Learning Objectives of CP-SAT v 1.31

"Knowledge with experience is power; certification is just a by-product"

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CP-SAT version 1.31 (16th Jan 2019) - Python

Version 1.31 - Learning Objectives of CP-SAT - Python:

1. Tool background

1.1. History of Selenium (30 mins)

The participant learns about the history of the tool, its evolution and the need for it.

1.2. Selenium Overview (30 mins)

Learn about the definition and usage of the tool. Get aware of the cross-language, cross-platform, cross-browser capabilities of the tool. Learn about the Selenium tool license policy. Elaborate on the two parts of the Selenium toolkit

- Selenium 3.x
  - Selenium WebDriver
- Selenium Grid
  - Need for Grid
  - Parallel execution of tests

2. Locator Strategies (60 mins)

- Learn the concept of DOM
- Learn about the Structure Dependent locators:
  - XPath
  - CSS
- Learn about the Attributes-based locators:
  - Id
  - Name
  - Link Text
  - Partial Link Text
  - Tag Name

3. Selenium Server

3.2. Selenium 3.x (WebDriver) (420 Mins)

- Setting up your Python environment (Eclipse (30 mins)
  - Installation of eclipse and creation of workspace
  - Creation of PyDev Project
  - Creation of the Source Folders, Packages and Resource Folders
  - Debugging and Running the tests

3.3. PyUnit

  - Learn about the need of the testing frameworks
  - History of Pyunit

    - Running tests
    - Running PyUnit Suit
- Running WebDriver Tests (30 mins)
    - New features of WebDriver 3.x
    - Limited methods, more flexibility to create new methods
    - Lightweight API
    - Wrapper methods for missing commands
    - JavaScript execution
- Implicit and Explicit Wait in Selenium 3.x (15 mins)
- Running JavaScript code (30 mins)

3.4. Various WebDriver implementations (90 mins)

- Firefox Driver (Gecko driver)
- Chrome Driver
- Edge Driver
- Headless Browser Testing
- Learn to manage driver capabilities

3.5. Advanced User Interaction (150 mins)

- Keyboard
- Action Builder
- Handling popups
- Handling alerts
- Capturing Screenshots
- Drop Downs
- JQuery (Auto Complete)
- Drag and Drop

4. Framework

4.2. Testing Frameworks (460 mins)

- Data Driven Framework using WebDriver (210 mins)
    - For Excel (Using .xls and .xlsx
- Keyword Driven Framework using WebDriver (30 mins)
    - Setting Up Keyword Driven Framework
    - Setting Up Data Engine
    - Test Suite Execution
    - Log Generation
- Page Factory and Page Object Model (120 mins)
- Helper / Utility framework class

5. Selenium Grid

5.1. Selenium Grid Concept and Practical Setup (60 mins)

- Learn about the built-in grid functionality in Selenium 3.x
- Learn to distribute the tests on several machines and do parallel execution
- Learn to run the tests in parallel on multiple combinations of browser and OS from a central hub
- Learn to setup the Hub server
- Learn to parameterize the tests to run on various nodes
- Learn to override the default parameters on the nodes

6. Running Selenium Tests in Continuous Integration environment (120 Mins)

6.1. Concept of Continuous Integration (30 mins)

- Learn about the concept of Automating the Automation
- Learn about the Continuous Integration practice and merging automated Selenium test scripts on CI server

6.2. PyBuilder task in Jenkins/Hudson (90 mins)

- Learn to prepare Jenkins/Hudson to run PyBuilder task with Selenium tests
- Learn various triggering events for the test
- Learn to prepare test output reports

7. Automation in Agile projects (Reading)

7.1. Agile Manifesto

7.2. Agile in Practice (Video)

7.3. Incremental and Iterative development

7.4. Scrum – Testing in iterations

7.5. Testing challenges in Agile

7.6. Test Automation

8. Practical Selenium Automation Testing (Exercises)

- Practice all Selenium concepts throughout the course using various practical case studies.
- Practical Exercises post completion of the program

This learning Objective is version 1.31 of CP-SAT – Python stream.

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