
Article

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Syntax highlighting for ObjectScript

Did you know that Caché (and now InterSystems IRIS) has available parser for ObjectScript ?

Well, technically, lexer. It hides under the name of [%SyntaxColor](#) class. This class provides API to the DLL used by Studio to do syntax highlighting. As a result it works only under Windows.

Basic usage of this class is to generate HTML with syntax-highlighted ObjectScript.

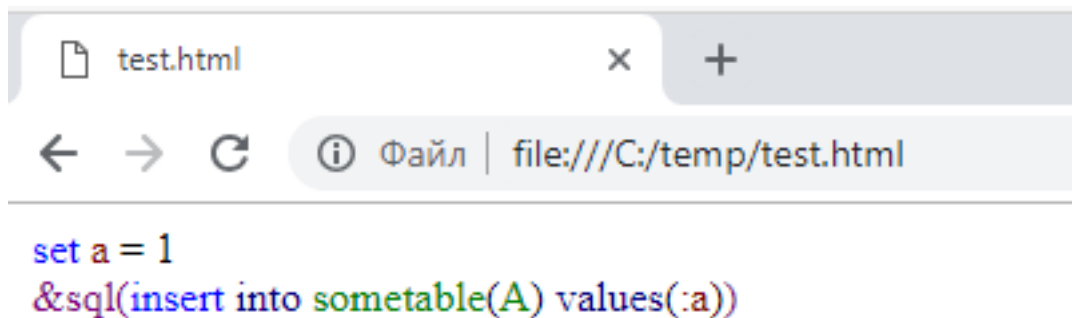
For example, following program (taken from class reference for %SyntaxColor):

```
Set instr=##class(%Stream.TmpCharacter).%New()
Do instr.WriteLine(" set a = 1")
Do instr.WriteLine(" &sql(insert into sometable(A) values(:a))")
Set outstr=##class(%Stream.TmpCharacter).%New()
Set colorer=##class(%SyntaxColor).%New()
Set ret=colorer.Color(instr,outstr,"COS","PF",,,, .langs, .coloringerrors)
If 'ret {Write "Fatal error: ",colorer.DLLResultCode,! Quit}
If coloringerrors {
    Write "Syntax error(s)",!
}
Do outstr.Rewind()
While 'outstr.AtEnd {
    Write outstr.ReadLine(),!
}
```

Generates following output:

```
USER>do ^test
&nbsp;<FONT COLOR="#0000ff">set&nbsp;</FONT><FONT COLOR="#800000">a&nbsp;</FONT><FONT
COLOR="#000000">=&nbsp;<FONT COLOR="#000000">1<BR>
&nbsp;</FONT><FONT COLOR="#800080">&sql(</FONT><FONT COLOR="#0000ff">insert&nbsp;
</FONT><FONT COLOR="#000080">into&nbsp;</FONT><FONT COLOR="#008000">sometable</FONT><
FONT COLOR="#000000">(</FONT><FONT COLOR="#008000">A</FONT><FONT COLOR="#000000">)&nb
sp;</FONT><FONT COLOR="#000080">values</FONT><FONT COLOR="#000000">(</FONT><FONT COLO
R="#800000">:a</FONT><FONT COLOR="#000000">)</FONT><FONT COLOR="#800080">)</FONT>
```

That results in following HTML:



Here in that sample program instr is the stream with the source code we want to highlight, outstr – resulting stream. “COS” – the language, ObjectScript (other values are “JS”, “HTML”). The most interesting part in the call is fourth argument – “PF”. Here “P” means “don’t add enclosing <PRE> element”, and “F” – “element closing background and foreground”. For more available options – see class reference for method Color.

There is a small test page available on [InterSystems Open Exchange](#) as [cache-objectscript-syntax-colorer](#), that uses %SyntaxColor to create highlighted ObjectScript code.

The most interesting part of %SyntaxColor, however, is that it generates not only HTML, but also XML.

For example, if in previous program we replace “PF” with “Q=N”, then result would be following:

```
USER>do ^test
<color>
<line>
  <WhiteSpace> </WhiteSpace>
  <Command>set</Command>
  <WhiteSpace> </WhiteSpace>
  <Localvariable>a</Localvariable>
  <WhiteSpace> </WhiteSpace>
  <Operator>=</Operator>
  <WhiteSpace> </WhiteSpace>
  <Number>1</Number>
</line>
<line>
  <WhiteSpace> </WhiteSpace>
  <SQL>&sql</SQL>
  <SQL>sql</SQL>
  <SQL>( </SQL>
  <Statementkeyword>insert</Statementkeyword>
  <WhiteSpace> </WhiteSpace>
  <Qualifierkeyword>into</Qualifierkeyword>
  <WhiteSpace> </WhiteSpace>
  <Identifier>sometable</Identifier>
  <Delimiter>( </Delimiter>
  <Identifier>A</Identifier>
  <Delimiter>)</Delimiter>
  <WhiteSpace> </WhiteSpace>
  <Qualifierkeyword>values</Qualifierkeyword>
  <Delimiter>( </Delimiter>
  <Hostvariablename>:a</Hostvariablename>
  <Delimiter>)</Delimiter>
  <SQL>)</SQL>
</line>
```

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And that is much more interesting, having this output we can analyze text of our ObjectScript programs. For example, find places in the code that violate [Code guidelines](#) and use shortcut names.

Another use case is determining if this particular line of ObjectScript is executable or just comment or whitespace. That can be useful for Unit Test coverage – see “[Unit Test Coverage](#)” presentation by [@Timothy Leavitt](#) from Global Summit 2018 (%SyntaxColor is mentioned at 31:10). Unit Test coverage tool is also available on [Open Exchange](#).

If you create something interesting with this class – let us know in comments!

[#InterSystems IRIS](#) [#ObjectScript](#) [#Open Exchange](#) [#Cache](#)

Source URL: <https://community.intersystems.com/post/syntax-highlighting-objectsript>