

Recording HTTP User Journeys

User's Guide



Version 5.0

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Introduction

This guide describes the process to be followed to successfully record an HTTP(S) User Journey.

It describes the short preparation that should be followed prior to each recording, the process of recording and how to confirm that the recording has been a success.

Preparing to Record a User Journey

This section details the tasks that should be undertaken prior to recording a User Journey to ensure that the recording is complete and correct.

The tasks consist of:

- Planning the business transaction to be recorded
- Clearing the browser's cache (if appropriate)
- Configuring the browser to use StressTester™'s recording proxy

Business Transaction Requirements

Before recording any User Journey, it is suggested that the steps to be performed during the recording, the data to be supplied to screen fields, etc. is planned in order that the recording matches the performance testing requirements.

For more complex User Journeys, it is suggested that the user rehearses the User Journey prior to recording.

Note: There is no need to perform “back” actions, loops, or simulate user indecision during the recording – all of these can be configured post recording using StressTester™'s Flow Control facility (please refer to the [Configuring User Journeys to be Correct and Realistic](#) user guide for further information).

Appendix A contains a simple format sheet that that can be used to plan a recording session.

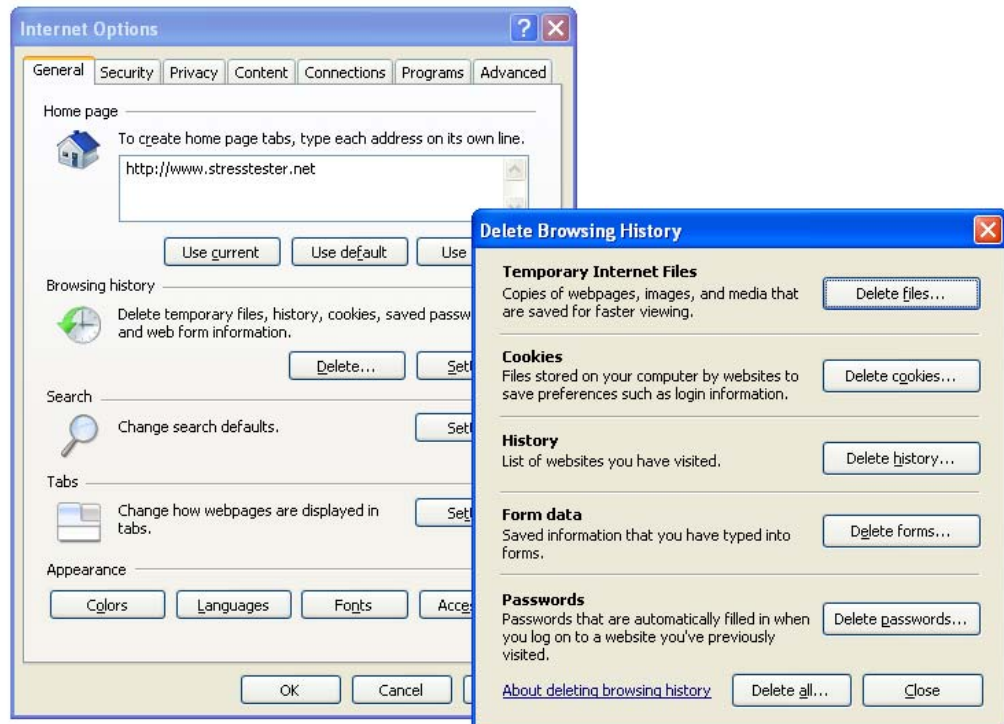
Clearing the Browser's Cache

The majority of web sites allow the browser to cache certain content to reduce the number of requests made by the browser to the application servers.

Content can be cached for different time periods; typically either for the duration of a user's session or until a set date in the future.

In order that StressTester™ records all the interactions that a new user would make against a web application, the browser cache should be cleared prior to the recording occurring.

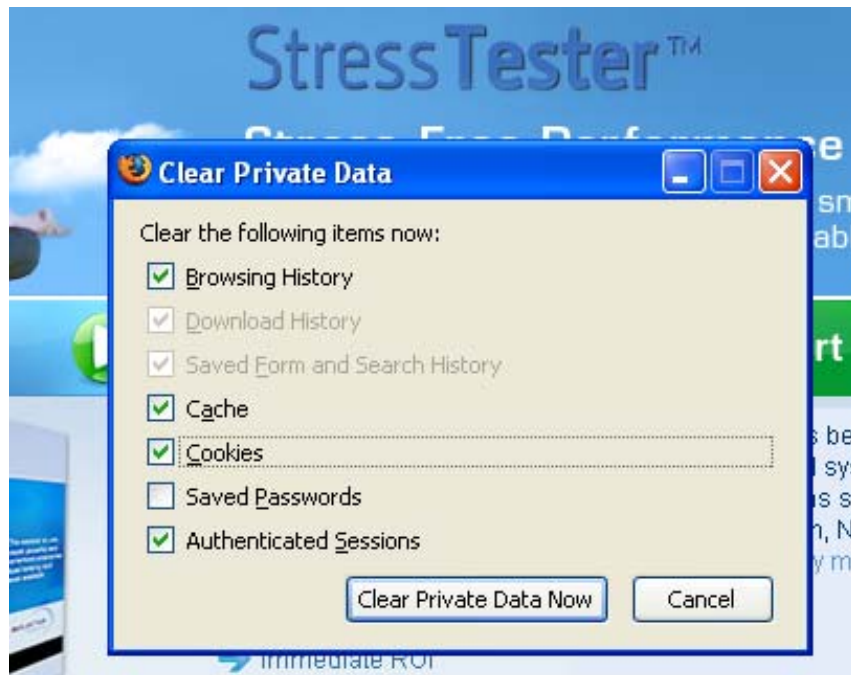
Microsoft Internet Explorer



To clear the browser cache of Internet Explorer:

- Choose the “Tools” option in the Internet Explorer toolbar
- Choose “Internet Options” in the drop-down menu
- Click the “Delete” button in the “Browsing history” section
- Click the “Delete All” button
- Click “Yes” to confirm and then “OK” to close the pop-up window

Mozilla Firefox



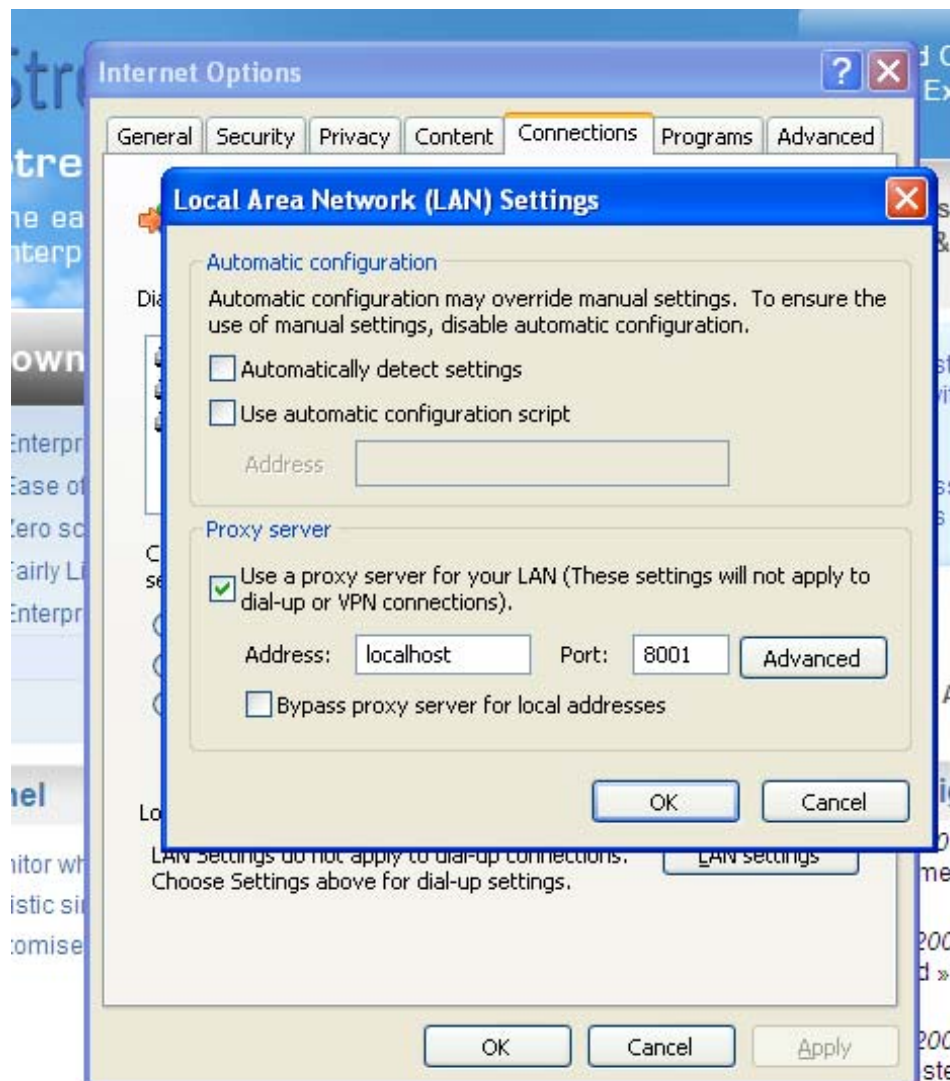
To clear the browser cache of Firefox:

- Choose the “Tools” option in the Firefox toolbar
- Choose “Clear Private Data” in the drop-down menu
- Apart from “Saved Passwords” which can be left unchecked, all other options should be checked
- Click the “Clear Private Data Now” button

Configuring the Browser for Recording

With the recording planned, and the browser's cache cleared, the last set-up action prior to starting the recording is to ensure that the browser is configured to use StressTester™'s recording proxy.

Microsoft Internet Explorer

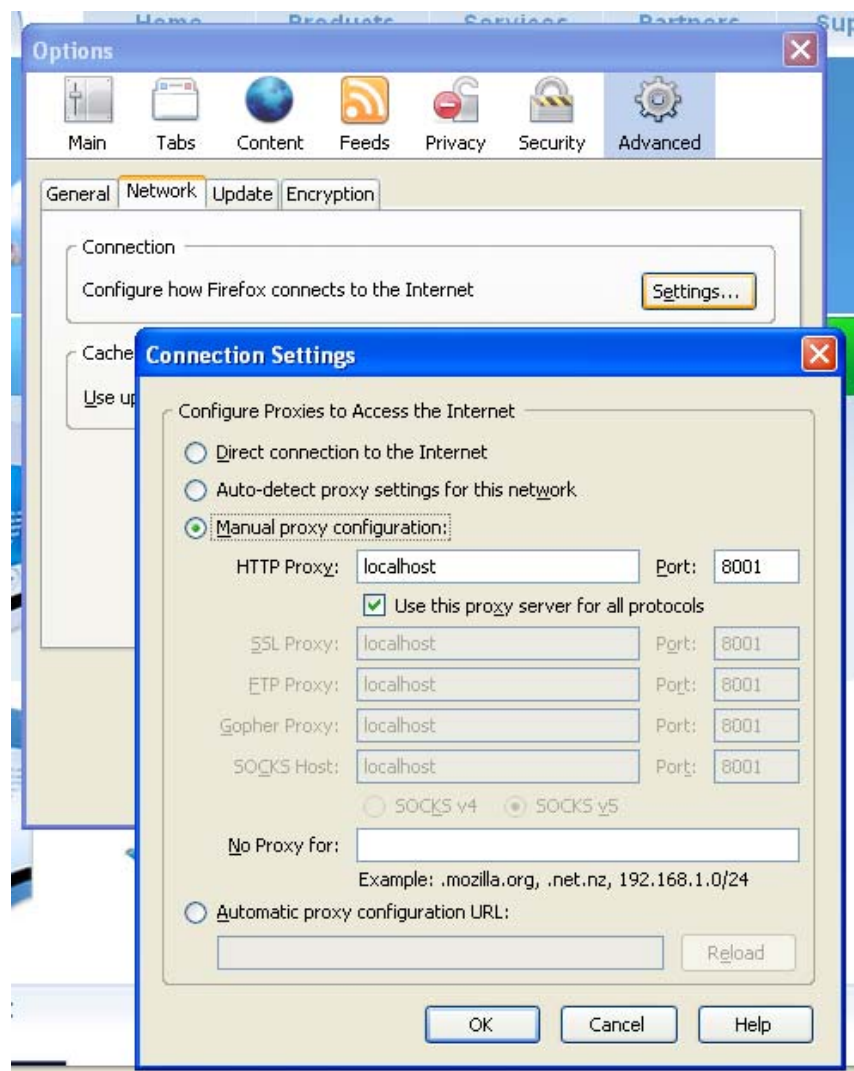


To configure Internet Explorer to use the StressTester™ recording proxy:

- Choose the “Tools” option in the Internet Explorer toolbar
- Choose “Internet Options” in the drop-down menu
- Choose the “Connections” tab

- Click the “LAN Settings” button at the bottom of the tab’s page
- Check the “Proxy Server” option and enter the details of where you will instruct StressTester™ to record – usually the values are an Address of localhost and a Port of 8001
- Click “OK” and “OK” to close the pop-up windows

Mozilla Firefox



To configure Firefox to use the StressTester™ recording proxy:

- Choose the “Tools” option in the Firefox toolbar
- Choose “Options” in the drop-down menu

- Choose the “Network” tab
- Click the “Settings” button
- Check the “Manual proxy configuration” option and enter the details of where you will instruct StressTester™ to record – usually the values are an HTTP Proxy of `localhost` and a Port of `8001`
- Check “Use this proxy for all protocols”
- Click “OK” and “OK” to close the pop-up windows

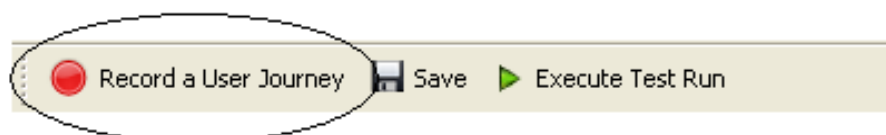
Recording a User Journey

This section details the actions to record a new HTTP User Journey using StressTester™.

Starting a Recording Session

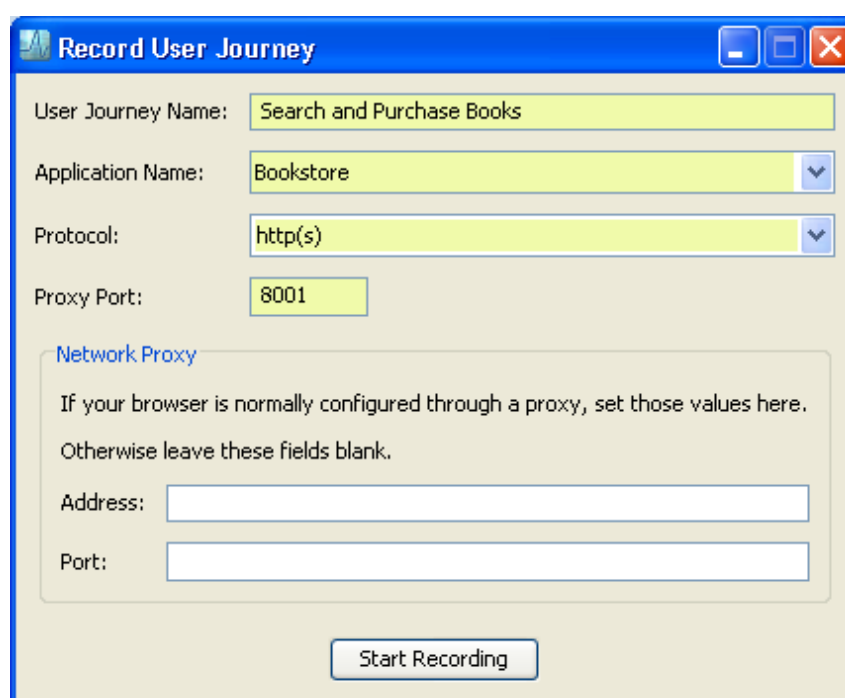
To start a recording session within StressTester™, first open the StressTester™ user interface.

Then click the Record User Journey button on the toolbar.



Depending on whether you have previously selected the “Do not show again” option or not, the Introduction to Recording a User Journey help page may show.

Once you have closed this page, you will be prompted for details about the User Journey to be recorded.

A screenshot of a dialog box titled 'Record User Journey'. The dialog has a blue title bar with standard window controls. It contains several input fields: 'User Journey Name' with the text 'Search and Purchase Books', 'Application Name' with a dropdown menu showing 'Bookstore', 'Protocol' with a dropdown menu showing 'http(s)', and 'Proxy Port' with the text '8001'. Below these is a section titled 'Network Proxy' with a text box containing instructions: 'If your browser is normally configured through a proxy, set those values here. Otherwise leave these fields blank.' This section includes two empty input fields for 'Address' and 'Port'. At the bottom of the dialog is a 'Start Recording' button.

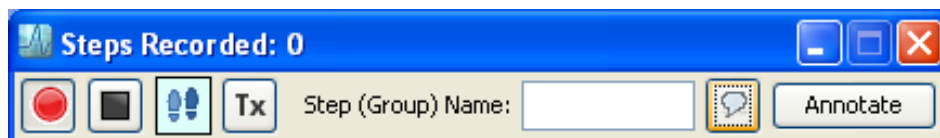
The fields on the screen are as follows:

Field	Description
User Journey Name	The name to be given to the recorded User Journey.
Application Name	The name of the application against which the recording will be made. User Journeys are grouped by application within the StressTester™ user interface.
Protocol	The protocol the browser uses to communicate with the application – always set to “http(s)”
Proxy Port	The port for StressTester™’s recording proxy to listen on – this should be the same as the port set in the browser’s proxy settings – see the Configuring the Browser for Recording section above.
Network Proxy Address	If you usually use a proxy to access the application, this field should be set to the address where that proxy resides. If you do not usually use a proxy, then this field should be left blank.
Network Proxy Port	If a network proxy is specified, this field should contain the port on which that proxy listens; otherwise it should be left blank.





Once you have completed the required fields, click the “Start Recording” button.


Using the StressTester™ Annotation Window

During recording sessions, the StressTester™ Annotation window will be visible and “always on top”.



The fields and buttons of this window are as follows:

Button / Field	Description
Steps Recorded	Indicates the number of requests from the browser to the application recorded by StressTester™ so far in this recording session.
	Recording button. When depressed and flashing this indicates that StressTester™'s recording proxy is ready to record browser interactions with the application.
	Stop button. Once the recording is complete, press this button to stop the recording process and close the Annotation window.
	When depressed, indicates the next annotated step will start a step group (this can be thought of as a new page in a web application). This button is depressed by default – indicating all annotated steps are pages within the application.
	When depressed, indicates that StressTester™ should mark the next annotated step as a transaction and include it when calculating throughput after a performance test.
Step (Group) Name	The name to be given to the annotated step.

Button / Field	Description
	When clicked, a notes box will appear allowing a description for the annotated step to be entered or notes made about the recording.

Recording Process

It is suggested that you adhere to the following process whilst recording your User Journey.

For every action:

1. Enter a name for the action you are about to perform e.g. “Go To Home Page”, “Confirm Purchase”, etc.
2. If you wish to mark this step as a transaction, click the transaction button
3. If you wish to make notes or enter a description for the step, click the notes button and enter the required notes
4. Click the “Annotate” button
5. Perform the action in the browser

Note: You should not worry if you forget to annotate, mark as transaction/step group during the recording. All of these actions can be performed following recording in the StressTester™ user interface.

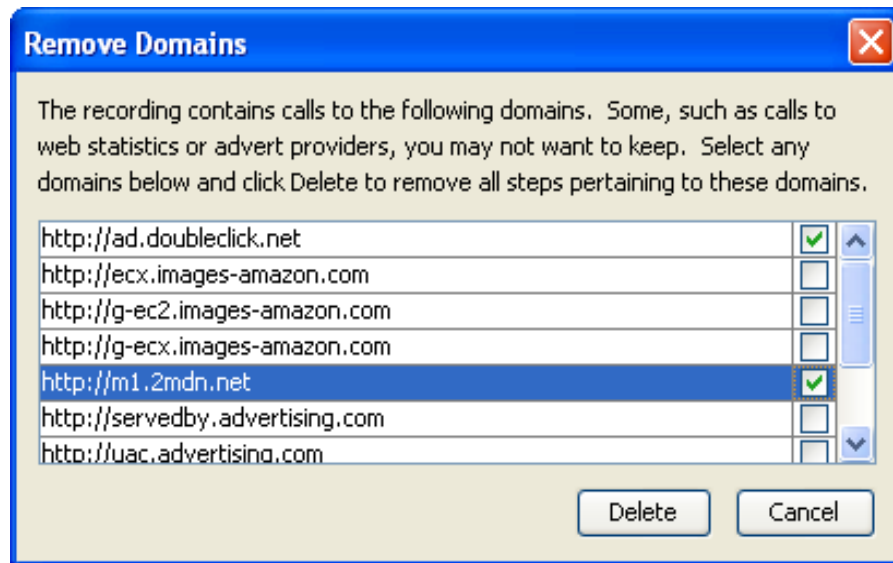
Finishing Recording

When you have finished the business transaction you wish to simulate, simply click the stop button in the Annotation Window to stop recording.

Post Recording Actions

Remove Calls to Unwanted Domains

When you switch back to the main StressTester™ window, you may be prompted with a pop-up window offering you the chance to remove steps from domains you do not wish to keep in your recording.



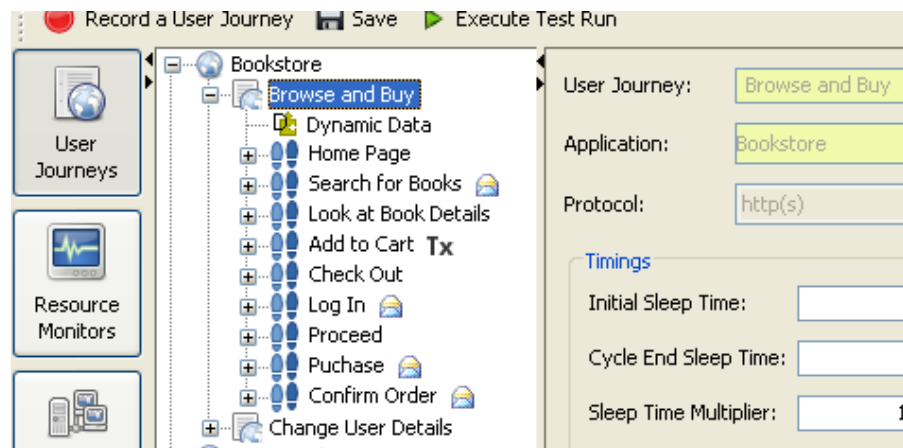
It is common - especially when recording against public commercial web sites - for Internet applications to retrieve content from many domains – including external advertising and web monitoring sites.


However, it may not be desired to make such requests when executing performance tests – for example you may be charged by each advert requested.

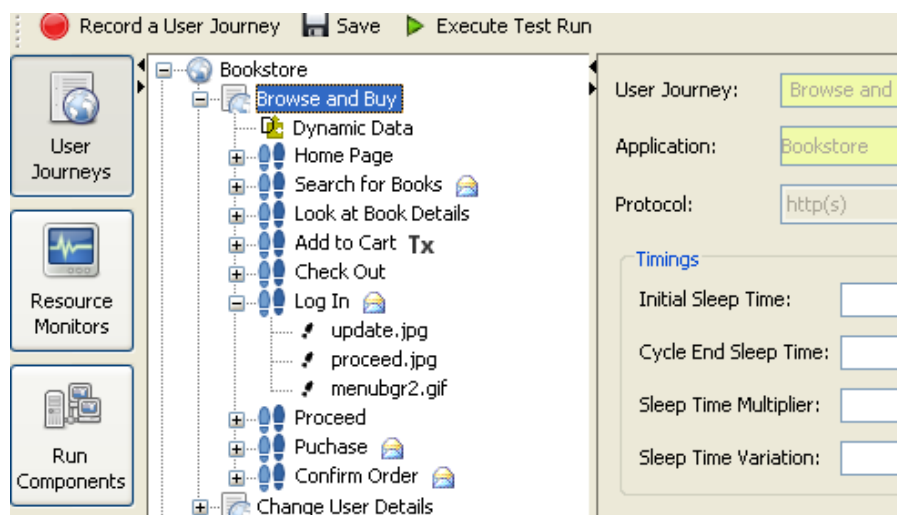
By selecting the domains you do not wish to include in your performance tests and clicking the “Delete” button, StressTester™ will automatically remove all steps from the User Journey that access those domains.

Inspecting the Recorded User Journey

The recorded User Journey will be shown expanded and selected in the StressTester™ user interface.



The step groups within the User Journey – indicated by the  navigation tree nodes, can be expanded to show the steps within the group.



In the screen shot above, you can see that the Log In page consists of its request and then requests for three images.

Testing the User Journey

After you are happy that the User Journey has been recorded successfully, the next step is to get the User Journey to play back successfully.

The only thing that normally stops a freshly recorded new User Journey from immediately playing back correctly is application session data. This type of data is passed “silently” between the browser and the application unbeknown to the user.

Configuring a User Journey to handle application session data is very easy within StressTester™ and the sections below explain how this is achieved and how to check that the User Journey is playing back correctly.

Auto-Correlating Application Session Data

To configure a User Journey to automatically handle application session data you should follow the steps below.

Check for application session data

The first step in identifying application session data is to right-click on the Dynamic Data node of the User Journey in the navigation tree and then select “New”.

Then on the displayed Dynamic Data screen, select the “Auto-Correlated” Source.

Select the “Known Fields” field type and then see if the Field Name list is populated with any known fields.

Note: If no field names are shown, this indicates that the application does not use any common session data. In this case, the remainder of this section can be ignored and you can continue from the [Consider creating Dynamic Data items for “repeated fields”](#) section below.

The screenshot shows the configuration interface for a Dynamic Data item. It includes the following fields and options:

- Name:** A text input field.
- Description:** A text area.
- Source:** A dropdown menu set to "Auto-Correlated".
- Field Type:** A dropdown menu set to "Known Fields".
- Field Name:** A dropdown menu set to "__VIEWSTATE".
- Appears In:** A group of checkboxes: "All" (unchecked), "URL" (unchecked), "Post" (checked), and "Headers" (unchecked).
- Encode Value?:** Radio buttons for "Yes" (selected) and "No".
- Shared:** Radio buttons for "One User Only" (selected) and "All Users of User Journey".
- Refresh:** Radio buttons for "Once per Run" (unchecked), "Once per User" (unchecked), "Every Cycle" (unchecked), and "Every Time" (checked).

Below the "Source" dropdown, there is explanatory text: "Auto-Correlate Dynamic Data is used when you wish StressTester™ to maintain the value of a data item (typically session state field) that is passed between the browser and the application server. Choose a Field Type of 'Known Values' or 'Repeated Fields' and then select the application field to auto-correlate. It is always recommended that you configure any Known Fields. See Help for more information on this type of Dynamic Data."

Create a Dynamic Data item for each “known field”

If the Field Name list contains session variable names, each should be configured as Auto-Correlated Dynamic Data.

For each variable name listed, follow these steps:

1. Click new on the Dynamic Data screen
2. Choose “Auto-Correlated” Source
3. Select the Field Type of “Known Fields”
4. Select the field to be auto-correlated.
5. Give the Dynamic Data item a Name. It is advised you use the name of the variable having removed any underscores, etc. (e.g. “VIEWSTATE” for the variable `__VIEWSTATE`).
6. Click “Save” on the toolbar
7. Click OK in the Action Confirmation pop-up window

Consider creating Dynamic Data items for “repeated fields”

As well as the commonly used session state variables (such as `__VIEWSTATE`, etc. for .Net applications, and `jsessionid` for J2EE applications), application developers may have implemented their own variables.

By creating a new Dynamic Data item and then selecting the Field Type of “Repeated Fields”, you can easily see the names of all

fields/variables that are sent more than once to the application in the User Journey.

It is not recommended that you configure any of these as auto-correlated Dynamic Data unless the application developers advise you to do so.

When you do wish to auto-correlate such variables, simply follow the steps in the [Create a Dynamic Data item for each “known field”](#) section above, but obviously choose “Repeated fields” in the third step of the specified process.

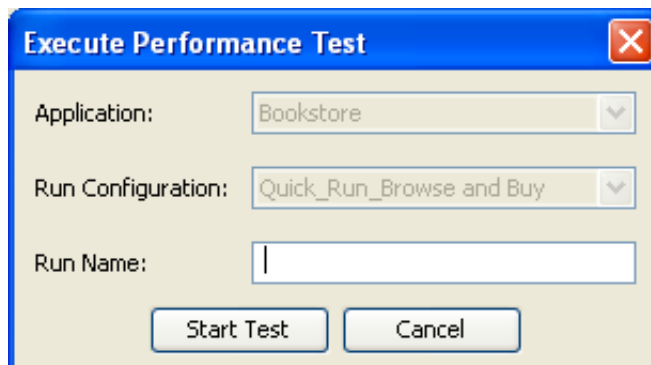
Quick Run a User Journey

Having followed the sections above, your User Journey is recorded, has calls to non-required domains removed, and session state variables configured for auto-correlation.

You are now ready to test your User Journey.

Right-click the User Journey node in the navigation tree and select the “Quick Run” option.

After selecting “Quick Run” you will be presented with a pop-up window asking you to give a unique name to this test.



Having entered a unique Run Name, click “Start Test”. This will cause StressTester™ to run the User Journey for one simulated user and one cycle, logging all step requests and responses to separate files for inspection.

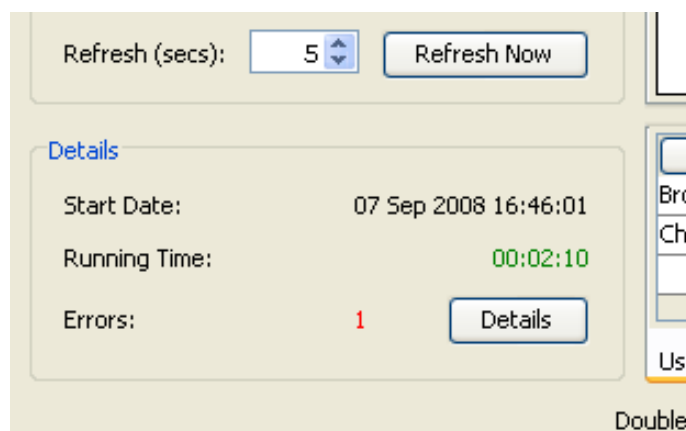
The files will be stored within a subdirectory of the StressTester™ installation called `/log/<Run Name>`.

During the run, StressTester™ will display the analysis screen. This section will not detail that screen – see the [Analysing Performance Test Results](#) user guide for further details.

However, you are advised to set a Refresh value of 5 seconds in the analysis screen and also watch the error count in the bottom left of the screen to check no errors occur.

You will be notified when the Quick Run performance test finishes.

If the error count is not zero, you should click the “Details” button by the error count at the bottom left of the screen to see information about the errors that have occurred.



Checking the Application Responses

When you have managed to Quick Run the User Journey without any errors being reported, you can then verify that the application responded successfully and as you would have expected.

If you look in the `/log` directory of the StressTester™ installation, you will see a sub-directory with the same name as you chose for the Quick Run test.

Inside that directory, there will be one file for every request made by StressTester™, and a corresponding file for every response received.

Both files for each User Journey request include the step name so it is easy to open the files and see that the application responses were as expected and verify the User Journey is running correctly.

Further Developing the User Journey

Having a User Journey that runs successfully for one cycle and one user should not be confused with considering the User Journey's configuration is complete.

In order to execute correct testing, it is necessary to configure the User Journey to include the following:

- Varying the data contained in requests
- Checking the application responses are correct for the data supplied in the requests
- Varying the route and flows a user takes through the business transaction
- Ensuring inter-step sleep and wait times are realistic

It is suggested you next read the [Configuring User Journeys to be Correct and Realistic](#) user guide for information on how to accomplish all of the above and truly be ready to execute performance tests.

Appendix A: Sample Recording Planning Sheet

The sheet below is used to plan the steps that will be executed during the recording and data that will be supplied.

Id.	Step Name	Action	Tx?
1	Home Page	Go to www.mysite.com	
2	Select Category	Wait 3 seconds and then: Select the link for the books category on the right hand side of the home page	
3	Search	Wait 5 seconds and then: Search for “performance testing” – enter the search term and click “Search”	
4	Look at a book’s details	Wait 2 seconds and then: Choose one of the books (note in the notes window which one is chosen) and click its “More Details” link.	
...	
...	
n	Confirm Purchase	Click “Confirm”	Y