

# TIME SHIFT TESTING WITH TIME MACHINE® AND HP UFT

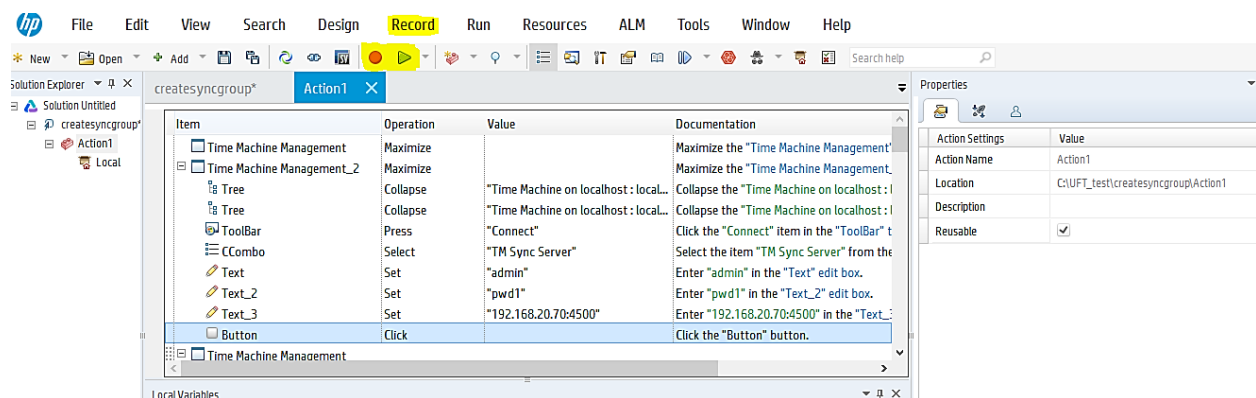
## TIME MACHINE AND THE TIME MACHINE SYNC SERVER

Many companies have implemented rigorous functional testing strategies to ensure an application under test meets the goals set forth in the functional requirements. With projects today growing ever more complex, test automation is essential to validating and releasing on time and within budget. Time Machine enables automation for date and time sensitive logic by using virtual clocks that avoid the need to change the system clock on a server. The Time Machine Sync Server allows for the broadcast of a synchronous virtual clock to specified targets that may be spread across different computing nodes in the enterprise. These groups of related targets are known as Sync Groups. This paper describes how to leverage the Time Machine Sync Server API during test automation using HP UFT.

## TEST AUTOMATION AND HP UNIFIED FUNCTIONAL TESTING (UFT)

HP UFT (formerly QTP) is an automated functional and regression testing application that allow companies to develop various automation tests based on their needs. HP UFT supports major programming languages and platforms such as Java, dot Net, Oracle, SAP and Siebel.

One feature of HP UFT is an intuitive, visual user experience that ties manual, automated, and framework-based testing together in one IDE. A tester has the ability to record their UI actions into VBScript and play back the actions at much greater speeds. Often times, a tester will choose to evolve the scripts as to verify certain data points.



Another great feature of the UFT is the ability to simulate programmatically data or control flow through API testing. There are numerous supported types of API tests such as Web service, REST, Database.

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## USING HP UFT AND TIME MACHINE SYNC SERVER

Once the Sync Groups are created, the developers and testers have the ability to create automated scripts that invoke the Sync Server API, thus allowing the enabling and disabling of sync groups as well as change virtual clock for given sync group. This allows the application to move forward in time until the data and time sensitive test cases have been verified. Some applications may react negatively to the clock going backwards in time.

[http://sync\\_server\\_address:sync\\_server\\_http\\_port/tmSyncServer?password=pwd&action=action\\_name&prm\\_list](http://sync_server_address:sync_server_http_port/tmSyncServer?password=pwd&action=action_name&prm_list)

The following code is an example of HP UFT recorded VBScript that enables a Sync Group called syncgroup1 and sets virtual time for the Sync Group to 01-July-2018 21:30:00

```
Option Explicit

Dim Reqst, url, userName, password, action, name, abs_time

Set Reqst = CreateObject("Microsoft.XMLHTTP")

url = "http://<syncservername>:4600/tmSyncServer?"

userName = "admin"

password = "<yourpassword>"

action = "EnablesyncGroup"

name = "syncgroup1"

abs_time= "070120182130"

restReq.open "GET", url, false, userName, password, action, name, abs_time

restReq.send

WScript.echo restReq.responseText
```

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## TIME SHIFT TESTING WITH TIME MACHINE® AND HP UFT

### USING HP UFT

**Save Costs:** Reduced time for script creation

**Improved quality:** Integrated functional testing, UI, API

**Development platform:** VBScript

**Supported platforms:** Java, .NET, Siebel, SAP

**Application:** Used for Functional test specifically for UI and Web services

### FEATURES & BENEFITS OF USING TIME MACHINE SYNC SERVER

**Save Costs:** Hardware and software maintenance costs

**Boost Productivity:** Boost engineering team productivity

**Mitigate Failures:** Mitigate risks for mission-critical application failures.

**Successful Deployments:** Ensure large scale software projects finish on time and under budget.

**Travel to Past, Future, running or frozen clock:** Virtual clocks can be set to the past or future, absolute or relative clocks.

**Variable Speed Clock:** Using the Variable Speed Clock function, applications can run up to 1000 times faster or slower than real time.

**Multiple Simultaneous tests:** Concurrent testing of multiple virtual clocks enable one test environment to become multiple test environments.

**Synchronization:** Synchronize multiple hosts, users/groups, Databases without time zone restraints.

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