PlotAction

November 15, 2016

The goal is to add an action to the plot window For example : - shift the selected curve - inverte x and y - ...

1 create your own plot action

- heritate from PlotAction
- redefine the triggered function
- http://www.silx.org/doc/silx/dev/modules/gui/plot/plotactions_examples.html

```
In [ ]: %gui qt
```

```
In [ ]: from silx.gui.plot.PlotActions import PlotAction
        class ShiftUpAction(PlotAction):
            """QAction shifting up a curve by one unit

            :param plot: :class:`.PlotWidget` instance on which to operate
            :param parent: See :class:`QAction`
            """
            def __init__(self, plot, parent=None):
                PlotAction.__init__(self,
                                    plot,
                                    icon='shape-circle',
                                    text='Shift up',
                                    tooltip='Shift active curve up by one unit',
                                    triggered=self.shiftActiveCurveUp,
                                    parent=parent)

            def shiftActiveCurveUp(self):
                """Get the active curve, add 1 to all y values, use this new y
                array to replace the original curve"""
                # By inheriting from PlotAction, we get access to attribute self.pl
                # which is a reference to the PlotWindow
                activeCurve = self.plot.getActiveCurve()

                if activeCurve is not None:
                    # Unpack curve data.
```

```
        # Each curve is represented by a tuple of 5 variables:
        #  - x and y are the array of abscissa and ordinate values
        #  - legend is a unique text identifying a curve
        #  - info and params are dictionaries of additional data
        #    (user defined, curve style and color...)
        x0, y0, legend, info, _params = activeCurve

        # Add 1 to all values in the y array
        # and assign the result to a new array y1
        # (do not modify y0 if you want to preserve the original curve)
        y1 = y0 + 1.0

        # Re-using the same legend causes the original curve
        # to be replaced
        self.plot.addCurve(x0, y1, legend=legend,
                           info=info)
```

2 Integrate the action in a plot window

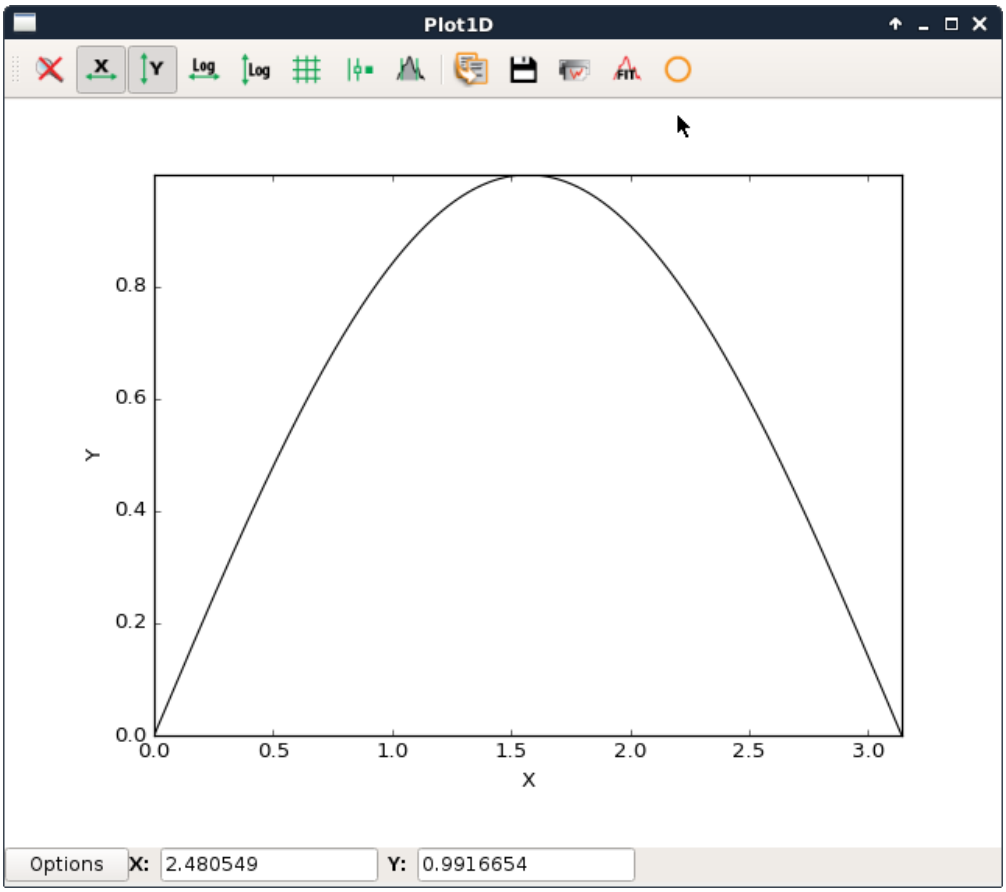
2.1 define the plot window

```
In [ ]: from silx.gui.plot import Plot1D
        import numpy
        def createPlot():
            plot=Plot1D()
            x=numpy.linspace(0, numpy.pi, 1000)
            y=numpy.sin(x)
            plot.addCurve(x, y, legend='curve')
            return plot
```

2.2 add it to the toolBar

```
In [ ]: plot=createPlot()
        toolBar=plot.toolBar()
        myaction = ShiftUpAction(plot)
        toolBar.addAction(myaction)
        plot.show()

In [ ]:
```



plot action integrated into a toolBar