Automated Testing

Sean Cargo
Texas A&M University
scargo@tamu.edu

Development Environment

- Multiple instances
  - TST2, TEST, DEVL, DALY
- Each environment has 2 of each server
  - ADM – AppNav, Admin Pages, BAM
  - SSB – General, Registration, Student
  - RSB – Advisor, Communication Management, Reports Repository, Online Work Request
  - Banner 8 SSB

Production Environment

- PROD
  - Same organization, just lots more servers

Lots of Servers and Lots of Applications that need tested!!!

Goals

- Reduce / Eliminate Manual Testing
- Reduce testing time
- Improve testing

TEXAS A&M
UNIVERSITY.
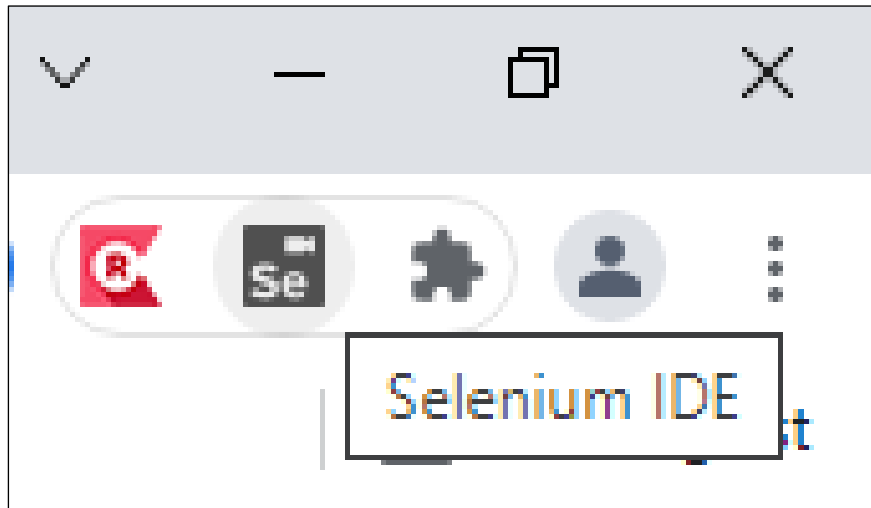
History / Tool Selection

- Experimented over the last several years
  - Functional staff create cases - Recorders
- Selenium IDE, Katalon
  - Environment scan
  - Selenium didn't have a chrome plug-in
  - Reviewed Katalon
  - Selenium now has a chrome plug-in
- Currently working with Selenium IDE recorder

Selenium IDE

Selenium IDE

- Plugin for Chrome and FireFox

Selenium IDE - TCC_2022

Project: TCC_2022

Tests +

Search tests...

✓ GZITCCV
✓ LogIn
✓ LogOut
✓ TCC_Demo
✗ VerifyVersionServerBuild

https://compassxe-adm.tamu.edu/applicationNavigator

	Command	Target	Value
1	✓ execute script	return prompt("Enter Database Name");	db
2	✓ execute script	return prompt("Enter Server");	server
3	✓ execute script	return ${db}.toUpperCase();	db_upper
4	✓ execute script	return ${db}.toLowerCase();	db_lower
5	✓ echo	${db}	${db_lower}	${db_upper}	${server}	
6	✓ if	${db_upper} == "PROD"	
7	✓ store	https://compassxe-adm.tamu.edu/applicationNavigator?server=	base_url
8	✓ echo	${base_url}	
9	✓ store	${base_url}${server}	full_url

Command execute script

Target return prompt("Enter Database Name");

Value db

Description

Log   **Reference**

execute script *script, variable name*
Executes a snippet of JavaScript in the context of the currently selected frame or window. The script fragment will be executed as the body of an anonymous function. To store the return value, use the 'return' keyword and provide a variable name in the value input field.

arguments:
    script - The JavaScript snippet to run.
    variable name - The name of a variable without brackets.

Future / In Development

Future / In Development

- Export cases from Selenium IDE
- Setup automation infrastructure
- Run test cases in automated fashion

Admin_Pages

aDMAppNavBranding.spec.js

aDMBAMSPAIDEN.spec.js

pAGESGUAABOTVerifyVersion.spec.js

pAGESJobSubGURPDED.spec.js

pAGESOnlineHelpSTVAPDC.spec.js

TAMU Automated User Tests   ⏱ 5m 48.7s   📑 5   📋 10   ✅ 10   ❌ 0

PAGES_GUAABOT_VerifyVersion
/node_modules/@tamu-eis/automated-application-testing/test/custom_mods/Admin_Pages/pAGESGUAABOTVerifyVersion.spec.js

⏱ 51.6s   📋 2   ✓ 2

| ✅ | Server_1 | 💬 28s ⏱ |
| ✅ | Server_2 | 💬 23.6s ⏱ |

Pages_JobSub_GURPDED
/node_modules/@tamu-eis/automated-application-testing/test/custom_mods/Admin_Pages/pAGESJobSubGURPDED.spec.js

⏱ 1m 31.2s   📋 2   ✓ 2

| ✅ | Server_1 | 💬 45.5s ⏱ |
| ✅ | Server_2 | 💬 45.6s ⏱ |

TAMU Automated User Tests   ⏱ 5m 48.7s   📖 5   📋 10   ✅ 10   ❌ 0

```
  // Pause to allow the landing view flicker (if any) to resolve
  await driver.sleep(3000); // TODO: Can this be replaced with a wait instead?
  // BEGIN GJAPCTL form
  // Form title: 'Process Submission Controls GJAPCTL [...]'
  vars['formName'] = 'GURPDED';
utils.logger.debug('vars[\'formName\']: ' + vars['formName']); // TODO: For debug purposes!
  // Launch the GURPDED JobSub UI via the GJAPCTL form view
  await driver.wait(until.elementLocated(By.id('search-landing')), defaultWaitTimeout).then(elem => driver.wai
//      await driver.findElement(By.id("search-landing")).click()
  await driver.findElement(By.id('search-landing')).click();
//      await driver.findElement(By.id("search-landing")).sendKeys("GURPDED")
  await driver.findElement(By.id('search-landing')).sendKeys(vars['formName']);
//      await driver.findElement(By.id("search-landing")).sendKeys(Key.ENTER)
  await driver.findElement(By.id('search-landing')).sendKeys(Key.ENTER);
  // Switch to the GJAPCTL form view
  await driver.wait(until.elementLocated(By.id('bannerHS')), defaultWaitTimeout).then(elem => driver.wait(unti
//      await driver.switchTo().frame(0)
  await driver.switchTo().frame(driver.findElement(By.id('bannerHS')));
  // Allow the form header text some time to resolve
  await          driver.wait(until.elementLocated(By.css('h2.workspace-title')), defaultWaitTimeout)
    .then(elem => driver.wait(until.elementIsVisible(elem), defaultWaitTimeout))
    .then(elem => driver.wait(until.elementTextContains(elem, globalVar.executionEnv), defaultWaitTimeout));
```

Video screen capture available here:

}

Video screen capture available here:

✕   Process Submission Controls GJAPCTL 9.3.21 (TST20310)   📄 ADD   📄 RETRIEVE   🗃 RELATED   🔧 TOOLS

Process: GURPDED   Data Element Dictionary   Parameter Set: **Start Over**

▼ PRINTER CONTROL   🔲 Insert   ⊟ Delete   🔳 Copy   ▼ Filter

Printer	studenttst2	⋯	Submit Time		PDF Font Size	
Special Print			MIME Type	None	Delete After Days	
Lines	60		PDF Font		⋯	Delete After Date	

▼ PARAMETER VALUES   ⚙ Settings   🔲 Insert   ⊟ Delete   🔳 Copy   ▼ Filter

Number *	Parameters	Values
01	USERID of Table Creator	SATURN
02	Table(s) to be Reported	SWRMNRS
03	USERID of View Creator	
04	View(s) to be Reported	
05	Binding Margin Option	Y
06	Heading Underline Option	N

|◀ ◀ ① of 1 ▶ ▶| 10 ∨ Per Page   Record 2 of 6

▼ SUBMISSION   🔲 Insert   ⊟ Delete   🔳 Copy   ▼ Filter

☐ Save Parameter Set as   Hold / Submit ○ Hold ◉ Submit

Name [ ]   Description [ ]

▶ ━━━━━━━━━━●━━━━━━━━━━   0:21 / 0:47 🔇 ☒ ⤢

Discussion / Questions
???

Q. How many institutions are using automated testing?

Q. How are institutions using automated testing?

Live Demo

Live Demo

- Run existing test cases
- Build new test case
  - GUAABOT
  - GTVZIPC

Contact

Sean Cargo

scargo@tamu.edu