

# Selector and field

Maps to UML TaggedValues named "selector" and "field" of a UML Attribute representing key, keyRef, or unique. The "selector" tag has a value representing the "xpath" and "field," a list of values representing the field "xpath". ID values shall be skipped and annotation documentation will be applied to the tagged value according to the annotation rule (see [Annotation](#)). For the values annotation field, documentation shall be merged into one.

## selector and field mapping to UML attributes

```
<selector
  id = ID

  xpath = a subset of XPath expression, see below

  {any attributes with non-schema namespace...}>

  Content: (annotation?)

</selector>

<field

  id = ID

  xpath = a subset of XPath expression, see below

  {any attributes with non-schema namespace...}>

  Content: (annotation?)

</field>
```

## selector and field XML code sample

```
<xs:key name = "fullName">
  <xs:selector xpath="//person"/>
  <xs:field xpath="forename"/>
  <xs:field xpath="surname"/>
</xs:key>

<xs:keyref name="personRef" refer="fullName">
  <xs:selector xpath="//personPointer"/>
  <xs:field xpath="@first"/>

  <xs:field xpath="@last"/>
</xs:keyref>

<xs:unique name="nearlyID">
  <xs:selector xpath="//*" />
  <xs:field xpath="@id"/>
</xs:unique>
```

## XML representations for the three kinds of identity-constraint definitions

### Sample of XML representations for the three kinds of identity-constraint definitions

```
<xs:element name="state">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="code" type="twoLetterCode"/>
      <xs:element ref="vehicle" maxOccurs="unbounded"/>
      <xs:element ref="person" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
```

```

    <xs:key name="reg"> <!-- vehicles are keyed by their plate within states -->
        <xs:selector xpath="."/vehicle"/>
        <xs:field xpath="@plateNumber"/>
    </xs:key>
</xs:element>

<xs:element name="root">
    <xs:complexType>
        <xs:sequence>
            ...
            <xs:element ref="state" maxOccurs="unbounded"/>
            ...
        </xs:sequence>
    </xs:complexType>

    <xs:key name="state"> <!-- states are keyed by their code -->
        <xs:selector xpath="."/state"/>
        <xs:field xpath="code"/>
    </xs:key>

    <xs:keyref name="vehicleState" refer="state"> <!-- every vehicle refers to its state -->
        <xs:selector xpath="."/vehicle"/>
        <xs:field xpath="@state"/>
    </xs:keyref>

    <xs:key name="regKey"> <!-- vehicles are keyed by a pair of state and plate-->
        <xs:selector xpath="."/vehicle"/>
        <xs:field xpath="@state"/>
        <xs:field xpath="@plateNumber"/>
    </xs:key>

    <xs:keyref name="carRef" refer="regKey"> <!-- people's cars are a reference -->
        <xs:selector xpath="."/car"/>
        <xs:field xpath="@regState"/>
        <xs:field xpath="@regPlate"/>
    </xs:keyref>
</xs:element>

<xs:element name="person">
    <xs:complexType>
        <xs:sequence>
            ...
            <xs:element name="car">
                <xs:complexType>
                    <xs:attribute name="regState" type="twoLetterCode"/>
                    <xs:attribute name="regPlate" type="xs:integer"/>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

A state element is defined, which contains a code child and some vehicle and person children. A vehicle in turn has a plateNumber attribute, which is an integer, and a state attribute. State's code s are a key for them within the document. Vehicle's plateNumber s are a key for them within states, and state and plateNumber is asserted to be a key for vehicle within the document as a whole. Furthermore, a person element has an empty car child, with regState and regPlate attributes, which are then asserted together to refer to vehicles via the carRef constraint. The requirement that a vehicle's state match its containing state's code is not expressed here.

For selector and field UML model example, see [Keyref](#).