JSONPath and XPath

These query languages can be used to extract values from JSON or XML. Each has its own syntax allowing you to select a node to extract a value from. The table below shows some of the syntax allowed by each language.

XPath	JSONPath	Description
/	$	The base node in the object.
.	@	The current object in the node path.
/	. or []	Accessing a child node, or specific child node
..	n/a	Accessing the parent of the current node.
//	..	Recursive child decent.
*	*	Wildcard operator to access any node.
@	n/a	Accessing an attribute.
[]	[]	Accessing an element within a list of nodes.
|	[,]	Union of two sets of nodes.
n/a	[start:end:step]	Accessing elements as a slice of a set of elements.
[]	?()	Accessing nodes with a filter applied.

Here is some example text in JSON and XML.

```
{
  "messages": {
    "staging": [
      {
        "author"  : "tim_bot",
        "category": "information",
        "message" : "Building..."
      },
      {
        "author"  : "tim_bot",
        "category": "information",
        "message" : "Testing..."
      },
      {
        "author"  : "tim_bot",
        "category": "information",
        "message" : "Completed!"
      }
    ],
    "production": [
      {
        "author"  : "jill_bot",
        "category": "information",
        "message" : "Building..."
      },
      {
        "author"  : "jill_bot",
        "category": "error",
        "message" : "Build Failed!"
      }
    ]
  }
}
```

```
<?xml version="1.0" encoding="UTF-8" ?>
<messages>
  <staging>
    <author>tim_bot</author>
    <category>information</category>
    <message>Building...</message>
  </staging>
  <staging>
    <author>tim_bot</author>
    <category>information</category>
    <message>Testing...</message>
  </staging>
  <staging>
    <author>tim_bot</author>
    <category>information</category>
    <message>Completed!</message>
  </staging>
  <production>
    <author>jill_bot</author>
    <category>information</category>
    <message>Building...</message>
  </production>
  <production>
    <author>jill_bot</author>
    <category>error</category>
    <message>Build Failed!</message>
  </production>
</messages>
```

The following are XPath and JSONPath examples that could be used to extract information from the example text.

XPath	JSONPath	Result
`/messages/staging/author`	`$.messages.staging[*].author`	The authors of all messages sent to staging
`//author`	`$..author`	All the authors of all messages
`/messages/*`	`$.messages.*`	All channels messages were sent to. Staging and production.
`/messages//category`	`$.messages..category`	The categories of all messages.
`//staging[3]`	`$..staging[2]`	The third message sent to staging.
`//staging[last()]`	`$..staging[(@.length-1)]` `$..staging[-1:]`	The last message sent to staging.
`//staging[position()<3]`	`$..staging[0,1]` `$..staging[:2]`	The first two messages sent to staging.
`//staging[category="error"]`	`$..staging[?(@.category="error")]`	All the messages sent to staging with an error category. This would return no values.
`//*`	`$..*`	All nodes in the response.