

Simple Composition

Written by Hamed Iravanchi

Monday, 04 October 2010 08:08 - Last Updated Monday, 04 October 2010 09:16

This sample demonstrates simple composition of components together. It is a hypothetical program where the components are responsible to calculate simple math, to show how Composer connects different components to each other at simplest way possible.

Project name: "A.SimpleComposition"

For information on how to get the code, and run the sample, please see [About Basic Samples](#) .

Description

The ICalculator contract defines 5 calculation primitives, that the main program wants to use, in order to calculate $67+12$, $67-12$, $67*12$, $67/12$, and $67\%12$.

The component providing ICalculator contract is DefaultCalculator, which requires three other components to perform actual calculations for it:

- IAdder contract, which is provided by DefaultAdder component
- IMultiplier contract, which is provided by DefaultMultiplier component
- IDivider contract, which is provided by DefaultDivider component

In the main method (Program.cs), the four mentioned components are registered in the context using ComponentContext.Register method, and ICalculator is queried using ComponentContext.GetComponent<T> method.

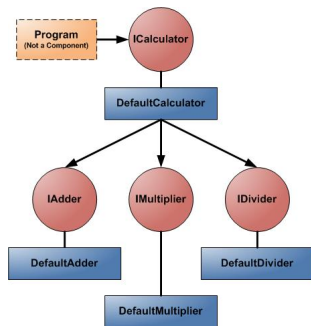
There's an output produced in the constructor of each component, and each method call, so that the order of method calls and constructions is visible when the program is run.

Dependency Diagram

Simple Composition

Written by Hamed Iravanchi

Monday, 04 October 2010 08:08 - Last Updated Monday, 04 October 2010 09:16



Sample output

```
CONSTRUCTOR - DefaultCalculator
CONSTRUCTOR - DefaultAdder
SET PLUG - DefaultCalculator.Adder
CONSTRUCTOR - DefaultMultiplier
SET PLUG - DefaultCalculator.Multiplier
CONSTRUCTOR - DefaultDivider
SET PLUG - DefaultCalculator.Divider METHOD CALL - DefaultCalculator.Add(67, 12)
METHOD CALL - DefaultAdder.Add(67, 12)
67 + 12 = 79 METHOD CALL - DefaultCalculator.Subtract(67, 12)
METHOD CALL - DefaultAdder.Add(67, -12)
67 - 12 = 55 METHOD CALL - DefaultCalculator.Multiply(67, 12)
METHOD CALL - DefaultMultiplier.Multiply(67, 12)
67 * 12 = 804 METHOD CALL - DefaultCalculator.Divide(67, 12)
METHOD CALL - DefaultDivider.Divide(67, 12)
METHOD CALL - DefaultCalculator.Remainder(67, 12)
METHOD CALL - DefaultDivider.Remainder(67, 12)
67 / 12 = 5 (with remainder = 7)
```