



QTP Open Source Test Automation Framework Coding Standards for Developers

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1. Purpose of the Document

The purpose of this document is to describe standards to be followed when designing and developing framework code. This document will help ensure consistency across the code, resulting in increased usability and maintainability of the developed code.

1.1. Scope

The scope of this document is to provide standards for designing and developing Open Source Test Automation Framework code for various tools and technologies.

1.2. Overview

This document provides guidelines for:

- Naming standards
- Functions and procedures
- Comment standards
- General guidelines

2. Naming Standards

2.1. Naming Standards for Variables

Data Type	Prefix	Length	Example
Boolean	bln	Up to 20 characters	blnFlag
Integer	int	Up to 20 characters	intCount
Long	lng	Up to 20 characters	lngRowNumber
Double	dbl	Up to 20 characters	dblWeight
Object	obj	Up to 20 characters	objCurrent
Single	sng	Up to 20 characters	sngPosition
String	str	Up to 20 characters	strCurPage
Array	arr	Up to 20 characters	arrCellData
Variant	vnt	Up to 20 characters	vntPropValue
User-defined Type	udt	Up to 20 characters	udtTransaction

Scope	Prefix	Length	Example
Global	g	Up to 20 characters	gStrAppPath
Module-Level	m	Up to 20 characters	mintRowCount
Static	s	Up to 20 characters	svntFlag
Variable Passed by Reference	r	Up to 20 characters	rintValue
Variables Passed by Values	v	Up to 20 characters	vintValue
Local to the Function	None	Up to 20 characters	strCurPage

2.2. Naming Standards for Constants

- The constant names should be initial capped with underscores between words as shown in the following example.

Example: gstrApplication_Path

3. Function/Procedure

3.1. Function Name

The function name should start with 'Func_' followed by the name of the function.

When arguments are passed to the function, the variable naming standards should indicate whether it is passed by value or passed by reference.

Example: Func_GetValue (strCurObject, intValue)

3.2. Function Header

The function or procedure header should contain the following:

- Name of the function
- Description of the function/procedure
- List of input parameters with their description
- Return value of the function with its description (Not applicable for procedures)
- Name of the person modifying it
- Date of modification

Example:

```
*****
'Function Name      : Func_StrSearch
'Description       : This function is used to search for a sub
string in the main string.
'Input parameters  : strMainString - Main string that should be
searched'
strSubString - Sub string that should be searched for 'Return Value:
True - sub string present in the main string'
False - sub string not present in the main string
'Date of Creation: 19th Dec 2008
'Modified By      : Tester
'Date of Creation : 19th Jan 2009
*****
```

3.3. Function Complexity

Framework code should be designed and developed with minimal possible loops and conditions for reduced complexity and enhanced maintainability.

3.4. Function Structure

The following tips provide guidance for creating easy-to-read and easy-to-maintain code.

- Modularize the code for increased reusability and reduced redundancy.
- Code should be well indented with tabs. (Tab width should be 4).
- Values passed and returned to the functions should use simple variables.
- Reduce the use of global variables within the function. The scope of the variable should be decided based on the standards.

4. Comment Standards

4.1. Framework Code Header Comments

The framework code header should contain the following:

- The copyright and proprietary information
- Name of the framework code
- Author of the code
- Name of the reviewer
- Date of creation
- Version number

Every change to the framework code should be documented in the modification history. A modification history should contain the following:

- Name of the person who changed the code
- Date of change
- Version
- Changed function/event
- Change description

Example:

```
'Project Name :Web Framework
'Author :Joe Coder
'Version :V1.0
'Date of Creation :19th Dec 2008
'#####
'#####
'Modified By
'Reviewed By
'#####
```

4.2. Line Comments

Significant lines in the code should be provided with inline comments to better explain the line of code's purpose and make it easier for subsequent developers to understand the code faster and more thoroughly.

Example:

```
'If the node is not specified - exit the function
  If objNode is nothing then
      Exit Function
  End If
```


5. General Guidelines

- Use Option Explicit.
- Use an ampersand (&) for concatenating strings instead of '+'.
- Set the objects to nothing for cleaning the memory.
- Use dynamic arrays (Redim Preserve).
- Declare only one variable in a line.
- There should not be more than 80 characters per line.
- The code should be properly indented.
- Declare variables using appropriate data types.
- Avoid using the variant data type
- Use procedures instead of functions if there is no return value.

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