Partial types

Partial types allow classes, structs, and interfaces to be broken into multiple pieces stored in different source files for easier development and maintenance.

Type modifier *partial* is used when defining a type in multiple parts. To ensure compatibility with existing programs, this modifier is different than other modifiers: like get and set , it is not a keyword, and it must appear immediately before one of the keywords class, struct , or interface.

Each part of a partial type declaration must include a Type modifier *partial* and must be declared in the same namespace as the other parts.

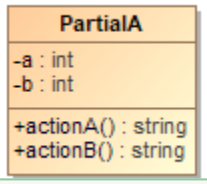
All child elements will be merged into one Class element.

Example 1

```
//The partial class is written into one class file.
public partial class PartialA{
int a;
string actionA()
        {
        }
}

public partial class PartialA{
int b; string actionB()
        {
        }
}
```

Reversed UML model:



The partial modifier indicates that additional parts of the type declaration may exist elsewhere, but the existence of such additional parts is not a requirement. It is valid for just a single declaration of a type to include the partial modifier.

All parts of a partial type must be compiled together such that the parts can be merged at compile-time. Partial types specifically do not allow already compiled types to be extended.

All child elements will be merged into one Class element, the same as both classes are written into one Class file.

Example 2

```
//The partial class is written into separate class file.
//PartialA1.cs
public partial class PartialA{
int a;
string actionA()
{
        }
}
//PartialA2.cs
public partial class PartialA{
        int b;
        string actionB()
        {
        }
}
```

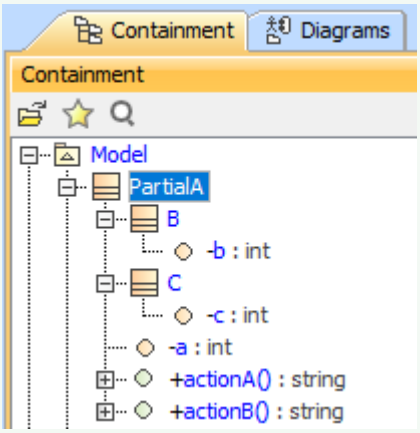
Reversed UML model:

Nested types can be declared in multiple parts by using the Type modifier *partial*. Typically, the containing type is declared using partial as well, and each part of the nested type is declared in a different part of the containing type.

All inner classes have to be located as inner class of the parent class (partial class).

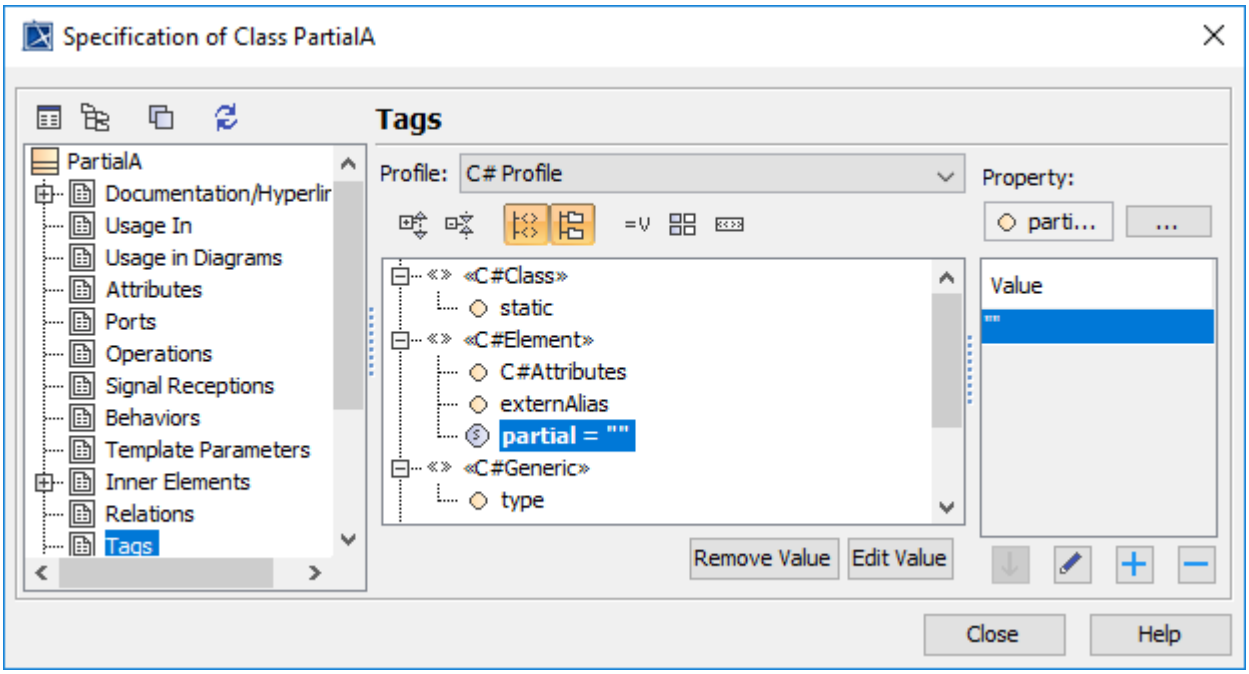
Example 3

```
//The partial class with inner class
public partial class PartialA{
        public class B
        {
                int b;
        }
}
public partial class PartialA{
        int a;
        string actionB()
        {
        }
        public class C
        {
                int c;
        }
}
```



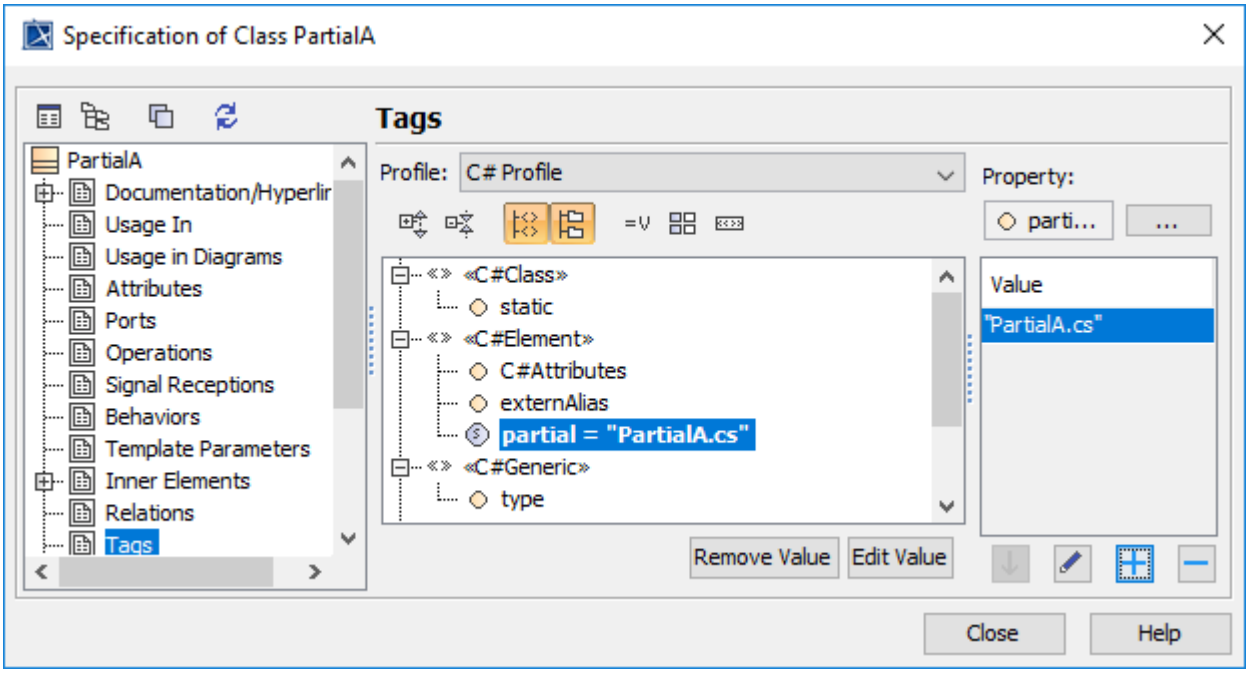
The type modifier *partial* is not permitted on delegate or enum declarations.

The Tag *partial* will have a blank tagged value for Partial Class Element:



Partial Class Element with blank **Tag** partial value

The Tag *partial* will have a value of the file name that the class belongs to for each child element in Partial Class Element:



Partial Class Element with **Tag** partial "PartialA.cs" value