

This sample demonstrates how to use composition listeners in a composition. It's an extension to the previous basic sample, [Notification](#) .

Project name: "H.Listener"

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

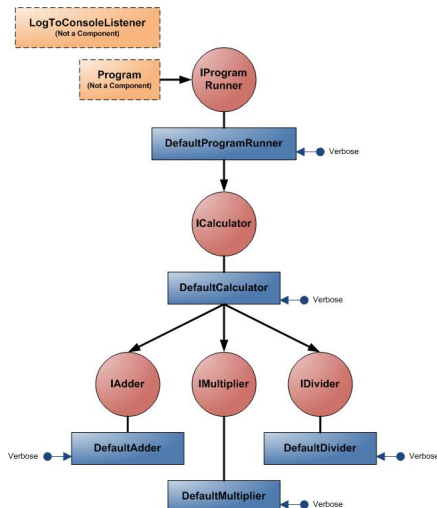
Description

The functionality and composition of this sample is exactly the same as the [previous sample](#) . The only added code is a composition listener to print out composition events onto the console output.

The LogToConsoleListener class implements ICompositionListener interface, and is notified whenever a component is being instantiated, composed, or retrieved from Composer. This implementation just prints messages about each of these events to the console, so that you can see the order of raising events in relation to creation of each component and setting its properties.

The listener class is registered in the program startup using <RegisterCompositionListener> command in the composition XML file, CalculatorComposition.xml.

Dependency Diagram



Sample output

```
CONSTRUCTOR - DefaultProgramRunner
LISTENER - OnComponentCreated: IProgramRunner
CONSTRUCTOR - DefaultCalculator
LISTENER - OnComponentCreated: ICalculator
CONSTRUCTOR - DefaultAdder
LISTENER - OnComponentCreated: IAdder
SET CONFIG - DefaultAdder.Verbose(True)
LISTENER - OnComponentComposed: IAdder
NOTIFICATION - DefaultAdder: OnCompositionComplete.
LISTENER - OnComponentRetrieved: IAdder
SET PLUG - DefaultCalculator.Adder(DefaultAdder)
CONSTRUCTOR - DefaultMultiplier
LISTENER - OnComponentCreated: IMultiplier
SET CONFIG - DefaultMultiplier.Verbose(True)
LISTENER - OnComponentComposed: IMultiplier
NOTIFICATION - DefaultMultiplier: OnCompositionComplete.
LISTENER - OnComponentRetrieved: IMultiplier
SET PLUG - DefaultCalculator.Multiplier(DefaultMultiplier)
CONSTRUCTOR - DefaultDivider
LISTENER - OnComponentCreated: IDivider
SET CONFIG - DefaultDivider.Verbose(True)
LISTENER - OnComponentComposed: IDivider
NOTIFICATION - DefaultDivider: OnCompositionComplete.
LISTENER - OnComponentRetrieved: IDivider
SET PLUG - DefaultCalculator.Divider(DefaultDivider)
SET CONFIG - DefaultCalculator.Verbose(True)
LISTENER - OnComponentComposed: ICalculator
NOTIFICATION - DefaultCalculator: OnCompositionComplete.
LISTENER - OnComponentRetrieved: ICalculator
SET PLUG - DefaultProgramRunner.Calculator(DefaultCalculator)
SET CONFIG - DefaultProgramRunner.Verbose(True)
LISTENER - OnComponentComposed: IProgramRunner
```

Listener

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Monday, 04 October 2010 13:44 -

NOTIFICATION - DefaultProgramRunner: OnCompositionComplete.

LISTENER - OnComponentRetrieved: IProgramRunner METHOD CALL -

DefaultProgramRunner.Run() 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)