

Co-variant array conversion may cause exception on write operation



Redirection Notice

This page will redirect to <http://www.jetbrains.com/resharperplatform/help?Keyword=CoVariantArrayConversion>.

Consider the following code listing

```
class MyForm : Form
{
    ProcessFiles()
    {
        var ofd = new OpenFileDialog();
        ofd.ShowDialog();
        BeginInvoke(new Action<string[]>(Process), ofd.FileNames);
    }

    private void Process(string[] files)
    {
        // process each of the files
    }
}
```

This code shows an Open File Dialog and then attempts to asynchronously process the chosen files. However, what the developer has missed is that the `BeginInvoke()` method actually takes a `params object[]` argument, to which the developer is passing an array of strings. As a consequence, ReSharper offers a warning, saying that the covariant array conversion from `string[]` to `object[]` may cause an exception at run-time.

The issue with the above code is easily resolved: since `BeginInvoke()` expects to receive an array of all the parameters and there is only one parameter (`string[] files`), all we have to do is provide exactly that, i.e.,

```
BeginInvoke(new Action<string[]>(Process), new object[] { ofd.FileNames });
```