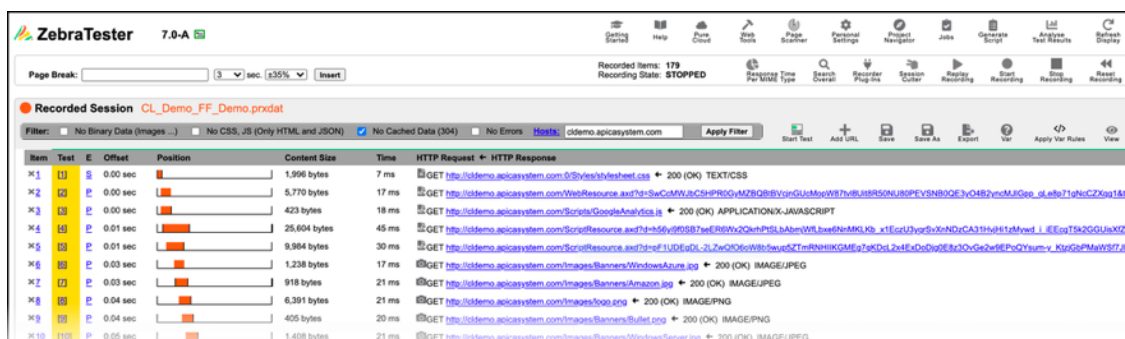


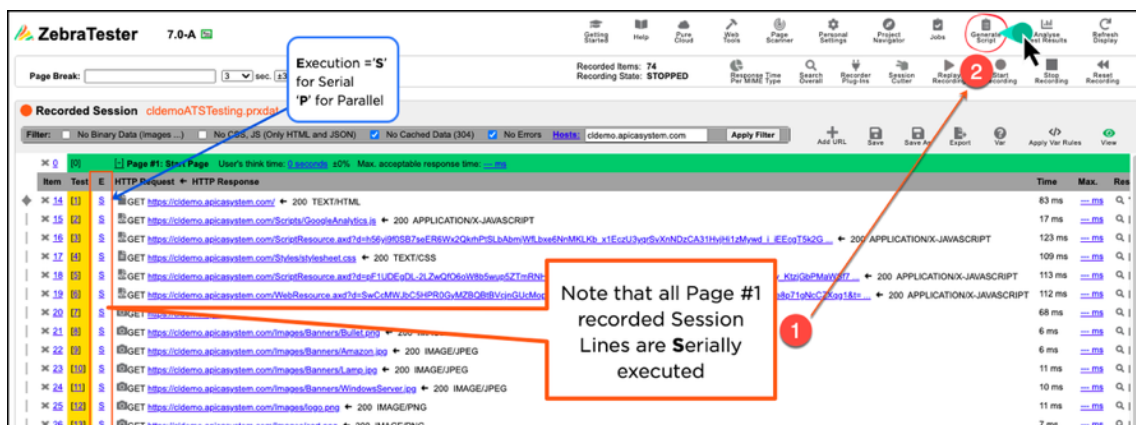
# ZebraTester 7.0A (Released 17 January 2021)

## 7.0A features:

- **Java 11 Support** - Adopt Open JDK 11 is now bundled with ZebraTester, which means the compiler and runtime environment for the script's execution is in java 11. That also means it is backward compatible; the scripts compiled in earlier versions will execute in 7.0-A.
- **New GUI theme** - 7.0-A ZT has a new GUI theme, which means a new set of styles and icons. This a phase 1 GUI refresh; in phase 2, there will be new types of navigation.



- **A new way of executing checks in ASM** - The ZT check execution in ASM is optimized and will create the JSON result file. Now, run checks by passing a new runtime parameter, *-jsonres*.
- **Automatic Parallel/Serial execution config** - From 7.0-A ZT, the configuration of parallel/serial execution of URLs will be automatic during the script generation. Users could also change the configurations as before.



# Consolidated ZebraTester Release Notes (V7.0A-5.5F)

**ZebraTester Generate Script**

URL Execution i

|                   |    |
|-------------------|----|
| Serial Executed   | 12 |
| Parallel Executed | 33 |
| Threads p. User   | 6  |

Switch to Serial Exec.  
Switch to Parallel Exec.

Script - 50 Items selected: 5 Pages - 45 URLs

Java™ Classname: \* ⇒ cidemoATSTesting

Content Test Algorithm: [+ apply (heuristic) methods from recorded session to check received content ▼

Character Encoding: UTF-8 ▼

Generate External Files for XML and SOAP Request Data: > 4096 Bytes ▼

Apica Table Server: ⇒  Apply Apica Table Server API configuration from [Personal Settings](#)  
*\* required: Enter a "simple" classname for the script, with no path and no file extension.*

**HTTP Protocol Options i**

HTTP Protocol Version: 1.1 ▼ Allow Keep-Alive:

Strip Referer Header Field:  Strip Accept Header Field to /\*:

Load Test over HTTP(S) Proxy:  Apply next proxy configuration from [Personal Settings](#)

PAC file Support:  Apply PAC file [Personal Settings](#)

**HTTP / SSL Authentication Options i**

Basic Authentication:  Apply individual Basic Authentication per user from input file (basicauth.txt)

Digest Authentication:  Apply individual Digest Authentication per user from input file (digestauth.txt)  
 use common Username:  Password:

NTLM Authentication:  use common NTLM account from [Personal Settings](#) menu ▼

Kerberos Authentication:  use common Kerberos account from [Personal Settings](#) menu ▼

PKCS#12 Client Certificates:  apply individual PKCS#12 certificate per user from input file (pkcs12auth.txt) ▼

DER/PEM Client Certificates:  apply individual DER/PEM certificate per user from input file (dpClientCerts.txt) ▼

Program Description: \* pocDemo Parallel-Serial Execution Config

Continue *\* recommended: Will be displayed as hint in Project Navigator*

**ZebraTester Generate Script**

URL Execution i

|                   |    |
|-------------------|----|
| Serial Executed   | 12 |
| Parallel Executed | 33 |
| Threads p. User   | 6  |

Switch to Serial Exec.  
Switch to Parallel Exec.

Script - 50 Items selected: 5 Pages - 45 URLs

Java™ Classname: \* ⇒ cidemoATSTesting

Content Test Algorithm: [+ apply (heuristic) methods from recorded session to check received content ▼

Character Encoding: UTF-8 ▼

Generate External Files for XML and SOAP Request Data: > 4096 Bytes ▼

Apica Table Server: ⇒  Apply Apica Table Server API configuration from [Personal Settings](#)  
*\* required: Enter a "simple" classname for the script, with no path and no file extension.*

**HTTP Protocol Options i**

HTTP Protocol Version: 1.1 ▼ Allow Keep-Alive:

Strip Referer Header Field:  Strip Accept Header Field to /\*:

Load Test over HTTP(S) Proxy:  Apply next proxy configuration from [Personal Settings](#)

PAC file Support:  Apply PAC file [Personal Settings](#)

**HTTP / SSL Authentication Options i**

Basic Authentication:  Apply individual Basic Authentication per user from input file (basicauth.txt)

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 use common Username:  Password:

NTLM Authentication:  use common NTLM account from [Personal Settings](#) menu ▼

Kerberos Authentication:  use common Kerberos account from [Personal Settings](#) menu ▼

PKCS#12 Client Certificates:  apply individual PKCS#12 certificate per user from input file (pkcs12auth.txt) ▼

DER/PEM Client Certificates:  apply individual DER/PEM certificate per user from input file (dpClientCerts.txt) ▼

Program Description: \* pocDemo Parallel-Serial Execution Config

Continue *\* recommended: Will be displayed as hint in Project Navigator*

# Consolidated ZebraTester Release Notes (V7.0A-5.5F)

**ZebraTester Generate Script**

Script `cldemoATSTesting.java` ready to save.

URL Execution i

|                   |    |
|-------------------|----|
| Serial Executed   | 12 |
| Parallel Executed | 33 |
| Threads p. User   | 6  |

Switch to Serial Exec.  
Switch to Parallel Exec.

MyTests/

- MyTests
  - InlineScriptLibrary
  - LRscripts
  - MonitoringTemplates
  - NewSubDirXML
  - Plugins
  - ReportTemplates
  - ScriptExamples
  - Test
  - Trash

Display Script Java Program `cldemoATSTesting.java`

**Response Verification Summary [+]**

Page #1: Start Page  
14 [1] Q "function \_\_doPostBack(eventTarget, eventArgument) (" [no failure action]

Page #2: Booking  
49 [2] Q "option value="FC Internazionale Milano" [no failure action]  
55 [2] Q "[83]updatePanel|MainContent\_UpdatePanel2"  
57 [2] Q [http status code not verified] [content verification disabled] [no failure action]  
58 [2] Q "span id="MainContent\_SecondaryAvailabilityLabel"" [no failure action]

Page #3: Media  
60 [4] Q "function \_\_doPostBack(eventTarget, eventArgument) (" [no failure action]

Page #4: Shopping Cart  
63 [4] Q "span id="MainContent\_ShoppingCartLabel"" [no failure action]  
66 [4] Q "span id="MainContent\_ShoppingCartLabel"" [no failure action]  
68 [4] Q "span id="MainContent\_RemainingSecondaryLabel"" [no failure action]  
70 [4] Q "span id="MainContent\_RemainingSecondaryLabel"" [no failure action]

Page #5: Home  
73 [2] Q "function \_\_doPostBack(eventTarget, eventArgument) ("

3 **Generate Script**  Overwrite & Compile

**ZebraTester 7.0-A**

Page Break: 3 sec

Execution = 'S' for Serial  
'P' for Parallel

Now see that all Page #1 the Session Lines are automatically reassigned as either Serially or Parallelly executed

Recorded Session `cldemoATSTesting.prxdat`

Filter:  No Binary Data (Images ...)  No CSS, JS (Only HTML and JSON)  No Cached Data

Item Test E HTTP Request HTTP Response

× 14 [1] S GET https://cldemo.apicasystem.com/ ← 200 TEXT/HTML

**ZebraTester Item 14: Configure Serial/Parallel Runtime Execution**

Item 14 on Page #1: Start Page → GET https://cldemo.apicasystem.com/ ← 200 (OK) "TEXT/HTML" (3,638 bytes)

URL 14 Runtime Execution Behavior:

Serial Execution  
 Parallel Execution

Disallow Auto-Configuration for this URL (protect from automatic modification)

Apply for all URLs with HTTP status code: 200 OK AND response content type: text/html

Apply

URL 14: Var Handler Overview

| Assigned Vars:    | Scope |
|-------------------|-------|
| Extracted Vars:   |       |
| eventvalidation_1 | loop  |
| viewstate_1       | loop  |
| viewstatagen_1    | loop  |

Session-Wide Settings:

Reset: Configure Serial Runtime Execution for all URLs, and allow Auto-Configuration

Apply Auto-Configuration for Parallel URL Runtime Execution

Session-Wide Statistic

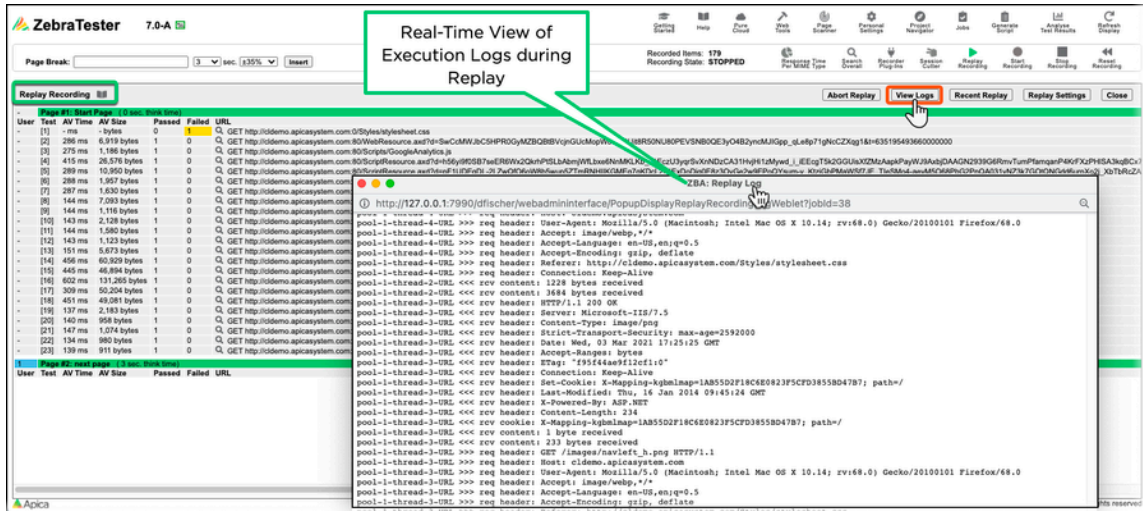
|                               |    |
|-------------------------------|----|
| Total Serial Executed URLs:   | 12 |
| Total Parallel Executed URLs: | 33 |
| Total Number of Pages:        | 5  |

General Load Test Configuration:

Max. Parallel Threads per User: 6 (recommended)

- Real-Time view of execution logs during replay - From the 7.0-A ZT version user could see the execution logs during replay. The old way of displaying logs after the replay also exists.

# Consolidated ZebraTester Release Notes (V7.0A-5.5F)

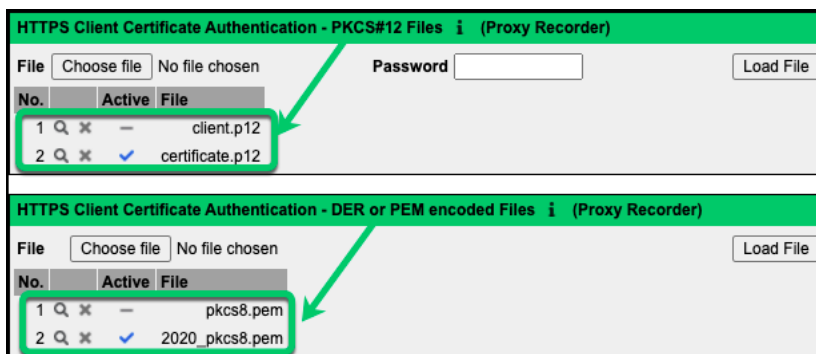


- **S3 Upload of load test result** - This feature is mostly useful for the Mega Test using ZebraTester. Upload of the load test results to S3 by passing a parameter *-uploadResultToS3* during the script execution.

## ZebraTester 5.5Z (Released 30 September 2020)

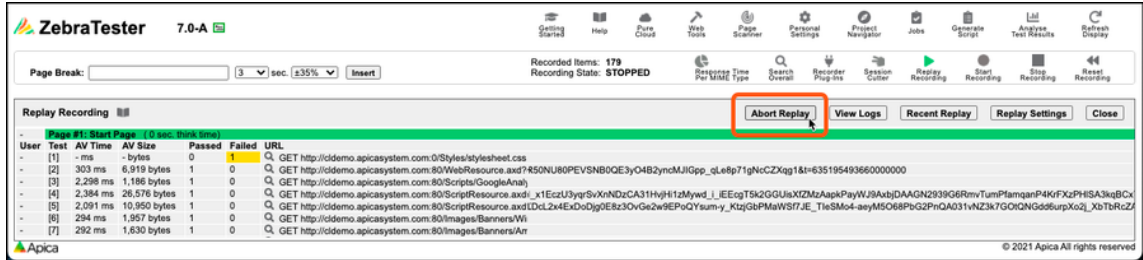
### 5.5Z features:

- **Init State** - A new state called "Init State" for the cluster jobs between transmit and start of the jobs will prepopulate the agents with the script and supporting files.
- **Support multiple client certificates** - multiple client certificates supported securing communication with web servers.

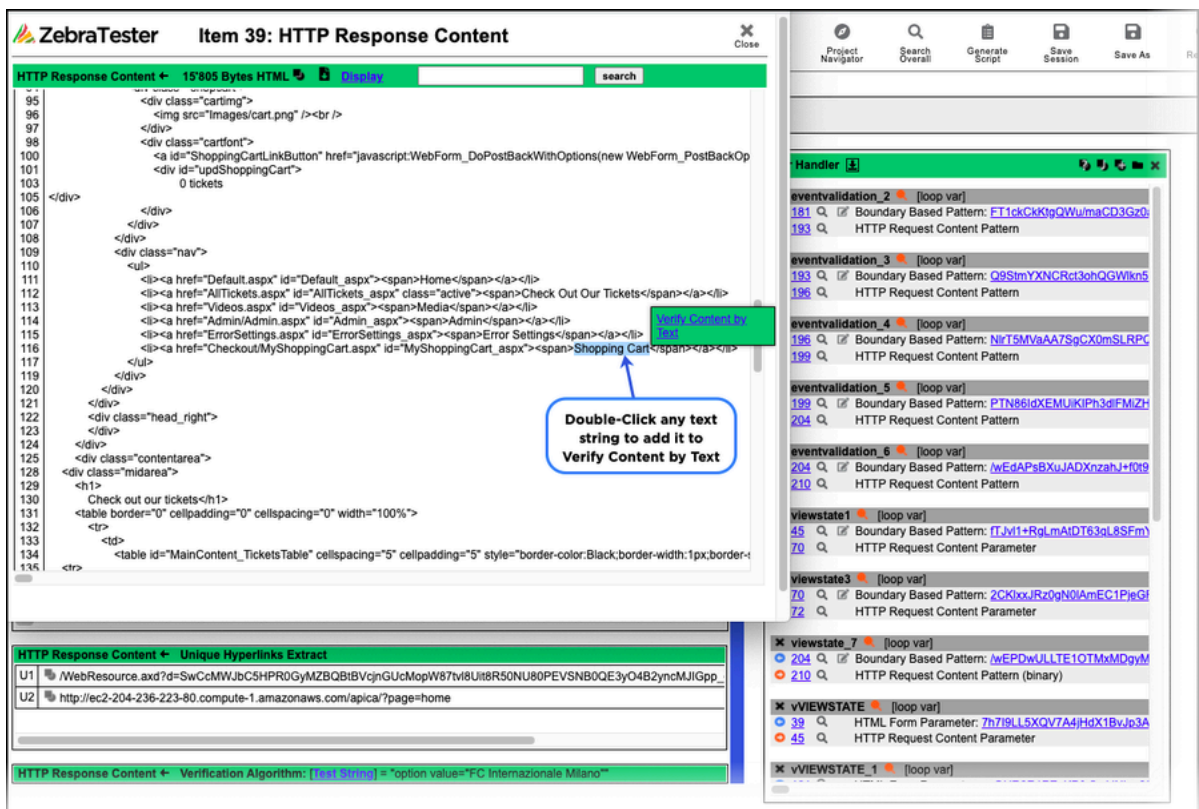


- **Abort for Replay** - ZebraTester now supports aborting the replay of the recorded sessions.

# Consolidated ZebraTester Release Notes (V7.0A-5.5F)

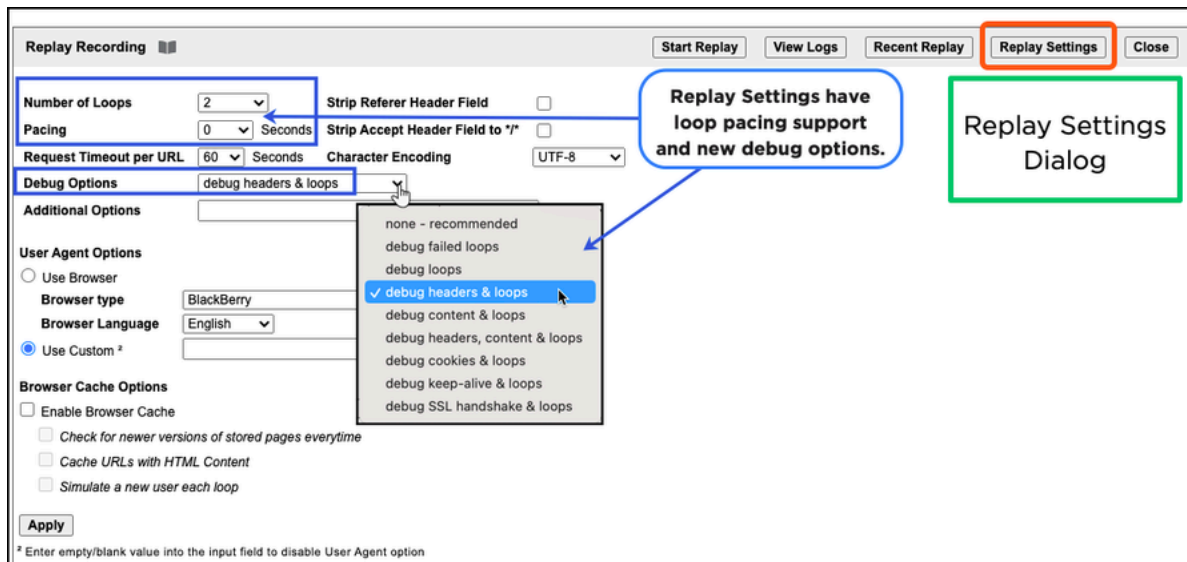


- **MS package support** – Apica now provides an MSI package plus the EXE format package for Windows platforms.
- **New Option in response content** – Now, users can add content verification for response content by clicking on the desired string.

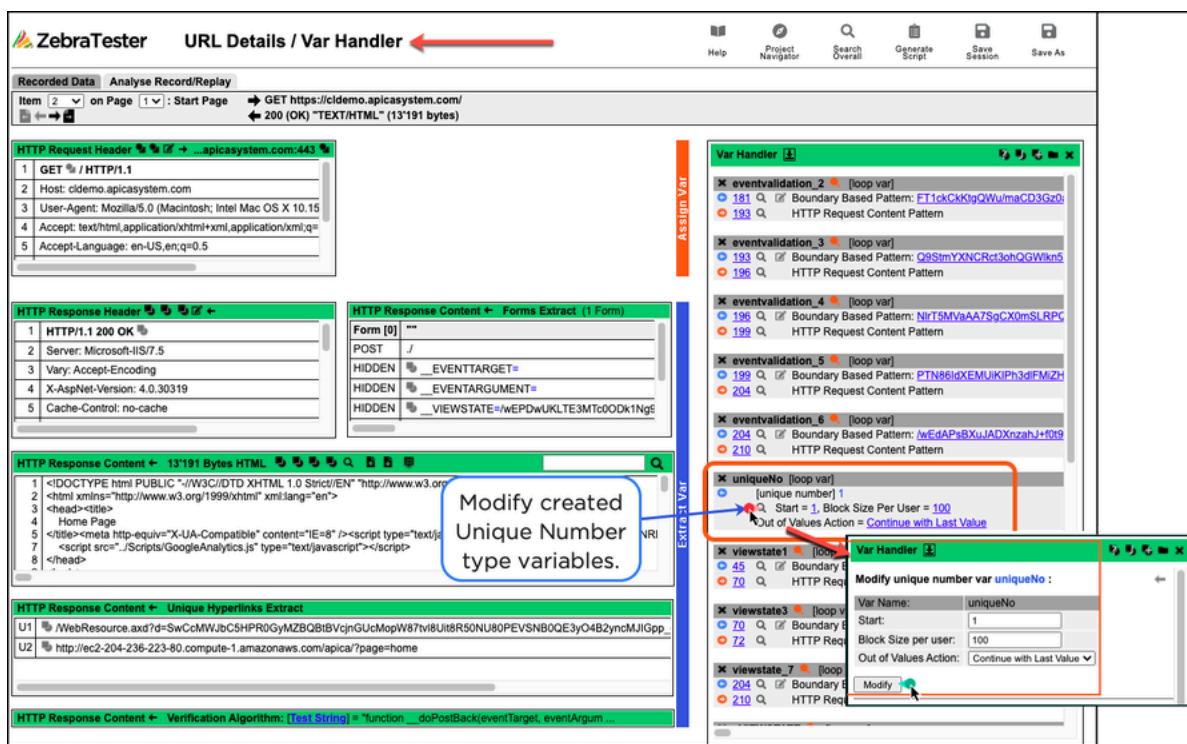




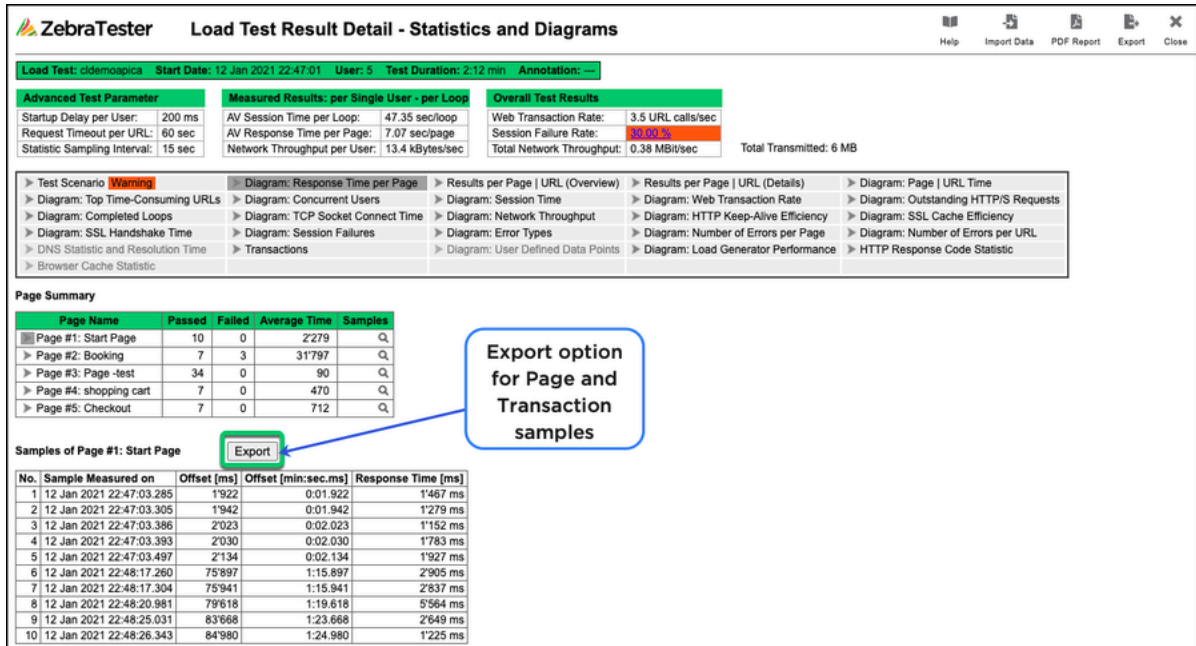
- **Debug settings and pacing for replay** – Replay settings now contain different debug options and support pacing for loops.



- **Support for the modify option for Unique Number variable type** – ZebraTester now supports modifying already-created Unique Number type variables.



- **Export option for Page and Transaction samples** – There is now an Export button available in the Pages and Transactions summary to export the pages and transaction samples.



**ZebraTester Load Test Result Detail - Statistics and Diagrams**

Load Test: cidemoapica Start Date: 12 Jan 2021 22:47:01 User: 5 Test Duration: 2:12 min Annotation: —

| Advanced Test Parameter             | Measured Results: per Single User - per Loop | Overall Test Results                    |
|-------------------------------------|--|---|
| Startup Delay per User: 200 ms      | AV Session Time per Loop: 47.35 sec/loop     | Web Transaction Rate: 3.5 URL calls/sec |
| Request Timeout per URL: 60 sec     | AV Response Time per Page: 7.07 sec/page     | Session Failure Rate: 31.07 %           |
| Statistic Sampling Interval: 15 sec | Network Throughput per User: 13.4 kBytes/sec | Total Network Throughput: 0.38 MB/sec   |
|                                     |  | Total Transmitted: 6 MB                 |

Page Summary

| Page Name              | Passed | Failed | Average Time | Samples |
|------------------------|--------|--------|--------------|---------|
| Page #1: Start Page    | 10     | 0      | 2279         | Q       |
| Page #2: Booking       | 7      | 3      | 31797        | Q       |
| Page #3: Page -test    | 34     | 0      | 90           | Q       |
| Page #4: shopping cart | 7      | 0      | 470          | Q       |
| Page #5: Checkout      | 7      | 0      | 712          | Q       |

Samples of Page #1: Start Page

| No. | Sample Measured on       | Offset [ms] | Offset [min:sec.ms] | Response Time [ms] |
|-----|--------------------------|-------------|---------------------|--------------------|
| 1   | 12 Jan 2021 22:47:03.285 | 19221       | 0:01.922            | 1467 ms            |
| 2   | 12 Jan 2021 22:47:03.305 | 1942        | 0:01.942            | 1279 ms            |
| 3   | 12 Jan 2021 22:47:03.386 | 2023        | 0:02.023            | 1152 ms            |
| 4   | 12 Jan 2021 22:47:03.393 | 2030        | 0:02.030            | 1783 ms            |
| 5   | 12 Jan 2021 22:47:03.497 | 2134        | 0:02.134            | 1927 ms            |
| 6   | 12 Jan 2021 22:48:17.260 | 75897       | 1:15.897            | 2905 ms            |
| 7   | 12 Jan 2021 22:48:17.304 | 75941       | 1:15.941            | 2837 ms            |
| 8   | 12 Jan 2021 22:48:20.981 | 79618       | 1:19.618            | 5564 ms            |
| 9   | 12 Jan 2021 22:48:25.031 | 83668       | 1:23.668            | 2649 ms            |
| 10  | 12 Jan 2021 22:48:26.343 | 84980       | 1:24.980            | 1225 ms            |

- **Validity change in the webserver certificates created by ZT** – Web server certificates created by ZebraTester during the recording of a website is limited to 1-year validity (previously, ten years).
- **Support for new var assign pattern for “Assign Var by Text pattern”** – Extended the support for new var assign pattern `{$varName}` to “Assign Var by Text pattern,” as well.
- **New Inline function *getTableSize (tableName, columnName)*** – Added a new line function to get the size of an ATS table. Also, you can check the size of a specific column in a table by passing the column name as an optional argument.

## ZebraTester 5.5Y (Released 20 July 2020)

### 5.5Y features:

- **Apica Table Server** – This version introduces the Apica Table Server (ATS), a web application, which can hold data from multiple tables. This feature avoids supplying the script’s data input needs via attaching input files.
  - ZebraTester includes new inline functions to communicate with ATS for data retrieval and feeding.

## Consolidated ZebraTester Release Notes (V7.0A-5.5F)

The top screenshot shows the Apica Table Server V1.1 interface with the following callouts:

- Browse for File to import**: Points to the 'Choose File' button.
- Import File**: Points to the 'Import' button.
- Export File to CSV**: Points to the 'Export' button.
- Hide/Show Retrieved Data in Table**: Points to the 'Hide Retrieved Data' checkbox.

The bottom screenshot shows the interface after a file import, with the following callouts:

- Edit Row/Record**: Points to the edit icon in the 'Actions' column of the table.
- Delete Row/Record**: Points to the delete icon in the 'Actions' column of the table.

| Region             | Country             | Item Type       | Sales Channel | Order Priority | Order Date | Order ID  | Ship Date | Units Sold | Unit Price | Unit Cost | Total Revenue | Actions         |
|--------------------|---------------------|-----------------|---------------|----------------|------------|-----------|-----------|------------|------------|-----------|---------------|-----------------|
| Australia and O... | China               | Baby Food       | Offline       | H              | 5/28/2010  | 669165933 | 6/27/2010 |            |            | 42        | 2533554.006   | [Edit] [Delete] |
| Central America... | Grenada             | Cereal          | Online        | C              | 8/22/2012  | 963881480 | 9/15/2012 |            |            | .11       | 576782.80     | [Edit] [Delete] |
| Europe             | Russia              | Office Supplies | Offline       | L              | 5/2/2014   | 341417157 | 5/8/2014  | 1779       | 651.21     | 524.96    | 1158502.59    | [Edit] [Delete] |
| Sub-Saharan Af...  | Sao Tome and ...    | Fruits          | Online        | C              | 6/20/2014  | 514321792 | 7/5/2014  | 8102       |            |           | 75591.66      | [Edit] [Delete] |
| Sub-Saharan Af...  | Rwanda              | Office Supplies | Offline       | L              | 2/1/2013   | 115456712 | 2/6/2013  | 5062       |            |           | 3296425.02    | [Edit] [Delete] |
| Australia and O... | Solomon Islands     | Baby Food       | Online        | C              | 2/4/2015   | 547995746 | 2/21/2015 | 2974       | 255.28     | 159.42    | 759202.72     | [Edit] [Delete] |
| Sub-Saharan Af...  | Angola              | Household       | Offline       | M              | 4/23/2011  | 135425221 | 4/27/2011 | 4187       | 668.27     | 502.54    | 2798046.49    | [Edit] [Delete] |
| Sub-Saharan Af...  | Burkina Faso        | Vegetables      | Online        | H              | 7/17/2012  | 871543967 | 7/27/2012 | 8082       | 154.06     | 90.93     | 1245112.92    | [Edit] [Delete] |
| Sub-Saharan Af...  | Republic of the ... | Personal Care   | Offline       | M              | 7/14/2015  | 770463311 | 8/25/2015 | 6070       | 81.73      | 56.67     | 496101.10     | [Edit] [Delete] |
| Sub-Saharan Af...  | Senegal             | Cereal          | Online        | H              | 4/18/2014  | 616607081 | 5/30/2014 | 6593       | 205.70     | 117.11    | 1356180.10    | [Edit] [Delete] |

- **Support for TLS 1.3** – ZT now supports TLS 1.3
  - Quicker handshake
  - Removes weak ECC ciphers
  - Encrypts all messages after server hello
  - And More
- **Made the Replay Settings specific to scripts** – Now Replay Settings are specific to scripts so that users can save the replay settings along with the prxdat files.
- **Made Replay stateful** – Now ZT keeps the state of replay, which means a user can come back to the replay screen and can see the latest replay in progress, or the latest replay summary, any time.
- **GUI to filter traffic before recording** – Now, use the ZT GUI to configure the traffic filter rules (both by Domain and URL) *before* starting the recording to filter traffic during the recording (whitelist and blacklist domains, URLs, and URL Regex temporarily). This configuration is available under the Personal Settings.



# Consolidated ZebraTester Release Notes (V7.0A-5.5F)

**Personal Settings - Proxy Recorder**

Connect to Next / Cascaded Proxy (Proxy Recorder)

Next Proxy HTTP Host:   
 Next Proxy HTTP Port:   
 Next Proxy HTTP Cache disabled:   
 Next Proxy HTTP Host: 127.0.0.1  
 Next Proxy HTTPS Port: 8888  
 Next Proxy Auth Username:   
 Next Proxy Auth Password:   
 No Next Proxy for Host/Domain:

**HTTPS Client Certificate Authentication - PKCS#11 Device (Proxy Recorder)**

OS-Specific Library: pkcs11wrapper.dll  
 Device-Specific Library: slecap11.dll  
 PIN:  Slot No.: 0

**NTLM Authentication (Proxy Recorder)**

Protocol: NTLM v2  
 Domain: apica.local  
 Username: Administrator  
 Password:

**GUI Settings**

Time Zone: ECT (UTC +01:00) \*\* Deprecated  
 Number Format: 123456.00  
 Project Navigator Path: /Users/work/dev/Workspace/NEW/ZebraTester/PrxCore

**Alert Notifications**

**Filter Traffic Rule Configuration**

**Apica Table Server API Configuration**

|            |           |            |                      |
|------------|-----------|------------|----------------------|
| HTTP Host  | 127.0.0.1 | HTTP Port  | 8992                 |
| HTTPS Host | 8990      | HTTPS Port | <input type="text"/> |

## Filter Traffic Rule Configuration

**Domain Filter** | URL Filter | URL Regexp Filter

**Domain Whitelist**

Domain: \*

Whitelisted Domains:   
 No Domains configured

**Domain Blacklist**

Domain: \*

Action: \*

Blacklisted Domains: 

| Action                | Domain (DNS Name / IP Address) |
|-----------------------|--------------------------------|
| No Domains configured |                                |

**Domain Filter**

**Domain Blacklist**

**Domain:** \*

**Action:** \* No action  Add

"cldemo" added.

**Blacklisted Domains:**

|   |   | Action | Domain (DNS Name / IP Address) |
|---|---|--------|--------------------------------|
| ✕ | ✎ | abort  | "google"                       |
| ✕ | ✎ | 400    | "cldemo"                       |

Delete
Modify

---

### Filter Traffic Rule Configuration

Domain Filter
URL Filter
URL Regex Filter

URL Filter

**URL Whitelist**

**URL:** \*

**Whitelisted URLs:**

| URL                |
|--------------------|
| No URLs configured |


**URL Blacklist**

**URL:** \*

**Action:** \* No action

**Blacklisted URLs:**

| URL                | Action |
|--------------------|--------|
| No URLs configured |        |

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**URL Blacklist**

URL: \*

Action: \* No action ⌵ Add

Blacklisted URLs:

|   |   | Action | URL  |
|---|---|--------|--|
| ✕ | ✎ | abort  | https://cldemo.apicasystem.com/AllTickets.aspx |

Delete
Modify
Add

---

## Filter Traffic Rule Configuration

**URL Regex Filter**

Domain Filter
URL Filter
URL Regex Filter

**URL Regex Whitelist**

URL Regex: \*  Add

Whitelisted URL Regex:

| URL Regex               |
|-------------------------|
| No URL Regex configured |

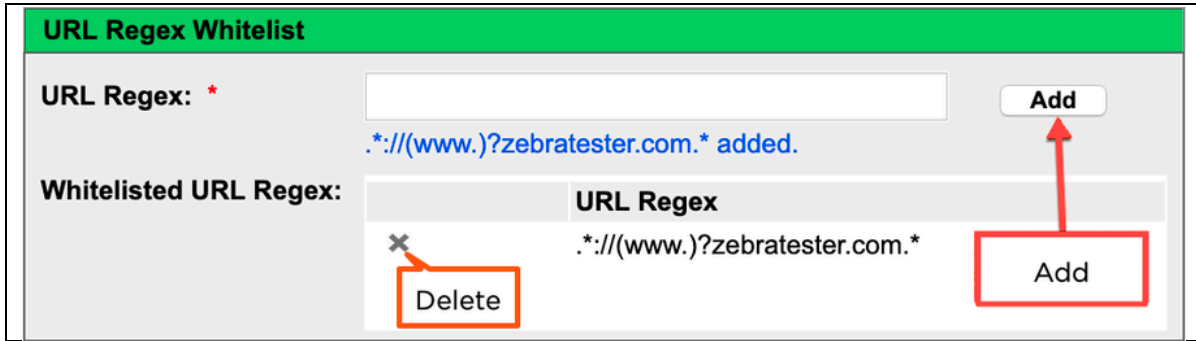
**URL Regex Blacklist**

URL Regex: \*

Action: \* No action ⌵ Add

Blacklisted URL Regex:

|                         | Action | URL Regex |
|-------------------------|--------|-----------|
| No URL Regex configured |        |           |



- **Unique Number Variable Type Support** – ZT now supports the unique number variable type. Users can create a unique number by giving the start number and block size per virtual user.

Supported combinations of var scope and initial values are:

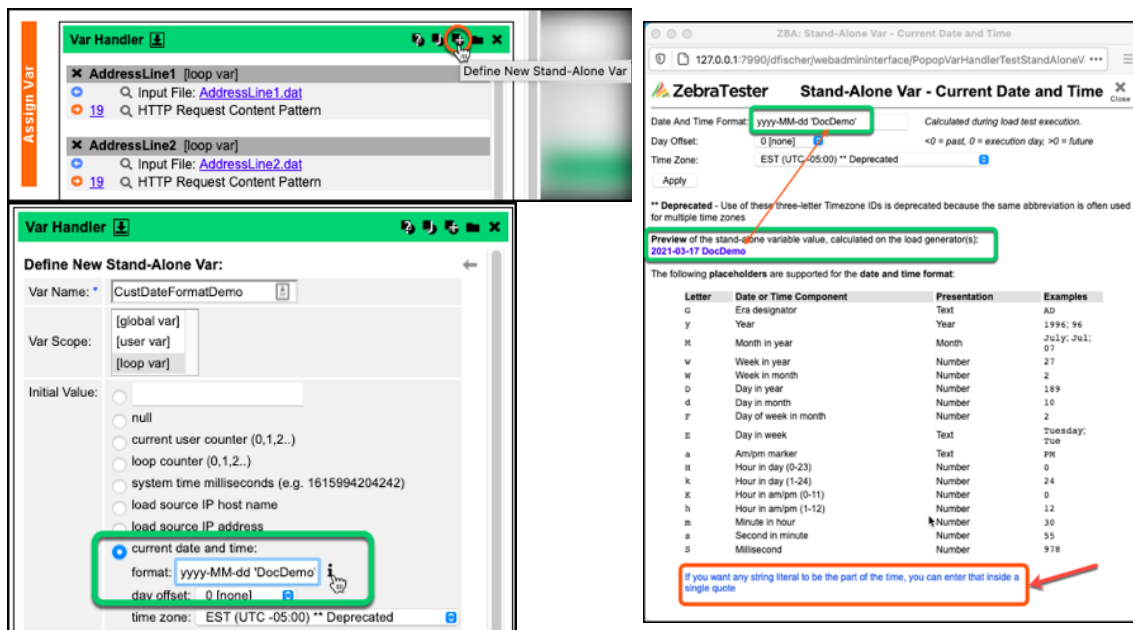
| Initial Value            | G              | U              | L | IL | UL |
|--------------------------|----------------|----------------|---|----|----|
| constant value           | ✓              | ✓              | ✓ | ✓  | ✓  |
| null                     | ✓              | ✓              | ✓ | ✓  | ✓  |
| current user counter     | -              | ✓              | ✓ | ✓  | ✓  |
| loop counter             | ✓ <sup>1</sup> | ✓ <sup>2</sup> | - | -  | -  |
| inner loop counter       | -              | -              | - | -  | ✓  |
| URL loop counter         | -              | -              | - | -  | ✓  |
| system time milliseconds | ✓              | ✓              | ✓ | ✓  | ✓  |
| load source IP host name | ✓              | ✓              | ✓ | -  | -  |
| load source IP address   | ✓              | ✓              | ✓ | -  | -  |
| current date and time    | ✓              | ✓              | ✓ | ✓  | ✓  |
| random number            | ✓              | ✓              | ✓ | ✓  | ✓  |
| java system property     | ✓              | ✓              | ✓ | ✓  | ✓  |
| unique number            | -              | -              | ✓ | -  | -  |

**G** = [global var]  
**U** = [user var]  
**L** = [loop var]  
**IL** = [inner loop var]  
**UL** = [URL loop var]

<sup>1</sup> = loop counter over all users  
<sup>2</sup> = loop counter per user  
<sup>3</sup> = multihomed support included

## Consolidated ZebraTester Release Notes (V7.0A-5.5F)

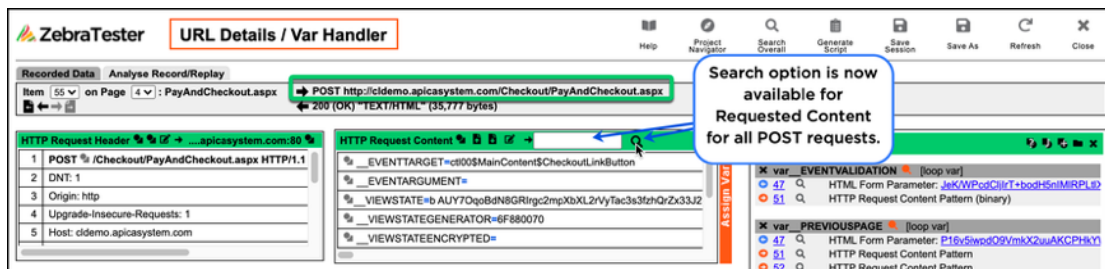
- Support for Custom date format in the current date and time-variable - Any string literal can now be part of the date and time-variable value.
  - The string literal should be inside single quotes.



The image shows two screenshots from the ZebraTester interface. The left screenshot shows the 'Var Handler' window with 'Define New Stand-Alone Var' open. The 'Var Name' is 'CustDateFormatDemo', 'Var Scope' is '[loop var]', and 'Initial Value' is 'current date and time:'. The format is set to 'yyyy-MM-dd 'DocDemo'' and the time zone is 'EST (UTC -05:00)'. The right screenshot shows the 'Stand-Alone Var - Current Date and Time' configuration window. It displays the same format and time zone, along with a preview of the variable value: '2021-03-17 DocDemo'. A table of date and time placeholders is also shown, with a note that string literals should be enclosed in single quotes.

| Letter | Date or Time Component | Presentation | Examples      |
|--------|------------------------|--------------|---------------|
| G      | Era designator         | Text         | AD            |
| y      | Year                   | Year         | 1996; 96      |
| M      | Month in year          | Month        | July; Jul; 07 |
| w      | Week in year           | Number       | 27            |
| W      | Week in month          | Number       | 2             |
| D      | Day in year            | Number       | 189           |
| d      | Day in month           | Number       | 10            |
| F      | Day of week in month   | Number       | 2             |
| Z      | Day in week            | Text         | Tuesday;      |
| a      | Am/pm marker           | Text         | PM            |
| H      | Hour in day (0-23)     | Number       | 0             |
| k      | Hour in day (1-24)     | Number       | 24            |
| X      | Hour in am/pm (0-11)   | Number       | 0             |
| h      | Hour in am/pm (1-12)   | Number       | 12            |
| m      | Minute in hour         | Number       | 30            |
| s      | Second in minute       | Number       | 55            |
| S      | Millisecond            | Number       | 978           |

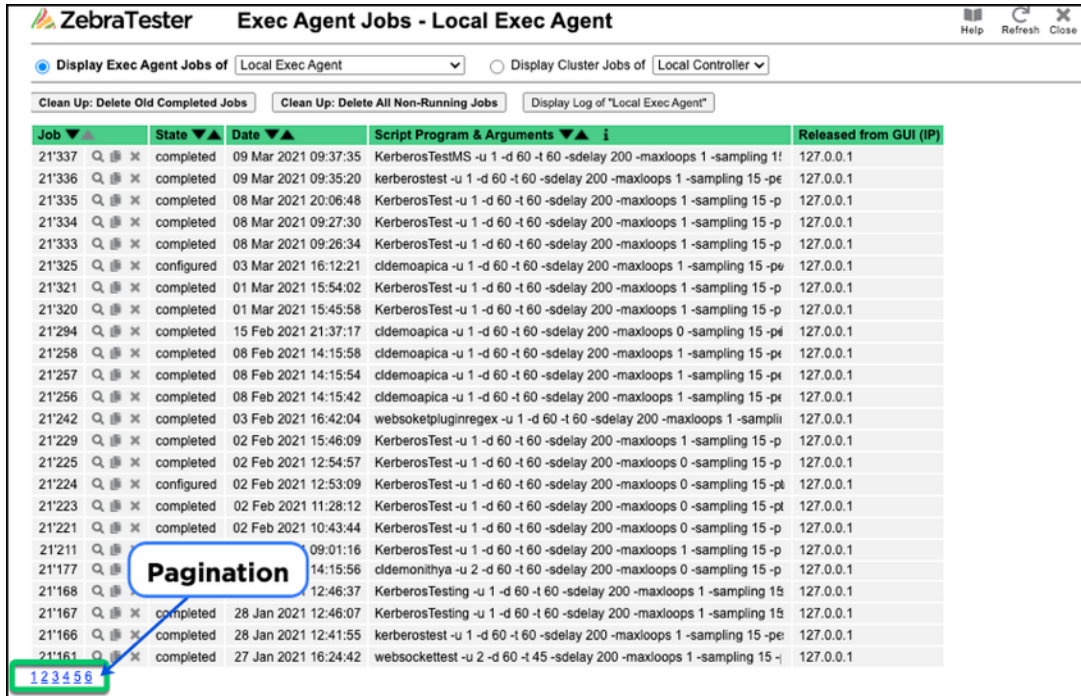
- Display the loop variable's latest values in the job output file. This feature helps the users see the latest value of all loop variables extracted during the script execution as a table format in the job output file.
- Search option available for Request content - A search option is now available for requested content for all POST requests.



The screenshot shows the 'URL Details / Var Handler' window in ZebraTester. It displays a recorded POST request to 'http://cldemo.apicasystem.com/Checkout/PayAndCheckout.aspx'. The 'HTTP Request Content' is visible, and a search option is highlighted with a blue box and a callout that says 'Search option is now available for Requested Content for all POST requests.' The request content includes various form parameters like '\_EVENTTARGET', '\_EVENTARGUMENT', and '\_VIEWSTATE'.

- REST API endpoint for the result file - There's a new REST endpoint for getting the prxres file in JSON format:  
GET  
<http://127.0.0.1:7996/?cmd=getZebraTestResult&jobId=<jobid>&execAgent=<execagentname>>
- Pagination for Load test jobs page - Pagination is now available for both exec agent jobs and cluster jobs so that it's easier to monitor the jobs.





| Job    | State      | Date                 | Script Program & Arguments   | Released from GUI (IP) |
|--------|------------|----------------------|--|------------------------|
| 21'337 | completed  | 09 Mar 2021 09:37:35 | KerberosTestMS -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 1!           | 127.0.0.1              |
| 21'336 | completed  | 09 Mar 2021 09:35:20 | kerberostest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -pe         | 127.0.0.1              |
| 21'335 | completed  | 08 Mar 2021 20:06:48 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p          | 127.0.0.1              |
| 21'334 | completed  | 08 Mar 2021 09:27:30 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p          | 127.0.0.1              |
| 21'333 | completed  | 08 Mar 2021 09:26:34 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p          | 127.0.0.1              |
| 21'325 | configured | 03 Mar 2021 16:12:21 | cidemoapica -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -pe          | 127.0.0.1              |
| 21'321 | completed  | 01 Mar 2021 15:54:02 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p          | 127.0.0.1              |
| 21'320 | completed  | 01 Mar 2021 15:45:58 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p          | 127.0.0.1              |
| 21'294 | completed  | 15 Feb 2021 21:37:17 | cidemoapica -u 1 -d 60 -t 60 -sdelay 200 -maxloops 0 -sampling 15 -pe          | 127.0.0.1              |
| 21'258 | completed  | 08 Feb 2021 14:15:58 | cidemoapica -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -pe          | 127.0.0.1              |
| 21'257 | completed  | 08 Feb 2021 14:15:54 | cidemoapica -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -pe          | 127.0.0.1              |
| 21'256 | completed  | 08 Feb 2021 14:15:42 | cidemoapica -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -pe          | 127.0.0.1              |
| 21'242 | completed  | 03 Feb 2021 16:42:04 | websocketpluginregex -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -pe | 127.0.0.1              |
| 21'229 | completed  | 02 Feb 2021 15:46:09 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p          | 127.0.0.1              |
| 21'225 | completed  | 02 Feb 2021 12:54:57 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 0 -sampling 15 -p          | 127.0.0.1              |
| 21'224 | configured | 02 Feb 2021 12:53:09 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 0 -sampling 15 -pe         | 127.0.0.1              |
| 21'223 | completed  | 02 Feb 2021 11:28:12 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 0 -sampling 15 -pe         | 127.0.0.1              |
| 21'221 | completed  | 02 Feb 2021 10:43:44 | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 0 -sampling 15 -p          | 127.0.0.1              |
| 21'211 | completed  | 09:01:16             | KerberosTest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p          | 127.0.0.1              |
| 21'177 | completed  | 14:15:56             | cidemonithya -u 2 -d 60 -t 60 -sdelay 200 -maxloops 0 -sampling 15 -p          | 127.0.0.1              |
| 21'168 | completed  | 12:46:37             | KerberosTesting -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p       | 127.0.0.1              |
| 21'167 | completed  | 28 Jan 2021 12:46:07 | KerberosTesting -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -p       | 127.0.0.1              |
| 21'166 | completed  | 28 Jan 2021 12:41:55 | kerberostest -u 1 -d 60 -t 60 -sdelay 200 -maxloops 1 -sampling 15 -pe         | 127.0.0.1              |
| 21'161 | completed  | 27 Jan 2021 16:24:42 | websockettest -u 2 -d 60 -t 145 -sdelay 200 -maxloops 1 -sampling 15 -pe       | 127.0.0.1              |

- **Housekeeping for clearing completed cluster jobs** – A housekeeping job is available that will remove all the completed cluster jobs older than three days.
- **New Inline function to match string** – A new inline function `strFindRegEx` is now supported and returns whether the string contains a substring that matches the given regular expression.

## ZebraTester 5.5X (Released 18 May 2020)

### 5.5X features:

- **New Var Assign Pattern:** - ZT introduces a new variable assign pattern where variables can be assigned automatically (or manually) in the requests using the pattern `{$variable name}`
- **AMF3 / Flex Support:** - ZT supports the AMF3 Binary format, meaning ZT can encode and decode AMF 3 data. Decoding is mainly from the AMF 3 binary format to an XML format.
- **Support of Entry conditions for Inner Loops:** - ZT now supports (optional) entry conditions in deciding whether to execute the inner loop during the load test/monitoring.
- **Support for Modular Scripting:** - ZT supports modular scripting with inner loops and a built-in plugin called **SupportModularScripts**. For a fuller explanation and getting started, see [Modular Scripting Support in ZebraTester \(V5.5-X+\)](#).

- **Full Browser Cache Support:** - ZT fully supports browser cache options like **Cache HTML & Simulate New User per Loop**. Browser cache metrics are now available in the ZT result file (.prxres), which states the cache hits and misses. [Variable Rules support:](#) - Users can create rules for variable extraction and assignment (global settings) and apply these rules to the recorded session (. prxdat) at any time.
- A new [Apply Var Rules icon](#) will allow you to replace all existing variables automatically. This icon will also support the new var assign pattern mentioned at the start of this list.
- **Save option for the recorded session:** - ZT now can save the recorded session (.prxdat) faster by just clicking the new Save Icon instead of always going into the **Save As** mode. The old save icon has been renamed to Save As.

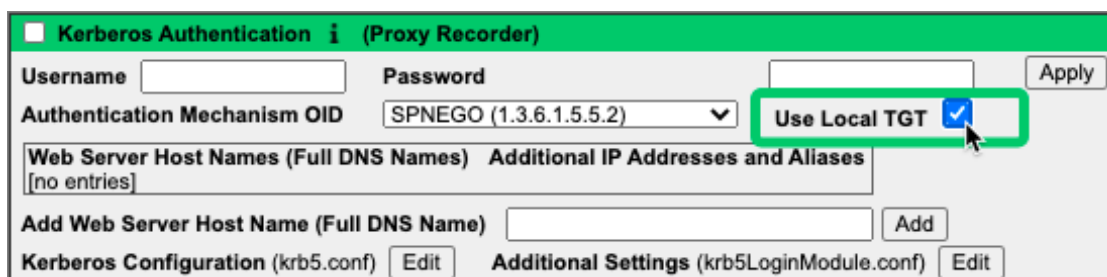


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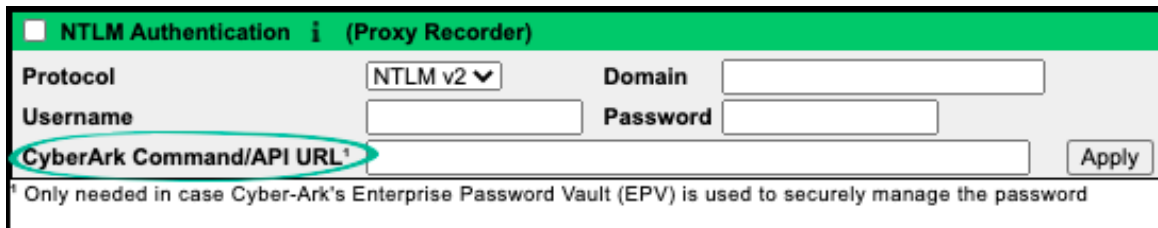
## ZebraTester 5.5S (Released 3 Mar 2020)

### 5.5S features:

- **Changes in [Kerberos with SPNEGO](#):** - Instead of getting the ticket-granting ticket (TGT) every time from the Key Distribution Centre by authenticating using the username and password, ZT will now have the option to look if there's a ticket available *in the local OS cache*. If it's available, then ZT will use that ticket to do the web server's challenge.



- **CyberArk Integration with [NTLM](#):** - ZT can configure the Password Vault API or Command to retrieve the password when doing the NTLM challenge with the web server, so the user doesn't need to configure the static password along with the script.



**NTLM Authentication** (Proxy Recorder)

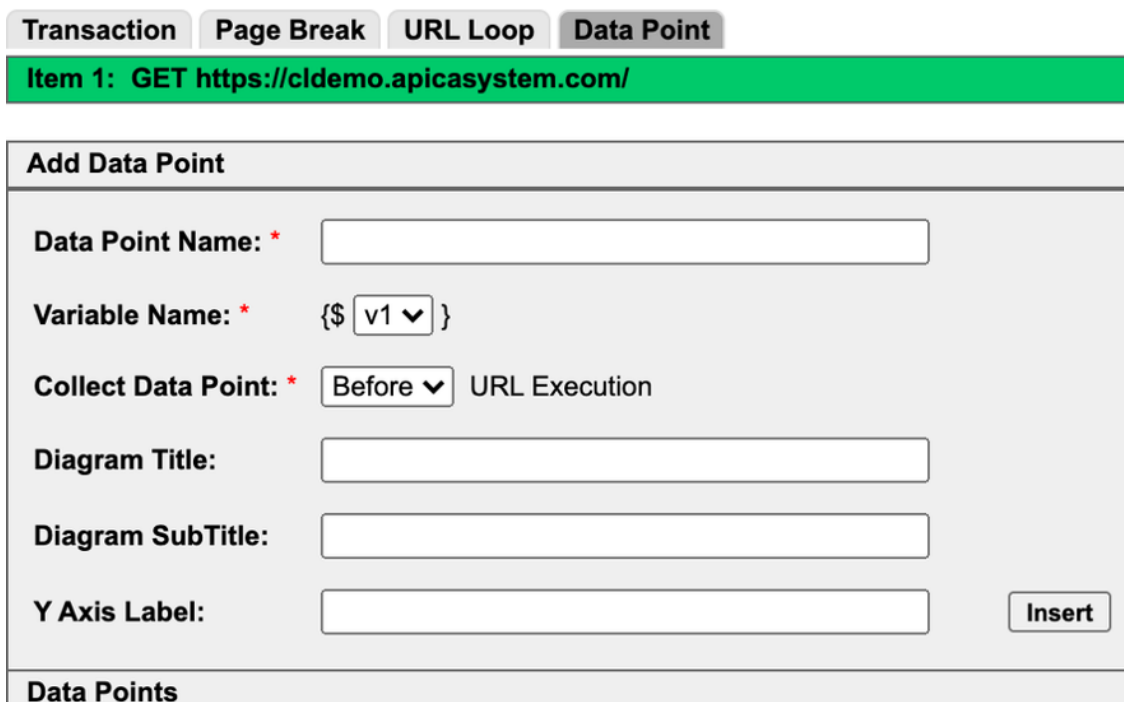
Protocol: NTLM v2 | Domain: [ ]

Username: [ ] | Password: [ ]

**CyberArk Command/API URL<sup>1</sup>**: [ ] [Apply]

<sup>1</sup> Only needed in case Cyber-Ark's Enterprise Password Vault (EPV) is used to securely manage the password

- **User-Defined data points:** - ZT enables the user to create data points that can make custom performance metrics and later become part of the performance test results. Find these measured user-defined data points in a results Diagram.



Transaction | Page Break | URL Loop | **Data Point**

**Item 1: GET https://cldemo.apicasystem.com/**

**Add Data Point**

Data Point Name: \* [ ]

Variable Name: \* {\$ v1 }

Collect Data Point: \* Before URL Execution

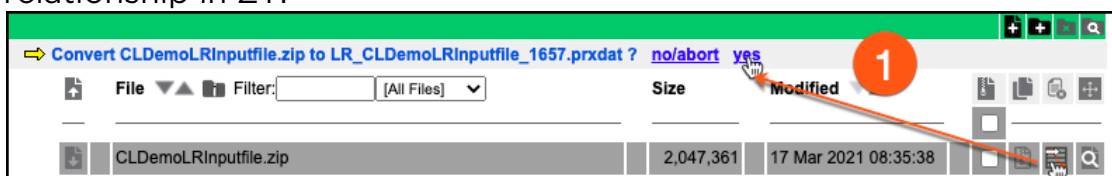
Diagram Title: [ ]

Diagram SubTitle: [ ]

Y Axis Label: [ ] [Insert]

**Data Points**

- **Input files support in LoadRunner to ZT conversion:** - The LoadRunner-to-ZT conversion will now take the external parameter files (.dat files) from LoadRunner and convert these to the input files/variables relationship in ZT.



# Consolidated ZebraTester Release Notes (V7.0A-5.5F)

**ZebraTester Project Navigator**

File Filter: [All Files] 2

| File                             | Size    | Modified             |
|----------------------------------|---------|----------------------|
| LR_CLDemoLRInputfile_1657.prxdat | 151,972 | 17 Mar 2021 09:45:47 |
| FirstName.dat                    | 35      | 17 Mar 2021 09:45:42 |
| ctrsink.dat                      | 4       |                      |
| CardNumber.dat                   | 66      |                      |
| CountryCode.dat                  | 25      |                      |
| LastName.dat                     | 38      |                      |
| AddressLine1.dat                 | 55      |                      |
| AddressLine2.dat                 | 47      | 17 Mar 2021 09:45:42 |
| PostCode.dat                     | 34      | 17 Mar 2021 09:45:42 |

**Annotations:**

- Click Here to view in the Recorded Session in the Main Menu
- LR to ZebraTester Conversion done. Note the DAT files.
- Note Edit DAT feature next to each DAT file

---

**ZebraTester URL Details / Var Handler**

Recorded Data Analyse Record/Replay

Item 1 on Page 1 : cldemo.apicasystem.com → GET https://cldemo.apicasystem.com/ ← 200 (OK) "TEXT/HTML" (8,066 bytes)

**Annotations:**

- Click the HTTP Request/Response to open the Var Handler
- Input/Dat Files After LoadRunner Conversion

**HTTP Request Header**

```

1 GET / HTTP/1.1
2 Host: cldemo.apicasystem.com
3 User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.11; rv:

```

**HTTP Response Header**

```

1 HTTP/1.1 200 OK
2 Server: Microsoft-IIS/7.5
3 X-AspNet-Version: 4.0.30319
4 Cache-Control: no-cache
5 Content-Type: text/html; charset=utf-8
6 Strict-Transport-Security: max-age=2592000

```

**HTTP Response Content - Forms Extract (1 Form)**

```

Form [0]
POST /
HIDDEN __EVENTTARGET=
HIDDEN __EVENTARGUMENT=
HIDDEN __VIEWSTATE=/wEPDwUKLTE3MTc0ODk1NgE

```

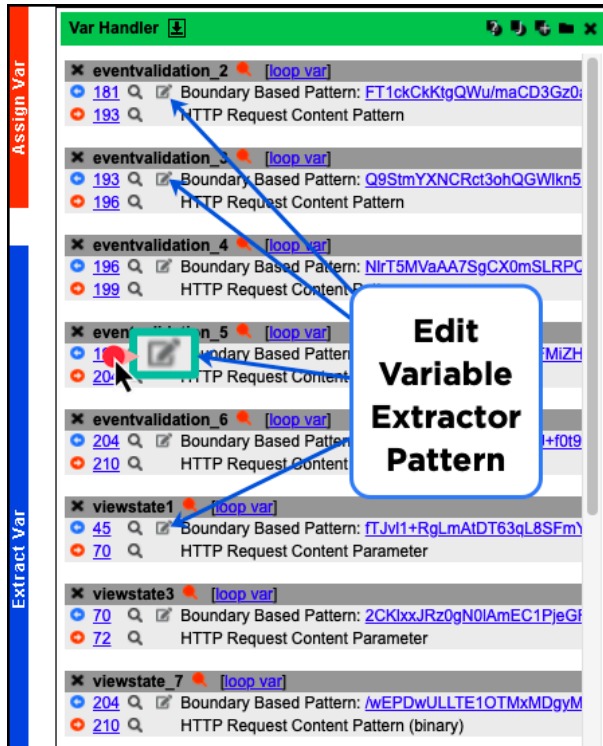
**Var Handler**

Input Files: Add Input File...

- AddressLine1.dat
  - File Scope: new line per loop
  - Column 1: AddressLine1
- AddressLine2.dat
  - File Scope: new line per loop
  - Column 1: AddressLine2
- CardNumber.dat
  - File Scope: new line per loop
  - Column 1: CardNumber
- CountryCode.dat
  - File Scope: new line per loop
  - Column 1: CountryCode
- FirstName.dat
  - File Scope: new line per loop
  - Column 1: FirstName
- LastName.dat
  - File Scope: new line per loop
  - Column 1: LastName
- PostCode.dat
  - File Scope: new line per loop
  - Column 1: PostCode

User Input Fields: Add Input Field...

- **Edit option for Var Extractor patterns:** - ZT users can now modify the extractors so that they don't need to delete the variables and recreate them again when the extractor pattern changes.



See next Var Handler screenshot below, Modify Var Extract, for next view.



## Support Occurrence all, Save Length and Save Offset for Var extractors:

- The **Occurrence = ALL** option in the extractors will extract all the occurrences out, from which the user can (1) create multiple variables (2) count the occurrence.
  - **SaveLen** Example: When used SaveLen = 5 and the captured value is Elephant, the final var value will become “Eleph” (only five characters).
  - **SaveOffset** Example: When used SaveOffset = 2, and the captured value is Elephant, the final value will become “Ephant” (Two characters, starting from the 2nd position, will be ignored).

**Var Handler** 
? 🗑️ + 📄 ✕

**Modify Var Extract :**

|                   |  |
|-------------------|--|
| Item:             | <a href="#">181</a>  |
| Var Name:         | <a href="#">eventvalidation_2</a>  |
| Extract from:     | Boundary Based Pattern   |
| Left Boundary     | <input __eventvalidation"="" type="text" value=""/>  |
| Right Boundary    | <input type="text" value=""/>  |
| Occurrence        | <input checked="" type="radio"/> fixed to <input type="text" value="1"/><br><input type="radio"/> variable {\$ <input type="text" value="viewstate3"/> } |
| Occurrence All    | <input type="checkbox"/>   |
| Random Extraction | <input type="checkbox"/>   |
| Save Length       | <input type="text" value="0"/>   |
| Save OffSet       | <input type="text" value="0"/>   |

**Recorded Value:**  
"FT1ckCkKtgQWu/maCD3Gz0aPBADKyXxmZoAjqCJWOHlIXNf+ZZz"

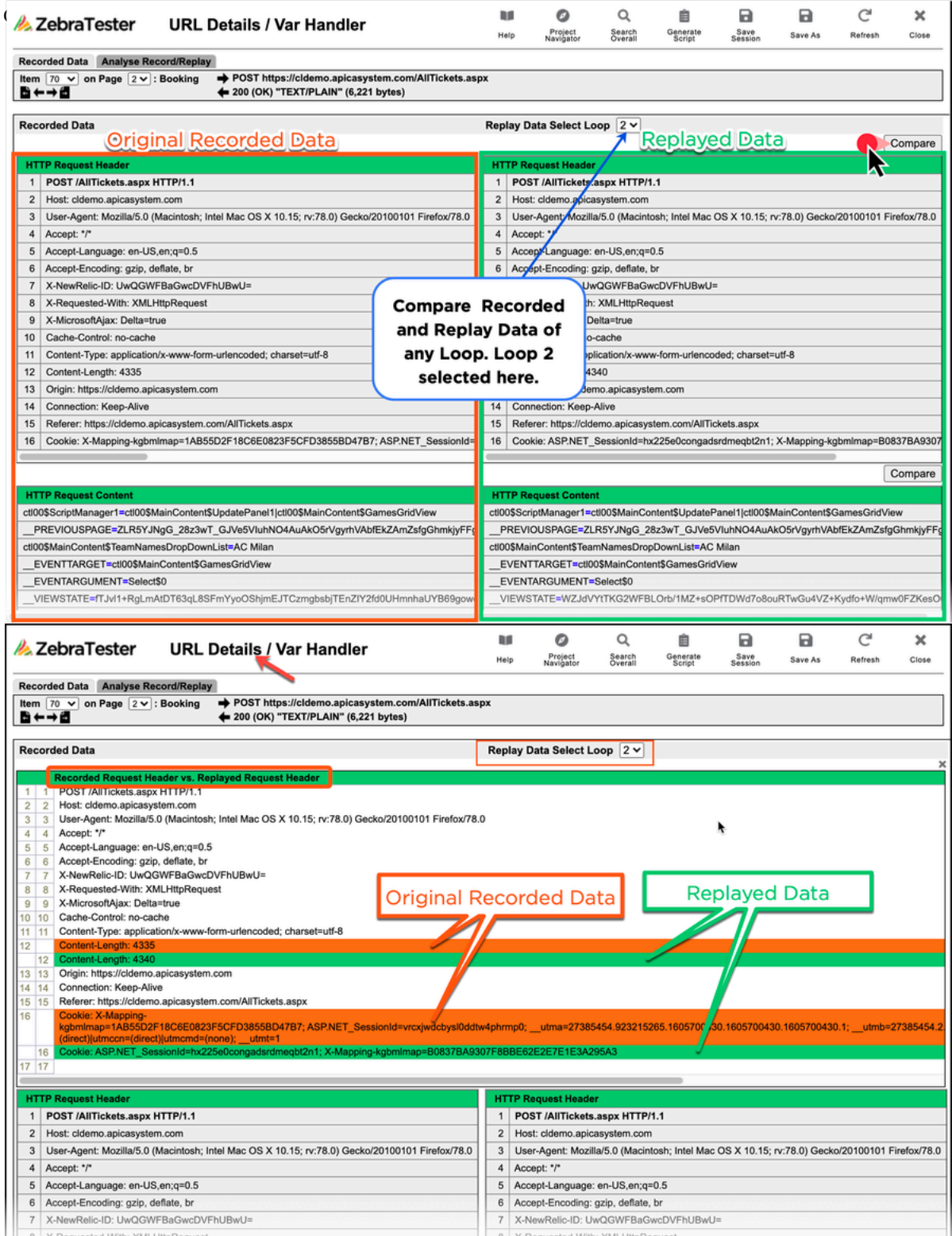
**Map to Var Name:** eventvalidation\_2  Assign with {\$Var Name} pattern

Assign Var automatically to all HTTP requests which contain the same text pattern (full binary replacement of recorded value overall requests)

Assign var automatically to all HTTP requests which contain form or CGI parameters with the same recorded value

Try URL-encoding

- Text Compare Utility for the Record and Replay Analyse Screen: - This feature highlights the differences between the recorded and replayed



The screenshot displays the ZebraTester interface for comparing recorded and replayed data. The top navigation bar includes 'ZebraTester URL Details / Var Handler' and various utility icons like Help, Project Navigator, Search Overall, Generate Script, Save Session, Save As, Refresh, and Close.

The main content area is divided into two sections: 'Recorded Data' and 'Replay Data Select Loop 2'. A 'Compare' button is visible in the top right of the replay data section.

The 'Recorded Data' section shows the 'Original Recorded Data' for 'HTTP Request Header' and 'HTTP Request Content'. The 'Replay Data' section shows the 'Replayed Data' for the same categories. A callout box with a blue border and white background points to the 'Compare' button, stating: 'Compare Recorded and Replay Data of any Loop. Loop 2 selected here.'

The 'Recorded Request Header vs. Replayed Request Header' comparison table highlights differences between the two requests. The 'Original Recorded Data' is shown in orange, and the 'Replayed Data' is shown in green. The differences are as follows:

| Line | Original Recorded Data   | Replayed Data  |
|------|--|--|
| 12   | Content-Length: 4335   | Content-Length: 4340   |
| 16   | Cookie: X-Mapping-kgbmlmap=1AB55D2F18C6E0823F5CFD3855BD47B7; ASP.NET_SessionId=... | Cookie: X-Mapping-kgbmlmap=1AB55D2F18C6E0823F5CFD3855BD47B7; ASP.NET_SessionId=... |
| 16   | Cookie: ASP.NET_SessionId=...  | Cookie: ASP.NET_SessionId=...  |

The 'HTTP Request Content' comparison shows identical content between the recorded and replayed versions.

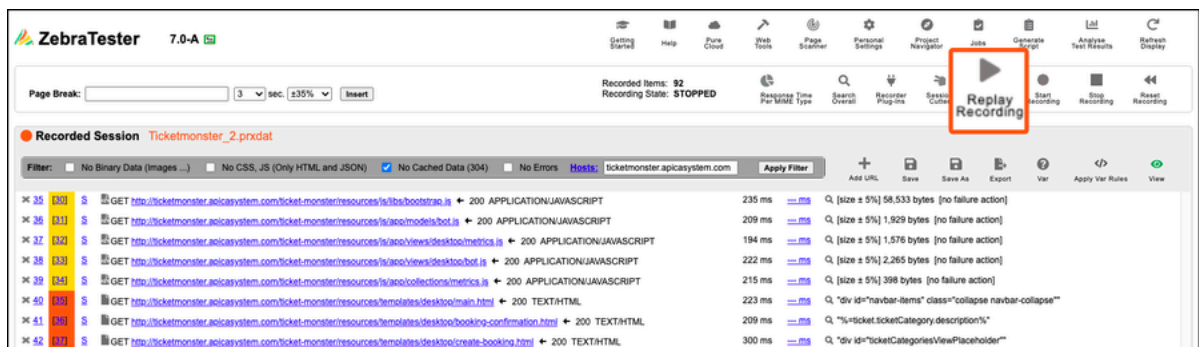
- Support ZT Amazon Web Services (AWS) images for Job Controller and Exec Agents in Stockholm and Paris.
- Incorporated two new recorder plugins for auto correlate variables based on left and right boundary pattern; one general edition and the other is wildcard edition.

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## ZebraTester 5.5F with Java 8 (Released 2 Dec 2019)

### 5.5F features:

- [A replay of the recording session](#): Eases the scripting effort as the user can replay the session by simply clicking a button. The replay will end with a summary similar to the load test summary.



# Consolidated ZebraTester Release Notes (V7.0A-5.5F)

- Analyze the Recorded and Replayed data: Users can compare the recorded request/response data with the replayed request/response data, both during real-time and after the replay.

**Replay Recording** | Start Date: 07 Jan 2021 11:14:08 | End Date: 07 Jan 2021 11:14:30 | Test Duration: 22 sec

**Measured Results - per Loop**

|                              |                   |
|------------------------------|-------------------|
| AV Session Time per Loop:    | 19.47 sec/loop    |
| AV Response Time per Page:   | 2.62 sec/page     |
| Network Throughput per User: | 16.1 kB/bytes/sec |

**Overall Test Results**

|                           |                   |
|---------------------------|-------------------|
| Web Transaction Rate:     | 1.2 URL calls/sec |
| Session Failure Rate:     | 0.00 %            |
| Total Network Throughput: | 0.12 MB/bytes/sec |

**URL Calls Summary**

|               |              |
|---------------|--------------|
| Total Passed: | 26 URL calls |
| Total Failed: | 0 URL calls  |

**Page Overview**

| Page Name           | Passed | Failed | Average Time |
|---------------------|--------|--------|--------------|
| Page #1: Start Page | 1      | 0      | 340          |
| Page #2: tickets    | 1      | 0      | 936          |
| Page #3: cart       | 1      | 0      | 130          |
| Page #4: checkout   | 1      | 0      | 360          |

**Page | URL Overview**

| Test  | E | # Passed | # Failed | AV Time | AV Size     | URL   |
|-------|---|----------|----------|---------|-------------|---|
| [1]   | S | 1        | 0        | 152 ms  | 4308 bytes  | GET https://demo.apicasystem.com:443/   |
| [2]   | S | 1        | 0        | 32 ms   | 2791 bytes  | GET https://demo.apicasystem.com:443/Styles/stylesheet.css  |
| [3]   | S | 1        | 0        | 28 ms   | 6956 bytes  | GET https://demo.apicasystem.com:443/WebResource.axd?d=SwCzMWJbC5HPR0yMz2Vc9nGUcmQpW87h6U8R50NJR0PEVSNQE3yCh8DymMJ0pp_ql_e8p71gNcCZkg18h=63710051846000000                          |
| [4]   | S | 1        | 0        | 31 ms   | 1223 bytes  | GET https://demo.apicasystem.com:443/Scripts/GoogleAnalytics.js   |
| [5]   | S | 1        | 0        | 65 ms   | 26122 bytes | GET https://demo.apicasystem.com:443/ScriptResource.axd?d=9f56y9F5B7wERW2QkL5AbmJWLbwe6NMLKb_x1EzU3y9rSxWd_1EEcgT5k2GGu5XZMzAppPayWj9AwbDAAGN2939G6RmTumPtmqanPK4FzPH5A3kzE         |
| [6]   | S | 1        | 0        | 32 ms   | 10996 bytes | GET https://demo.apicasystem.com:443/ScriptResource.axd?d=pf1UDEgDL2LZwQfO6wUp5ZTmRNHhKGMeg7gDdL2v4EzD0y9Ysum-y_KzjGpMwW577JE_TheSM4-anyM5068PfcG2PhQA031-nZ3k7G0IQNG5d9urXo2_XbTbR |
| Total |   | 1        | 0        | 340 ms  | 53394 bytes | 6 URLs   Response Time Efficiency = -%  |

**Replay Recording** | Start Date: 07 Jan 2021 11:19:59 | End Date: 07 Jan 2021 11:20:04 | Test Duration: 5 sec

**Measured Results - per Loop**

|                              |                   |
|------------------------------|-------------------|
| AV Session Time per Loop:    | 3.35 sec/loop     |
| AV Response Time per Page:   | 0.35 sec/page     |
| Network Throughput per User: | 16.0 kB/bytes/sec |

**Overall Test Results**

|                           |                   |
|---------------------------|-------------------|
| Web Transaction Rate:     | 1.2 URL calls/sec |
| Session Failure Rate:     | 100.00 %          |
| Total Network Throughput: | 0.08 MB/bytes/sec |

**URL Calls Summary**

|               |             |
|---------------|-------------|
| Total Passed: | 6 URL calls |
| Total Failed: | 1 URL calls |

**Page Overview**

| Page Name           | Passed | Failed | Average Time |
|---------------------|--------|--------|--------------|
| Page #1: Start Page | 1      | 0      | 349          |
| Page #2: tickets    | 0      | 1      | ---          |

**Page | URL Overview**

| Test  | E | # Passed | # Failed | AV Time | AV Size     | URL   |
|-------|---|----------|----------|---------|-------------|---|
| [1]   | S | 1        | 0        | 160 ms  | 4984 bytes  | GET https://demo.apicasystem.com:443/   |
| [2]   | S | 1        | 0        | 29 ms   | 2791 bytes  | GET https://demo.apicasystem.com:443/Styles/stylesheet.css  |
| [3]   | S | 1        | 0        | 36 ms   | 6956 bytes  | GET https://demo.apicasystem.com:443/WebResource.axd?d=SwCzMWJbC5HPR0yMz2Vc9nGUcmQpW87h6U8R50NJR0PEVSNQE3yCh8DymMJ0pp_ql_e8p71gNcCZkg18h=63710051846000000                          |
| [4]   | S | 1        | 0        | 28 ms   | 1223 bytes  | GET https://demo.apicasystem.com:443/Scripts/GoogleAnalytics.js   |
| [5]   | S | 1        | 0        | 65 ms   | 26122 bytes | GET https://demo.apicasystem.com:443/ScriptResource.axd?d=9f56y9F5B7wERW2QkL5AbmJWLbwe6NMLKb_x1EzU3y9rSxWd_1EEcgT5k2GGu5XZMzAppPayWj9AwbDAAGN2939G6RmTumPtmqanPK4FzPH5A3kzE         |
| [6]   | S | 1        | 0        | 31 ms   | 10996 bytes | GET https://demo.apicasystem.com:443/ScriptResource.axd?d=pf1UDEgDL2LZwQfO6wUp5ZTmRNHhKGMeg7gDdL2v4EzD0y9Ysum-y_KzjGpMwW577JE_TheSM4-anyM5068PfcG2PhQA031-nZ3k7G0IQNG5d9urXo2_XbTbR |
| Total |   | 1        | 0        | 349 ms  | 53472 bytes | 6 URLs   Response Time Efficiency = -%  |

**ZebraTester URL Details / Var Handler**

Recorded Data **Analyse Record/Replay**

Item 1 on Page 1 : Start Page GET https://cldemo.apicasytem.com/ 200 (OK) "TEXT/HTML" (3'638 bytes)

| Recorded Data Original Recorded Data |  | Replay Data Select Loop 1    |  |
|--------------------------------------|--|------------------------------|--|
| <b>HTTP Request Header</b>           |  | <b>HTTP Request Header</b>   |  |
| 1                                    | GET / HTTP/1.1   | 1                            | GET / HTTP/1.1   |
| 2                                    | Host: cldemo.apicasytem.com  | 2                            | Host: cldemo.apicasytem.com  |
| 3                                    | User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.15; rv:80.0) Gecko/20100101 Firefox/80.0 | 3                            | User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.15; rv:80.0) Gecko/20100101 Firefox/80.0 |
| 4                                    | Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8             | 4                            | Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8             |
| 5                                    | Accept-Language: en-US,en;q=0.5  | 5                            | Accept-Language: en-US,en;q=0.5  |
| 6                                    | Accept-Encoding: gzip, deflate, br   | 6                            | Accept-Encoding: gzip, deflate, br   |
| 7                                    | Connection: Keep-Alive   | 7                            | Connection: Keep-Alive   |
| 8                                    | Upgrade-Insecure-Requests: 1   | 8                            | Upgrade-Insecure-Requests: 1   |
| <b>HTTP Response Headers</b>         |  | <b>HTTP Response Headers</b> |  |
| 1                                    | HTTP/1.1 200 OK  | 1                            | HTTP/1.1 200 OK  |
| 2                                    | Server: Microsoft-IIS/7.5  | 2                            | Server: Microsoft-IIS/7.5  |
| 3                                    | Vary: Accept-Encoding  | 3                            | Vary: Accept-Encoding  |

**Compare Recorded Data with Replay Data of any loop (Loop 1 here)**

**Recorded Response Header vs. Replayed Response Header**

|    |    |   |
|----|----|---|
| 1  | 1  | HTTP/1.1 200 OK   |
| 2  | 2  | Server: Microsoft-IIS/7.5   |
| 3  | 3  | Vary: Accept-Encoding   |
| 4  | 4  | X-AspNet-Version: 4.0.30319   |
| 5  | 5  | Cache-Control: no-cache   |
| 6  | 6  | Content-Type: text/html; charset=utf-8  |
| 7  | 7  | Content-Encoding: gzip  |
| 8  | 8  | Strict-Transport-Security: max-age=2592000  |
| 9  | 9  | Date: Fri, 11 Sep 2020 11:03:08 GMT   |
| 9  | 9  | Date: Thu, 07 Jan 2021 10:19:15 GMT   |
| 10 | 10 | Expires: -1   |
| 11 | 11 | Pragma: no-cache  |
| 12 | 12 | Connection: Keep-Alive  |
| 13 | 13 | Set-Cookie: X-Mapping-kjgmlmap=B0837BA9307F8BBE62E2E7E1E3A295...  |
| 14 | 14 | Set-Cookie: ASP.NET_SessionId=bdogi4axecte5yzzicylprwp; path=/; HttpOnly; SameSite=Lax                          |
| 15 | 15 | Set-Cookie: ASP.NET_SessionId=bdogi4axecte5yzzicylprwp; path=/; HttpOnly; SameSite=Lax                          |
| 16 | 16 | Set-Cookie: ADRUM_BTa=R:0 g:d239242a-b70b-4b6d-a8d0-0ec39766b063; expires=Fri, 11-Sep-2020 11:03:39 GMT; path=/ |
| 17 | 17 | Set-Cookie: ADRUM_BT1=R:0 i:873753 e:7; expires=Fri, 11-Sep-2020 11:03:39 GMT; path=/                           |
| 14 | 14 | Set-Cookie: ASP.NET_SessionId=5sjqd5l3urh3em12rqdtqb1a; path=/; HttpOnly; SameSite=Lax                          |
| 15 | 15 | Set-Cookie: ASP.NET_SessionId=5sjqd5l3urh3em12rqdtqb1a; path=/; HttpOnly; SameSite=Lax                          |
| 16 | 16 | Set-Cookie: ADRUM_BTa=R:0 g:ffa64f12-1571-48c6-a1a2-52de71965a30; expires=Thu, 07-Jan-2021 10:19:46 GMT; path=/ |
| 17 | 17 | Set-Cookie: ADRUM_BT1=R:0 i:873753 e:3; expires=Thu, 07-Jan-2021 10:19:46 GMT; path=/                           |
| 18 | 18 | Set-Cookie: ADRUM_BTs=R:0 s:f; expires=Thu, 07-Jan-2021 10:19:46 GMT; path=/                                    |
| 18 | 19 | X-Powered-By: ASP.NET   |
| 19 | 20 | Content-Length: 3638  |
| 20 | 21 |   |

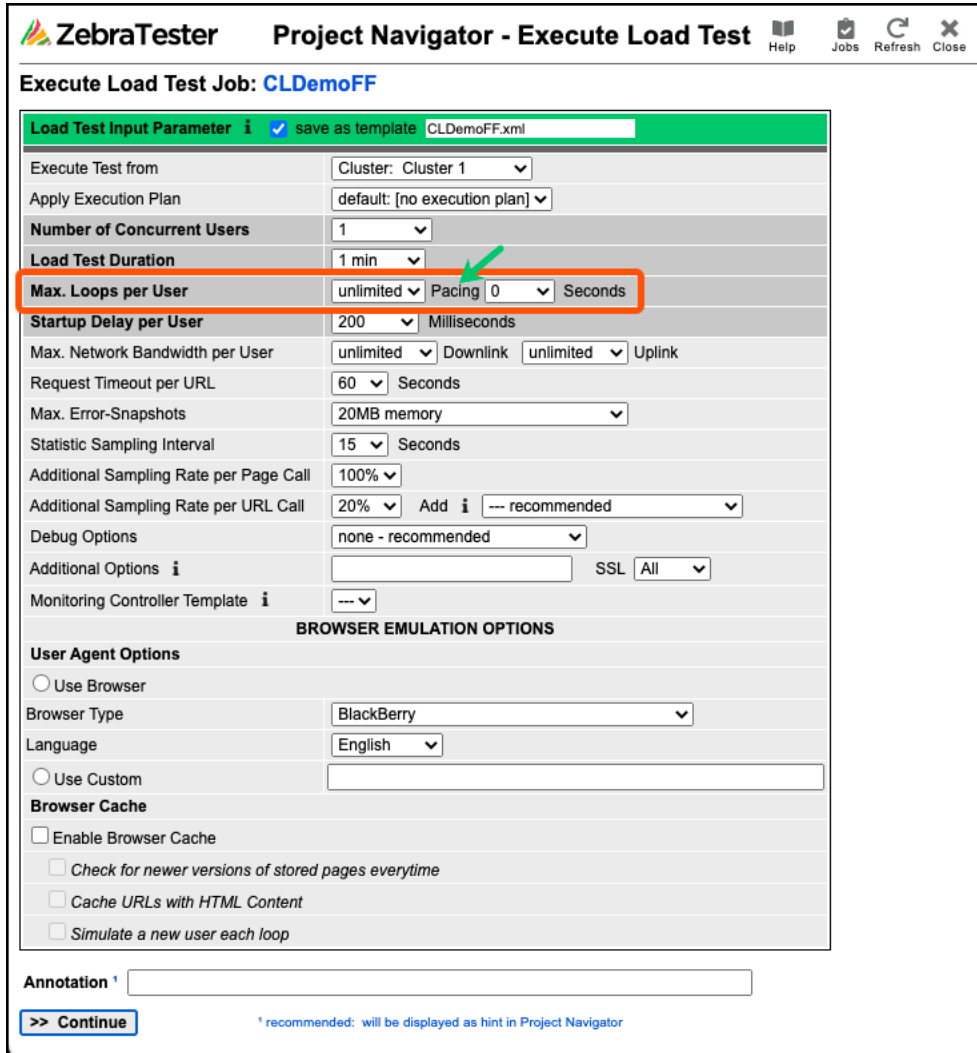
**Recorded Response Header**

**Replayed Response Headers**



## Consolidated ZebraTester Release Notes (V7.0A-5.5F)

- [Pacing on outer loops](#): Similar to the pacing feature for inner loops and URL loops, but this pacing applies to the max loops load test parameter (outer loops).



**ZebraTester Project Navigator - Execute Load Test** Help Jobs Refresh Close

Execute Load Test Job: **CLDemoFF**

Load Test Input Parameter *i*  save as template CLDemoFF.xml

|   |                                     |
|---|-------------------------------------|
| Execute Test from                       | Cluster: Cluster 1                  |
| Apply Execution Plan                    | default: [no execution plan]        |
| Number of Concurrent Users              | 1                                   |
| Load Test Duration                      | 1 min                               |
| <b>Max. Loops per User</b>              | unlimited <b>Pacing</b> 0 Seconds   |
| Startup Delay per User                  | 200 Milliseconds                    |
| Max. Network Bandwidth per User         | unlimited Downlink unlimited Uplink |
| Request Timeout per URL                 | 60 Seconds                          |
| Max. Error-Snapshots                    | 20MB memory                         |
| Statistic Sampling Interval             | 15 Seconds                          |
| Additional Sampling Rate per Page Call  | 100%                                |
| Additional Sampling Rate per URL Call   | 20% Add <i>i</i> --- recommended    |
| Debug Options                           | none - recommended                  |
| Additional Options <i>i</i>             | SSL All                             |
| Monitoring Controller Template <i>i</i> | ---                                 |

**BROWSER EMULATION OPTIONS**

**User Agent Options**

Use Browser

Browser Type BlackBerry

Language English

Use Custom

**Browser Cache**

Enable Browser Cache

Check for newer versions of stored pages everytime

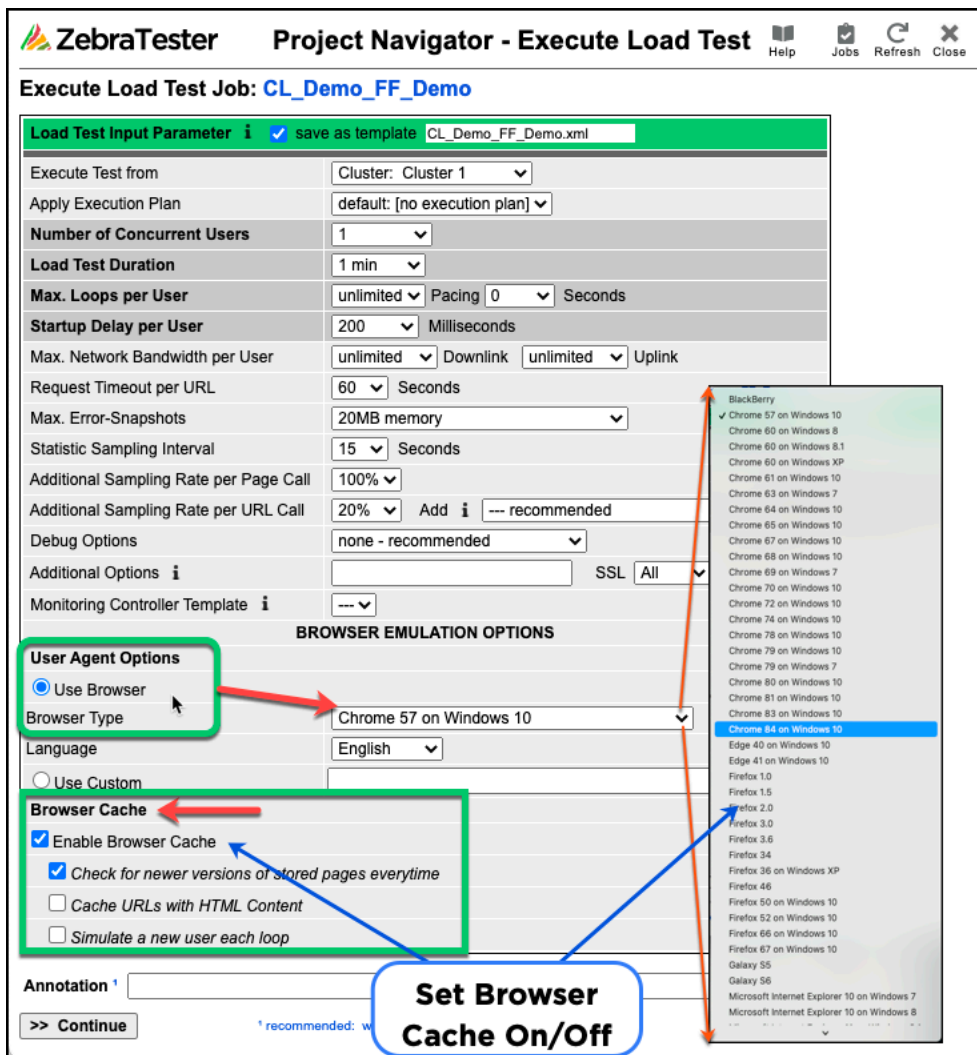
Cache URLs with HTML Content

Simulate a new user each loop

Annotation <sup>\*</sup>

**>> Continue** \* recommended: will be displayed as hint in Project Navigator

- [Browser Emulation Options](#) (user agents and browser cache - *Initial version*): - Browser emulation options enable the user to select the user agents and the browser cache options like conditional GET during both replay and load test.



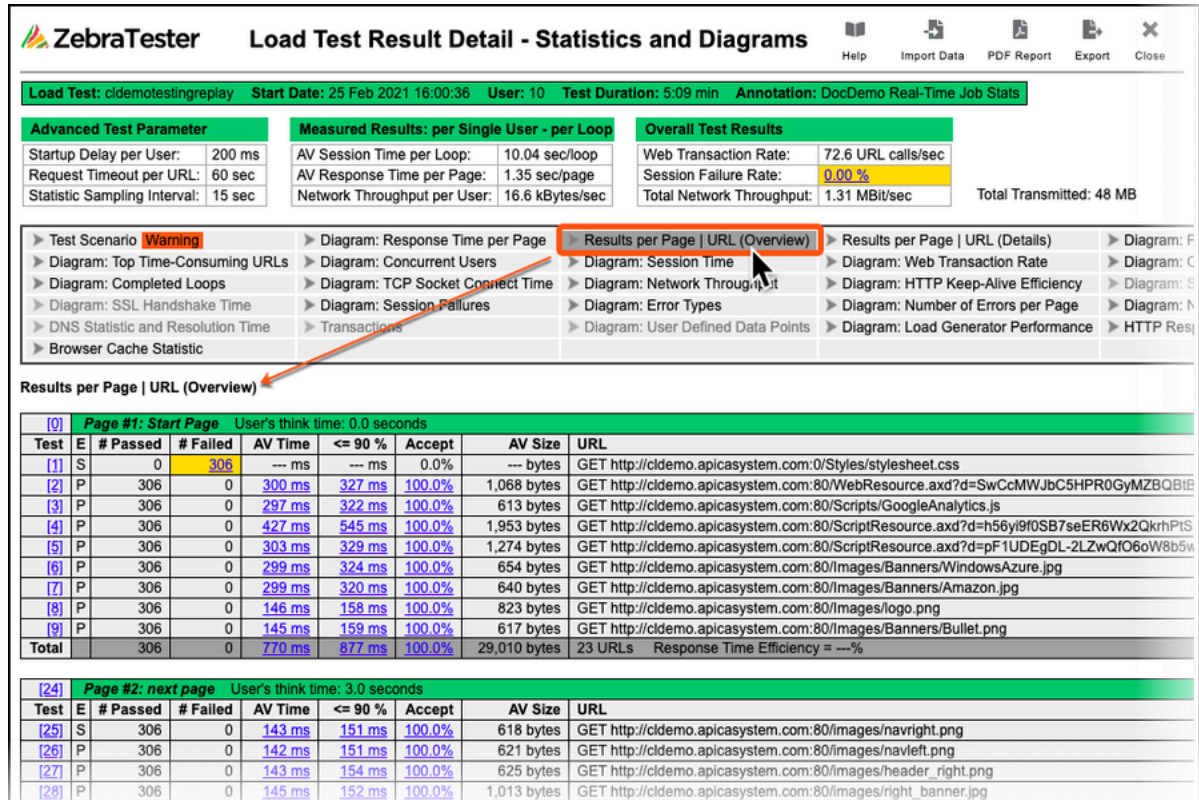
The screenshot displays the 'Execute Load Test Job: CL\_Demo\_FF\_Demo' configuration window. The 'Browser Emulation Options' section is highlighted with a green box and contains the following settings:

- User Agent Options:**
  - Use Browser
  - Browser Type: Chrome 57 on Windows 10
  - Language: English
  - Use Custom
- Browser Cache:**
  - Enable Browser Cache
  - Check for newer versions of stored pages everytime
  - Cache URLs with HTML Content
  - Simulate a new user each loop

A blue callout box labeled 'Set Browser Cache On/Off' points to the 'Enable Browser Cache' checkbox. A red arrow points from the 'Use Browser' radio button to the 'Browser Type' dropdown menu. A list of browser options is visible on the right side of the window, including BlackBerry, Chrome 57 on Windows 10, Chrome 60 on Windows 8, Chrome 60 on Windows 8.1, Chrome 60 on Windows XP, Chrome 61 on Windows 10, Chrome 63 on Windows 7, Chrome 64 on Windows 10, Chrome 65 on Windows 10, Chrome 67 on Windows 10, Chrome 68 on Windows 10, Chrome 69 on Windows 7, Chrome 70 on Windows 10, Chrome 72 on Windows 10, Chrome 74 on Windows 10, Chrome 78 on Windows 10, Chrome 79 on Windows 10, Chrome 79 on Windows 7, Chrome 80 on Windows 10, Chrome 81 on Windows 10, Chrome 83 on Windows 10, Chrome 84 on Windows 10, Edge 40 on Windows 10, Edge 41 on Windows 10, Firefox 1.0, Firefox 1.5, Firefox 2.0, Firefox 3.0, Firefox 3.6, Firefox 34, Firefox 36 on Windows XP, Firefox 46, Firefox 50 on Windows 10, Firefox 52 on Windows 10, Firefox 66 on Windows 10, Firefox 67 on Windows 10, Galaxy S5, Galaxy S6, Microsoft Internet Explorer 10 on Windows 7, and Microsoft Internet Explorer 10 on Windows 8.

- **Results per Page | URL (Overview):**

Displays, per measured URL, the number of passed and failed calls, the average response time, and the 90% percentile value of the response time.



**ZebraTester Load Test Result Detail - Statistics and Diagrams**

Load Test: cldemotestingreplay Start Date: 25 Feb 2021 16:00:36 User: 10 Test Duration: 5:09 min Annotation: DocDemo Real-Time Job Stats

| Advanced Test Parameter      |        | Measured Results: per Single User - per Loop |                 | Overall Test Results      |                    |
|------------------------------|--------|--|-----------------|---------------------------|--------------------|
| Startup Delay per User:      | 200 ms | AV Session Time per Loop:                    | 10.04 sec/loop  | Web Transaction Rate:     | 72.6 URL calls/sec |
| Request Timeout per URL:     | 60 sec | AV Response Time per Page:                   | 1.35 sec/page   | Session Failure Rate:     | 0.00 %             |
| Statistic Sampling Interval: | 15 sec | Network Throughput per User:                 | 16.6 kBytes/sec | Total Network Throughput: | 1.31 MBit/sec      |

Total Transmitted: 48 MB

Navigation Menu: Test Scenario **Warning**, Diagram: Response Time per Page, **Results per Page | URL (Overview)**, Results per Page | URL (Details), Diagram: Top Time-Consuming URLs, Diagram: Concurrent Users, Diagram: Session Time, Diagram: Web Transaction Rate, Diagram: Completed Loops, Diagram: TCP Socket Connect Time, Diagram: Network Throughput, Diagram: HTTP Keep-Alive Efficiency, Diagram: SSL Handshake Time, Diagram: Session Failures, Diagram: Error Types, Diagram: Number of Errors per Page, Diagram: DNS Statistic and Resolution Time, Transactions, Diagram: User Defined Data Points, Diagram: Load Generator Performance, Browser Cache Statistic, HTTP Resp

**Results per Page | URL (Overview)**

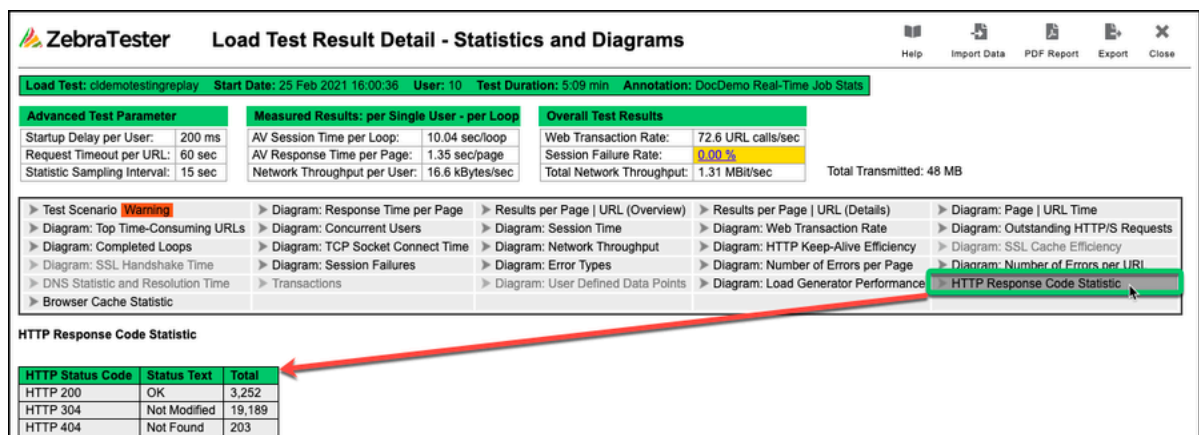
Page #1: Start Page User's think time: 0.0 seconds

| Test         | E | # Passed | # Failed | AV Time | <= 90 % | Accept | AV Size      | URL   |
|--------------|---|----------|----------|---------|---------|--------|--------------|---|
| [1]          | S | 0        | 306      | ---     | ---     | 0.0%   | ---          | GET http://cldemo.apicasytem.com:0/Styles/stylesheet.css                            |
| [2]          | P | 306      | 0        | 300 ms  | 327 ms  | 100.0% | 1,068 bytes  | GET http://cldemo.apicasytem.com:80/WebResource.axd?d=SwCcMwJbC5HPR0GyMzBQBIE       |
| [3]          | P | 306      | 0        | 297 ms  | 322 ms  | 100.0% | 613 bytes    | GET http://cldemo.apicasytem.com:80/Scripts/GoogleAnalytics.js                      |
| [4]          | P | 306      | 0        | 427 ms  | 545 ms  | 100.0% | 1,953 bytes  | GET http://cldemo.apicasytem.com:80/ScriptResource.axd?d=h56yI9f0SB7seER6Wx2QkrhPIS |
| [5]          | P | 306      | 0        | 303 ms  | 329 ms  | 100.0% | 1,274 bytes  | GET http://cldemo.apicasytem.com:80/ScriptResource.axd?d=pF1UEgDL-2LZwQfO6W8b5w     |
| [6]          | P | 306      | 0        | 299 ms  | 324 ms  | 100.0% | 654 bytes    | GET http://cldemo.apicasytem.com:80/Images/Banners/WindowsAzure.jpg                 |
| [7]          | P | 306      | 0        | 299 ms  | 320 ms  | 100.0% | 640 bytes    | GET http://cldemo.apicasytem.com:80/Images/Banners/Amazon.jpg                       |
| [8]          | P | 306      | 0        | 146 ms  | 158 ms  | 100.0% | 823 bytes    | GET http://cldemo.apicasytem.com:80/Images/logo.png                                 |
| [9]          | P | 306      | 0        | 145 ms  | 159 ms  | 100.0% | 617 bytes    | GET http://cldemo.apicasytem.com:80/Images/Banners/Bullet.png                       |
| <b>Total</b> |   | 306      | 0        | 770 ms  | 877 ms  | 100.0% | 29,010 bytes | 23 URLs Response Time Efficiency = ---%   |

Page #2: next page User's think time: 3.0 seconds

| Test | E | # Passed | # Failed | AV Time | <= 90 % | Accept | AV Size     | URL   |
|------|---|----------|----------|---------|---------|--------|-------------|---|
| [25] | S | 306      | 0        | 143 ms  | 151 ms  | 100.0% | 618 bytes   | GET http://cldemo.apicasytem.com:80/Images/navright.png     |
| [26] | P | 306      | 0        | 142 ms  | 151 ms  | 100.0% | 621 bytes   | GET http://cldemo.apicasytem.com:80/Images/navleft.png      |
| [27] | P | 306      | 0        | 143 ms  | 154 ms  | 100.0% | 625 bytes   | GET http://cldemo.apicasytem.com:80/Images/header_right.png |
| [28] | P | 306      | 0        | 145 ms  | 152 ms  | 100.0% | 1,013 bytes | GET http://cldemo.apicasytem.com:80/Images/right_banner.jpg |

- **HTTP Response Code Statistic:** Displays statistical data about the received HTTP response status codes (total count of status codes).



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| Request Timeout per URL:     | 60 sec | AV Response Time per Page:                   | 1.35 sec/page   | Session Failure Rate:     | 0.00 %             |
| Statistic Sampling Interval: | 15 sec | Network Throughput per User:                 | 16.6 kBytes/sec | Total Network Throughput: | 1.31 MBit/sec      |

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Navigation Menu: Test Scenario **Warning**, Diagram: Response Time per Page, Results per Page | URL (Overview), Results per Page | URL (Details), Diagram: Page | URL Time, Diagram: Top Time-Consuming URLs, Diagram: Concurrent Users, Diagram: Session Time, Diagram: Web Transaction Rate, Diagram: Outstanding HTTP/S Requests, Diagram: Completed Loops, Diagram: TCP Socket Connect Time, Diagram: Network Throughput, Diagram: HTTP Keep-Alive Efficiency, Diagram: SSL Cache Efficiency, Diagram: SSL Handshake Time, Diagram: Session Failures, Diagram: Error Types, Diagram: Number of Errors per Page, Diagram: Number of Errors per URL, DNS Statistic and Resolution Time, Transactions, Diagram: User Defined Data Points, Diagram: Load Generator Performance, Browser Cache Statistic, **HTTP Response Code Statistic**

**HTTP Response Code Statistic**

| HTTP Status Code | Status Text  | Total  |
|------------------|--------------|--------|
| HTTP 200         | OK           | 3,252  |
| HTTP 304         | Not Modified | 19,189 |
| HTTP 404         | Not Found    | 203    |

 Consolidated ZebraTester Release Notes (V7.0A-5.5F)

- **Brotli Data format specification Support:** - ZebraTester supports Brotli data format.
- **Updated GUI for better representations of Var extractors/assigners:** - Highlights the variables indicating from where, in the response, they are extracted, and to which request they are assigned.