing or incoming.

<div> <div>R3</div> <ul style="list-style-type: none"> Association Number: 3 Association Description: ClassAMaster Multiplicity: One Conditionality: Unconditional Text Phrase: Related: ClassA </div> <div> <div>ClassA</div> <ul style="list-style-type: none"> Multiplicity: One Conditionality: Unconditional Text Phrase: </div>	<div>these two classes are not reported as either incoming or outgoing changes</div> <div>outgoing</div> <div>incoming</div>	<div> <div>R3</div> <ul style="list-style-type: none"> Association Number: 3 Association Description: ClassC Multiplicity: One Conditionality: Unconditional Text Phrase: Related: ClassC </div> <div> <div>ClassC</div> <ul style="list-style-type: none"> Multiplicity: One Conditionality: Unconditional Text Phrase: </div> <div> <div>ClassCSlave</div> <ul style="list-style-type: none"> Multiplicity: One Conditionality: Unconditional Text Phrase: </div>
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→ Screenshot below shows graphical conflicts, which are clearly inconsistent with the model elements. Here ClassAMaster and ClassCSlave graphical representations are correctly shown as being outgoing and incoming changes. This is clearly inconsistent with the way on how actual model elements are treated in the merge process.

<div> <div>Anchor Point</div> <ul style="list-style-type: none"> X: 4315.0 Y: 3301.0 </div> <div> <div>Graphical Element</div> <ul style="list-style-type: none"> Represented Element: CompareAndMergeDemo:Comp:modifiedCommonComp:impl:ClassC Shape: Positional Data: Size Data: Anchor Point: </div> <div> <div>Graphical Element</div> <ul style="list-style-type: none"> Represented Element: CompareAndMergeDemo:Comp:modifiedCommonComp:impl:ClassAMaster Shape: Positional Data: Size Data: Anchor Point: </div> <div> <div>Graphical Element</div> <ul style="list-style-type: none"> Represented Element: CompareAndMergeDemo:Comp:modifiedCommonComp:impl:R3 Connector: Source Element: Graphical Element Target Element: Graphical Element Bendpoint: Floating Text: </div>	<div>What to do with these graphical elements?</div>	<div> <div>Anchor Point</div> <ul style="list-style-type: none"> X: 5013.0 Y: 3301.0 </div> <div> <div>Graphical Element</div> <ul style="list-style-type: none"> Represented Element: CompareAndMergeDemo:Comp:modifiedCommonComp:impl:ClassCSlave Shape: Positional Data: Size Data: Anchor Point: </div> <div> <div>Graphical Element</div> <ul style="list-style-type: none"> Represented Element: CompareAndMergeDemo:Comp:modifiedCommonComp:impl:R3 Connector: Source Element: Graphical Element Target Element: Graphical Element Bendpoint: Floating Text: </div>	<div>Here we have reported that graphical representation of the ClassAMaster and ClassCSlave are outgoing and incoming changes - this is inconsistent</div>
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Attachment:

Git repository with the state prior to merge slave into master. Class diagram is in the following path:

CompareAndMergeDemo:Comp::modifiedCommonComp::impl