028_848c8f1be19c2b0f08c1ca4025d857b159c8be83_org.e 041_99e33744

- UntypedMap [java.util.Map]
- Map<K, V> [java.util.Map]
- ILicenseArray [org.eclipse.equinox.p2.metadata.ILicense[]]
- IQueryable<T> [org.eclipse.equinox.p2.query.IQueryable]
  - () T
  - query(IQuery, IProgressMonitor) : IQueryResult<?>
    - query : IQuery
      - **IQuery**
    - progress : IProgressMonitor
    - (:) IQueryResult<?>
- IQueryResult<T> [org.eclipse.equinox.p2.query.IQueryResult]
- IQuery<T> [org.eclipse.equinox.p2.query.IQuery]
  - () T

Property	Value
EClassifier	IQuery<T> [org.eclipse.equinox.p2.query.IQuery]
EType Parameter	

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028_848c8f1be19c2b0f08c1ca4025d 041_99e337447efe58c7fef4f98c3a0d

- ITouchpointDataArray [org.eclipse.equinox.internal.provisional.p2.metada
- StringArray [java.lang.String[]]
- UntypedMap [java.util.Map]
- IQueryable [org.eclipse.equinox.internal.provisional.p2.metadata.query.IQ
  - query(Query, Collector, IProgressMonitor) : Collector
    - query : Query
      - **Query**
    - collector : Collector
    - progress : IProgressMonitor
    - (:) Collector
- Query [org.eclipse.equinox.internal.provisional.p2.metadata.query.Query]
- Collector [org.eclipse.equinox.internal.provisional.p2.metadata.query.Coll
- IProgressMonitor [org.eclipse.core.runtime.IProgressMonitor]

Property	Value
EClassifier	Query [org.eclipse.equinox.internal.provisional.p2.met
EType Parameter	

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Validation error:

```
INTRODUCED:
028_848c8f1be19c2b0f08c1ca4025d857b159c8be83_org.eclipse.b3.aggregator_model_Aggregator.e
core
RESOLVED:
041_99e337447efe58c7fef4f98c3a0de446eeedb977_org.eclipse.b3.aggregator_model_Aggregator.e
core
    source: org.eclipse.emf.ecore.model
    severity: WARNING
    message: The generic type associated with the 'IQuery' classifier should have 1
type argument(s) to match the number of type parameter(s) of the classifier
         [org.eclipse.emf.ecore.impl.EGenericTypeImpl@57f11502 (expression: IQuery),
org.eclipse.emf.ecore.impl.EReferenceImpl@528c868 (name: eTypeArguments) (ordered: true,
unique: true, lowerBound: 0, upperBound: -1) (changeable: true, volatile: false,
transient: false, defaultValueLiteral: null, unsettable: false, derived: false)
(containment: true, resolveProxies: false)]
```

The operation parameter "query" of the operation "query" of class Iqueryable is of type "IQuery" in revision 28. Since IQuery is a generic type having one formal type parameter (called T in revision 28), an actual type parameter must be bound to the formal type parameter by the operation parameter "query". This is not the case, the actual type parameter is not set.
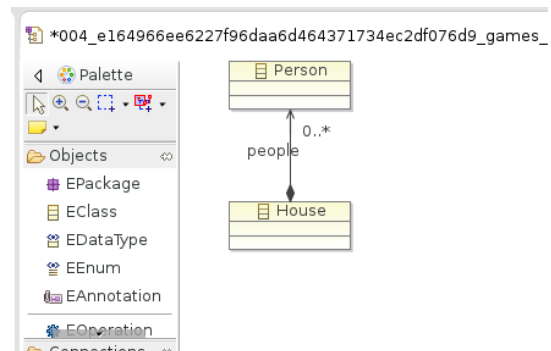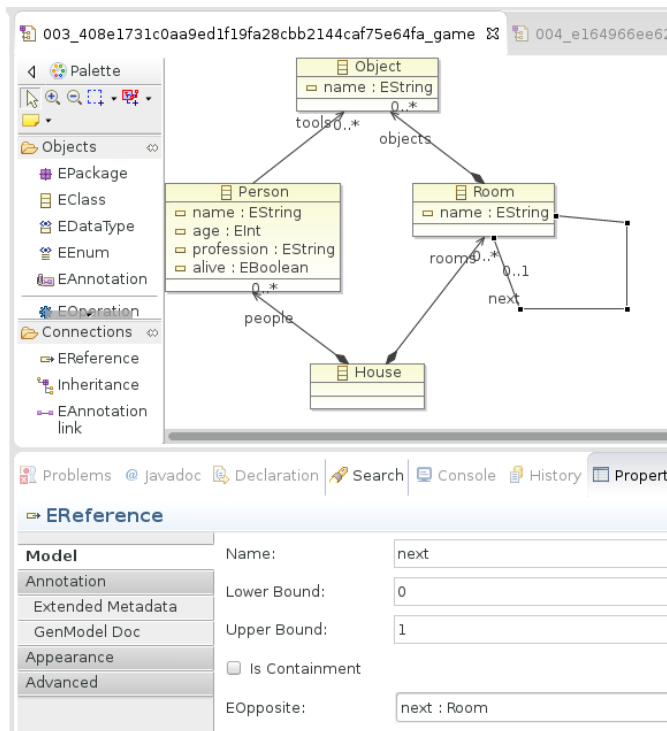
Resolution of the validation error:
In revision 41, this validation error has been resolved. The class IQuery, which has been renamed to "Query" in revision 41, is not a generic type anymore, i.e. its formal type parameter T has been deleted.

Consistency-preserving edit rules:
I think there are several CPERs covering the following cases of creating an operation parameter:
1) If the type of the new operation parameter is not a generic type, then we can simply create the operation parameter and immediately set its type (mandatory neughbor)
2) If the type of the new operation parameter is a generic type, we immediately set its type and also an actual type parameter for the formal type parameter defined by the generic type.
3) If the type of the new operation parameter is a generic type, we immediately set its type and we also convert that type to become a non-generic type, i.e. we delete its formal type parameter(s).

Note that option 3) can be used to resolve the validation error in our example.

003_408e1731c0aa9ed1f19fa28cbb2144caf75e64fa_game ✕ 004_e164966ee62...

◁ Palette

Objects
- EPackage
- EClass
- EDataType
- EEnum
- EAnnotation
- EOperation

Connections
- EReference
- Inheritance
- EAnnotation link

Object
name : EString

tools 0..* 0..*
objects

Person
name : EString
age : EInt
profession : EString
alive : EBoolean

Room
name : EString

room 0..* 0..1
next

0..*
people

House

*004_e164966ee6227f96daa6d464371734ec2df076d9_games_

◁ Palette

Objects
- EPackage
- EClass
- EDataType
- EEnum
- EAnnotation
- EOperation

Connections

Person

0..*
people

House

Problems @ Javadoc Declaration Search Console History Propert...

EReference

Model	Name:	next
Annotation		
Extended Metadata	Lower Bound:	0
GenModel Doc	Upper Bound:	1
Appearance	☐ Is Containment	
Advanced		
	EOpposite:	next : Room

Validation error:
```
INTRODUCED:
003_408e1731c0aa9ed1f19fa28cbb2144caf75e64fa_games_murdercase_murdercase.ecore
RESOLVED: 004_e164966ee6227f96daa6d464371734ec2df076d9_games_murdercase_murdercase.ecore
      source: org.eclipse.emf.ecore.model
      severity: ERROR
      message: The opposite may not be its own opposite
          [org.eclipse.emf.ecore.impl.EReferenceImpl@14753c38 (name: next) (ordered:
true, unique: true, lowerBound: 0, upperBound: 1) (changeable: true, volatile: false,
transient: false, defaultValueLiteral: null, unsettable: false, derived: false)
(containment: false, resolveProxies: true),
org.eclipse.emf.ecore.impl.EReferenceImpl@14753c38 (name: next) (ordered: true, unique:
true, lowerBound: 0, upperBound: 1) (changeable: true, volatile: false, transient: false,
defaultValueLiteral: null, unsettable: false, derived: false) (containment: false,
resolveProxies: true), org.eclipse.emf.ecore.impl.EReferenceImpl@65045a87 (name:
eOpposite) (ordered: true, unique: true, lowerBound: 0, upperBound: 1) (changeable: true,
volatile: false, transient: false, defaultValueLiteral: null, unsettable: false, derived:
false) (containment: false, resolveProxies: true),
org.eclipse.emf.ecore.impl.EReferenceImpl@65045a87 (name: eOpposite) (ordered: true,
unique: true, lowerBound: 0, upperBound: 1) (changeable: true, volatile: false,
transient: false, defaultValueLiteral: null, unsettable: false, derived: false)
(containment: false, resolveProxies: true)]
```

Loop reference called "next" declares itself to be its opposite.

Resolution of the validation error:
Well, most parts of the model have been simply deleted in revision 4. So this is a typical undo I would say, and our method is not appropriate to resolve the inconsistency, is it?

⊞ 目 ElementContainer<T extends UIElement> -> UIElement
⊞ 目 GenericStack<T extends UIElement> -> ElementContainer<T>
⊞ 目 GenericTile<T extends UIElement> -> ElementContainer<T>
⊞ 目 TrimContainer<T extends UIElement> -> ElementContainer<T>
⊟ ⊞ menu
  ⊞ 🎓 ItemType
  ⊞ 目 Item -> UIElement, UILabel
  ⊞ 目 MenuItem -> Item
  ⊞ 目 Menu -> ElementContainer<MenuItem>
  ⊞ 目 SubMenu -> MenuItem, ElementContainer<MenuItem>
  ⊞ 目 DirectMenuItem -> Contribution, MenuItem
  ⊞ 目 HandledMenuItem -> MenuItem, HandledItem
  ⊞ 目 ToolItem -> Item, ElementContainer<SubMenu>, ToolBarElement
  ⊞ 目 DirectToolItem -> ToolItem, Contribution
  ■ 目 ToolBar -> ElementContainer<ToolBarElement>, TrimElement
    ⊟ ⊕ ElementContainer<ToolBarElement>
      ⟨⟩ ToolBarElement
    ⊕ TrimElement
  目 ToolBarElement

⊞ 目 UILabel
⊞ 目 ElementContainer<T extends UIElement> -> UIElement
⊞ 目 GenericStack<T extends UIElement> -> ElementContainer<T>
⊞ 目 GenericTile<T extends UIElement> -> ElementContainer<T>
⊟ ⊞ menu
  ⊞ 目 Item -> UIElement, UILabel
  ⊞ 目 MenuItem -> Item
  ⊞ 目 Menu -> ElementContainer<MenuItem>
  ⊞ 目 SubMenu -> MenuItem, ElementContainer<MenuItem>
  ⊞ 目 DirectMenuItem -> Contribution, MenuItem
  ⊞ 目 HandledMenuItem -> MenuItem, HandledItem
  ⊞ 目 ToolItem -> Item, ElementContainer<SubMenu>
  ⊞ 目 DirectToolItem -> ToolItem, Contribution
  ⊞ 🎓 ItemType
  ■ 目 ToolBar -> ElementContainer<ToolItem>
    ⊟ ⊕ ElementContainer<ToolItem>
      ⟨⟩ ToolItem
  ⊞ 目 HandledToolItem -> ToolItem, HandledItem
  ⊞ 目 HandledItem -> Item
⊞ ⊞ basic

Validation error:

```
INTRODUCED:
075_88e351143ddc556848c299560dc8bda360bfeddb_bundles_org.eclipse.e4.ui.model.workbench_mo
del_UIElements.ecore
RESOLVED:
077_5e3fc9559037bf2c9a287f2ee90271a147436df0_bundles_org.eclipse.e4.ui.model.workbench_mo
del_UIElements.ecore
        source: org.eclipse.emf.ecore.model
        severity: ERROR
        message: The generic type
'org.eclipse.emf.ecore.impl.EGenericTypeImpl@248bd85d{file:/home/kehrer/Downloads/GitExtr
actedModels/versions/e4/eclipse.platform.ui.e4/bundles/org.eclipse.e4.ui.model.workbench/
model/UIElements.ecore/075_88e351143ddc556848c299560dc8bda360bfeddb_bundles_org.eclipse.e
4.ui.model.workbench_model_UIElements.ecore#//ui/menu/ToolBar/@eGenericSuperTypes.0/@eTyp
eArguments.0}' is not a valid substitution for type parameter
'org.eclipse.emf.ecore.impl.ETypeParameterImpl@469f5c2a{file:/home/kehrer/Downloads/GitEx
tractedModels/versions/e4/eclipse.platform.ui.e4/bundles/org.eclipse.e4.ui.model.workbenc
h/model/UIElements.ecore/075_88e351143ddc556848c299560dc8bda360bfeddb_bundles_org.eclipse
.e4.ui.model.workbench_model_UIElements.ecore#//ui/ElementContainer/T}'
            [org.eclipse.emf.ecore.impl.EGenericTypeImpl@545e06ab (expression:
ElementContainer<ToolBarElement>), org.eclipse.emf.ecore.impl.EGenericTypeImpl@248bd85d
(expression: ToolBarElement), org.eclipse.emf.ecore.impl.ETypeParameterImpl@469f5c2a
(name: T), org.eclipse.emf.ecore.impl.EReferenceImpl@528c868 (name: eTypeArguments)
(ordered: true, unique: true, lowerBound: 0, upperBound: -1) (changeable: true, volatile:
false, transient: false, defaultValueLiteral: null, unsettable: false, derived: false)
(containment: true, resolveProxies: false)]
```