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AUTOMATION USING SELENIUM WEB DRIVER

Objectives

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At the end of this module, you will be able to:

→ Understand Manual Testing and its disadvantages

→ Know about Automation Testing

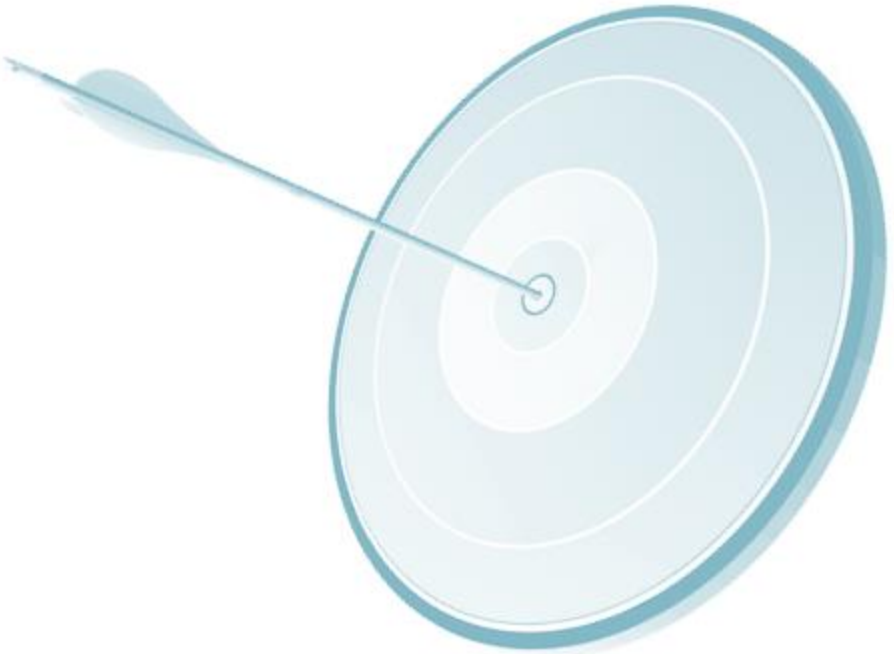
→ Learn Selenium and its advantages

→ Learn Automation Metrics

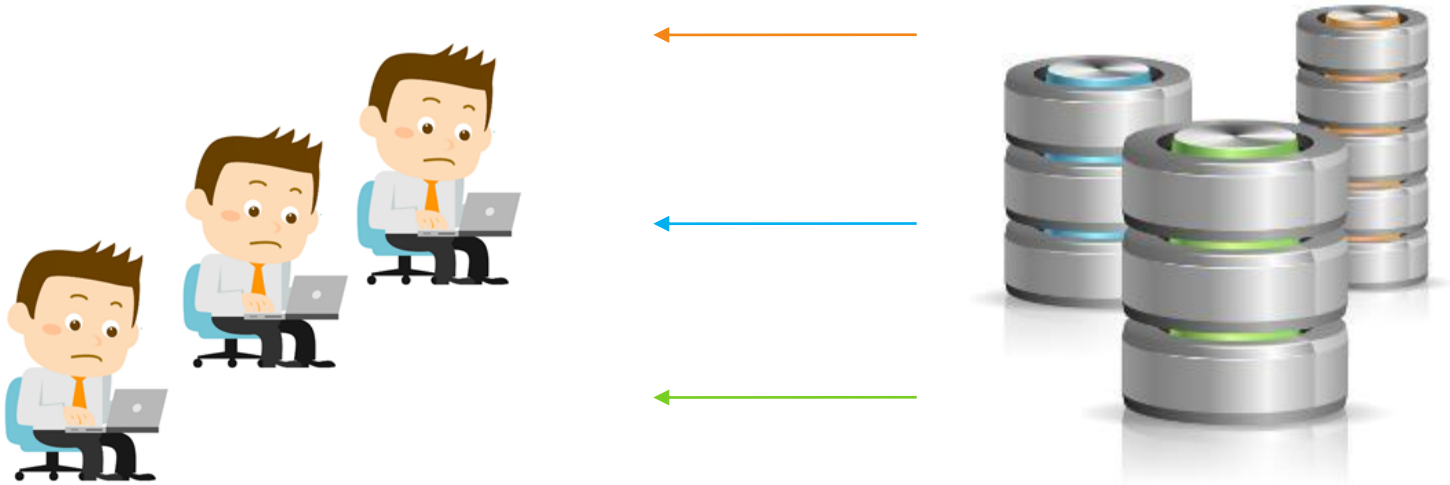
→ Understand Selenium Grid and Web driver

→ Use case: Mambo

→ Job trends in Selenium



Manual Testing



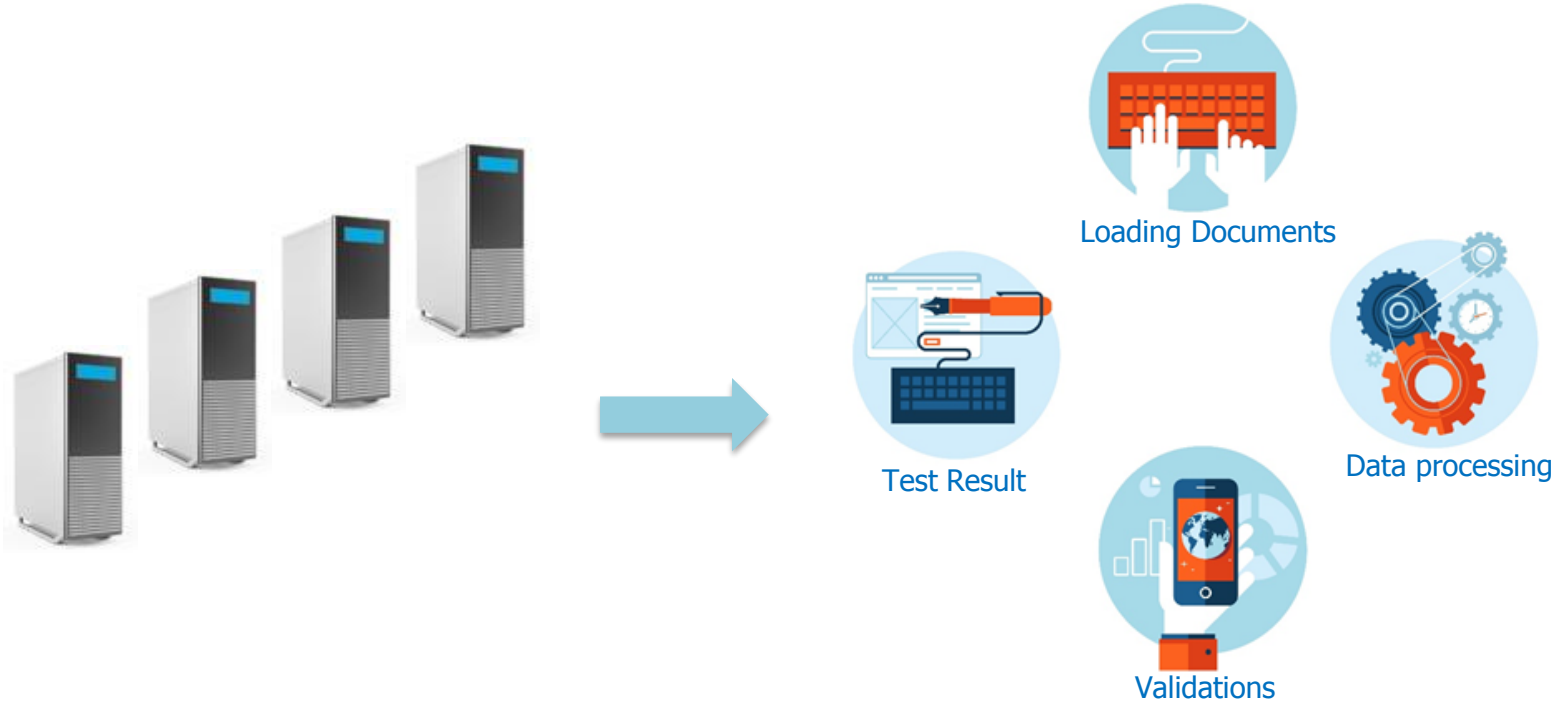
Manually loading the data from database

Manual Testing (Contd.)

Manually Testing the Application with different sets of data (1000+ records)

Application Under Test (Financial Services, Telecom, e-commerce and more)

Manual Testing (Contd.)



Creating test result file, taking screenshots of validation points, loading all the documents on share drive for SME review and sharing files with other resources

Manual Testing (Contd.)

Graph & Chart Analysis

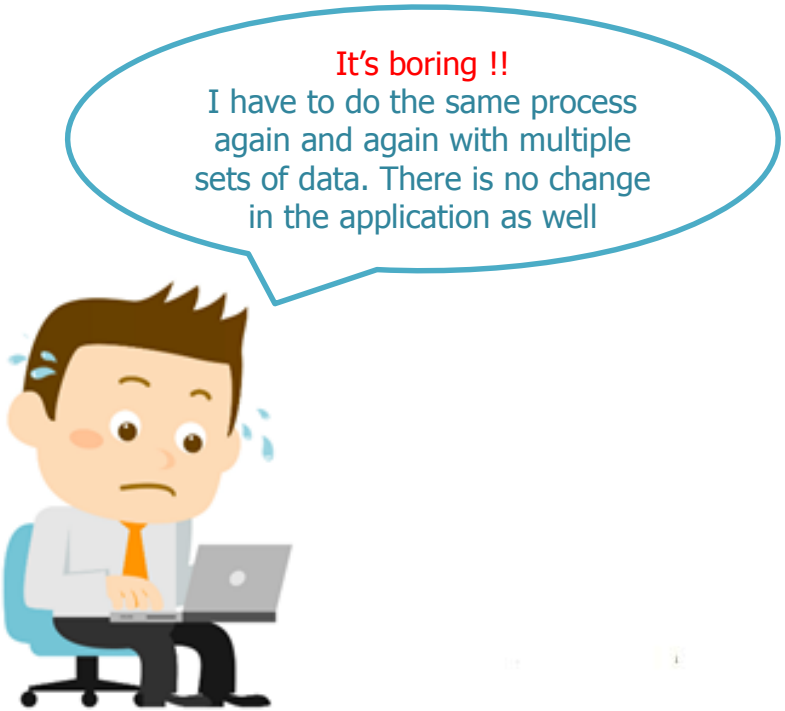
Data Analysis

Geography Analysis

Report Generation for higher management

Finance Analysis

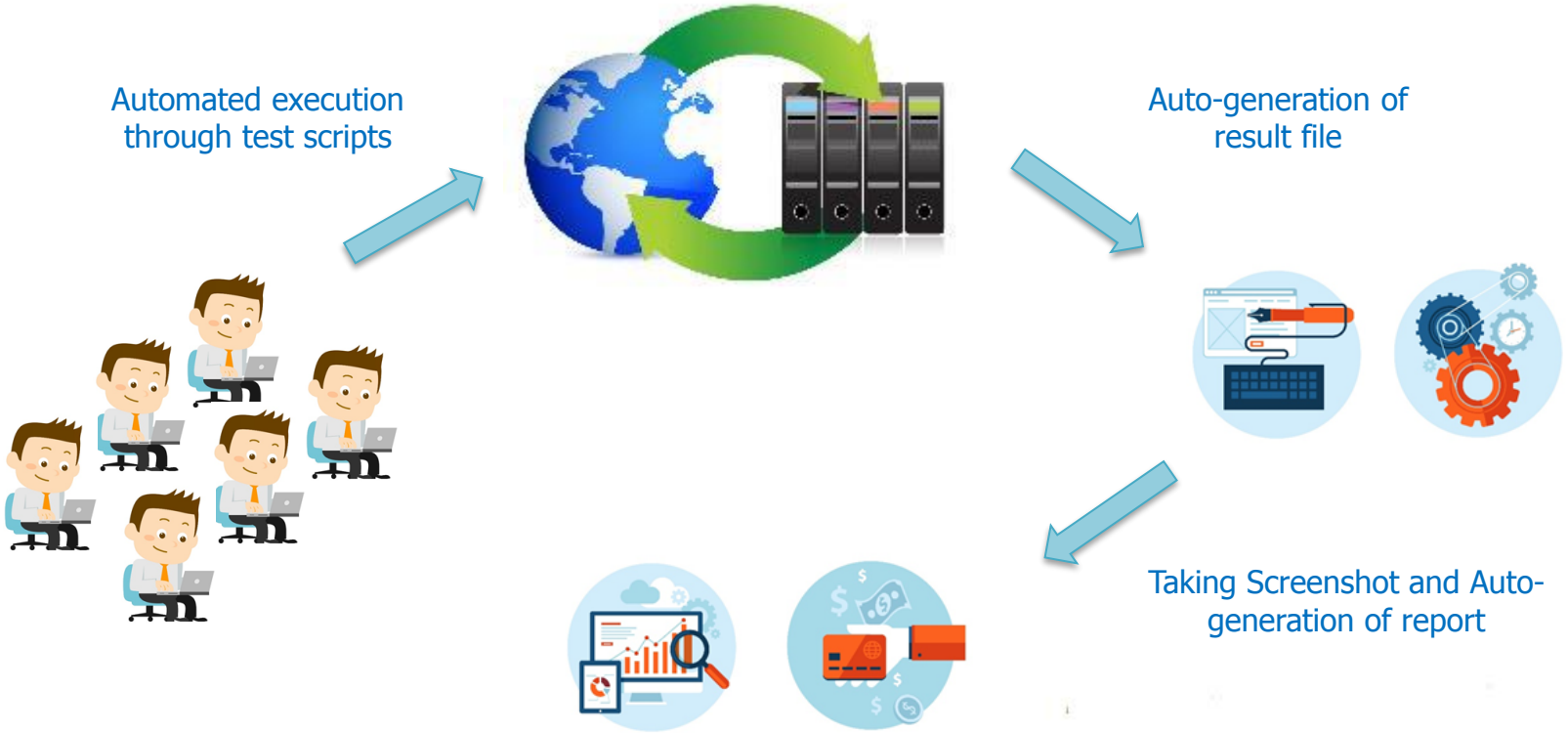
Manual Testing (Contd.)



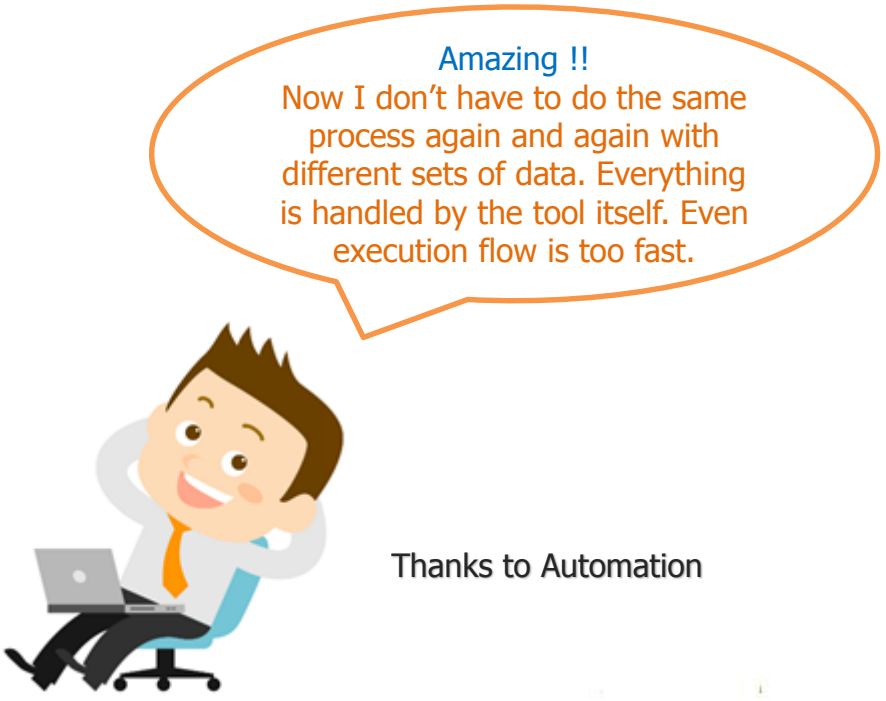
Selenium: Automation Testing

Automated Data transfer from database

Selenium: Automation Testing (Contd.)



Selenium: Automation Testing (Contd.)



What is Selenium?

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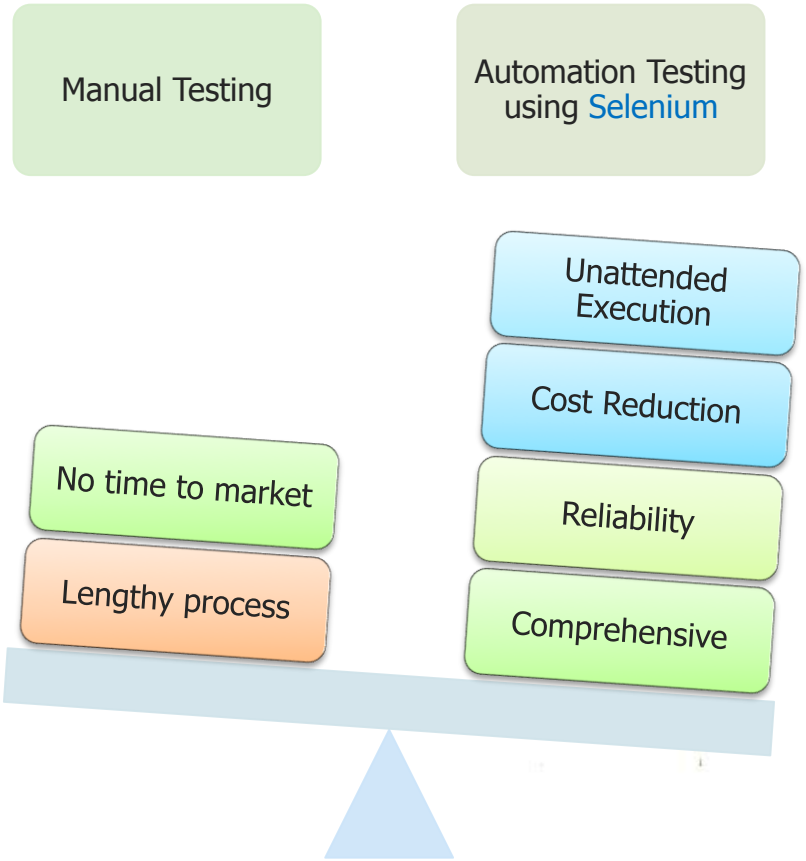
Selenium is used to automate web applications across different platforms using different programming languages

Support for

- → Different programming languages - Java, Python, PHP, Ruby, Perl, JavaScript
- → Different Operating Systems - Windows, Mac, Linux, iOS, Android
- → Different Browsers – IE, Firefox, Chrome, Safari, Opera

Advantages


Manual Testing
Automation Testing using Selenium
Unattended Execution
Cost Reduction
Reliability
Comprehensive
No time to market
Lengthy process

Selenium Web Driver Founders

Web Application

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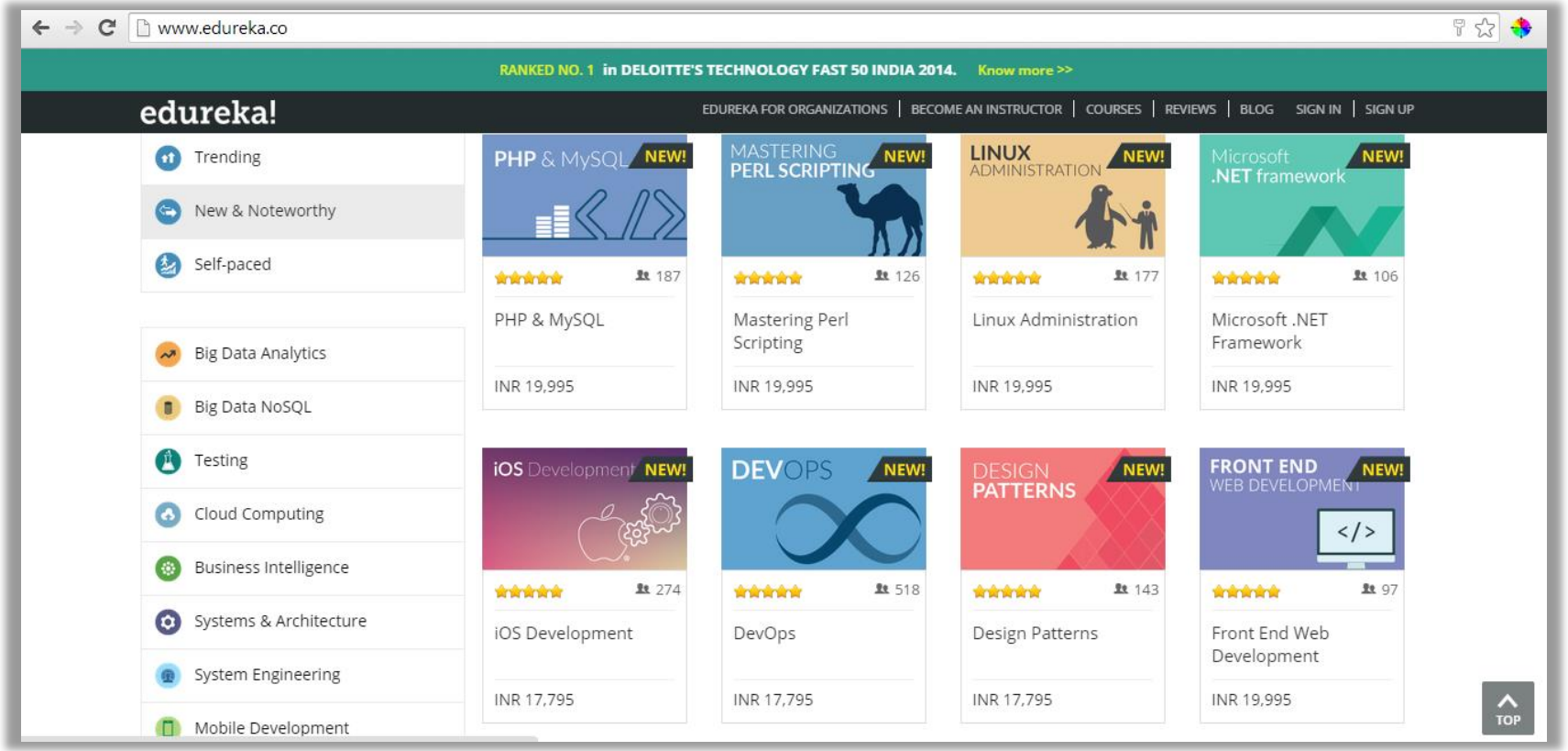

Automation Metrics

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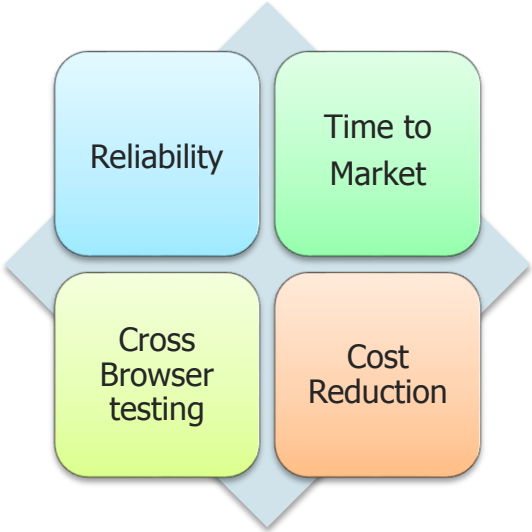
→ Test Execution Calculation

4000 Test Cases
4 Resources
Per resource = 1000
Per resource = 1000/40 =25 Days



→ Test Script Preparation

4000 Test Cases
4 Resources
Per resource = 1000
Per resource = 1000/20 = 50 Days

Total = 4000
Day 1 = 24*60 minutes
Per script execution = 5 minutes
(60 * 9) / 5 minutes = 108 Test Cases / machine
(60 * 24) / 5 minutes = 288 Test Cases / machine

4 Machine = 288 * 4 = 1152 Test Cases
1152 * 4Days = 4608 Test Cases

Unique Features of Selenium

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- → Supports almost every OS
- → Open Source
- → Cost-effective automation testing
- → Supports multiple programming languages
- → Independent of Web Application programming language
- → Supports Multiple browsers
- → More options to find an object
- → OOPs to support Keyword Driven, Data Driven and Hybrid Framework
- → Provides support for open source frameworks like TestNG, Junit & Nunit
- → Parallel Execution

Selenium Grid

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→ Selenium-Grid allows us to execute Test Script on different machines at the same time (parallel execution) from one system called Hub

→ Each machine is called node

→ That is, Selenium-Grid runs multiple tests at the same time against different machines running different browsers and operating systems

Selenium Grid (Contd.)

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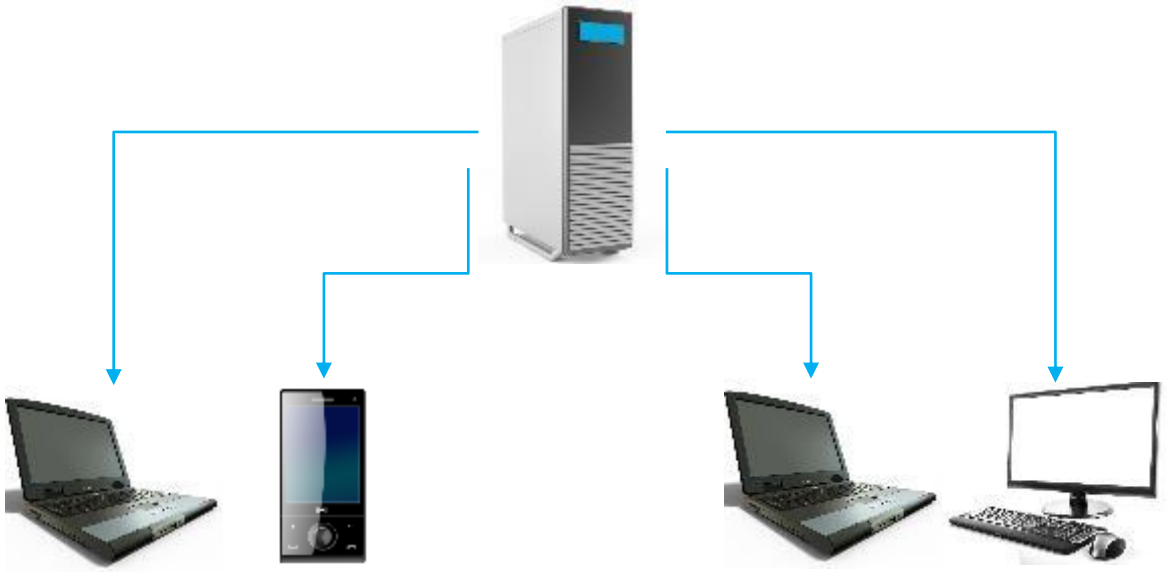
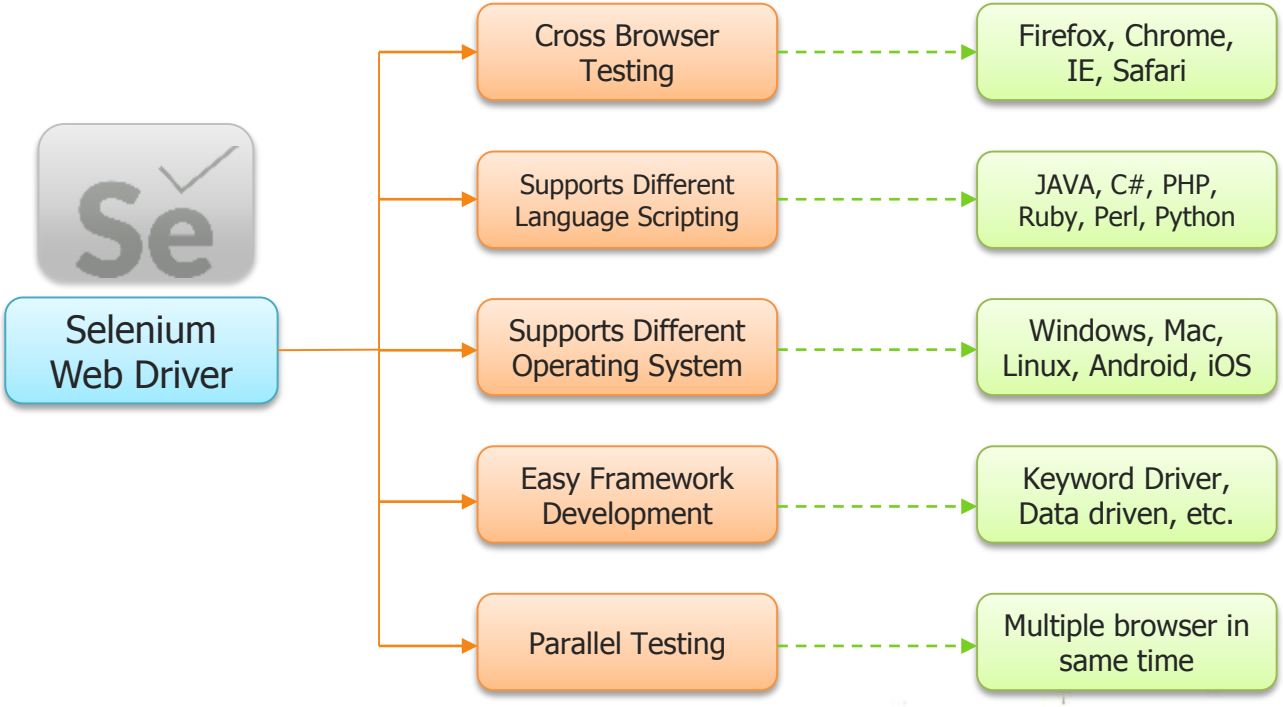
- → Parallel Execution
- → Platform Independent
- → Language Independent
- → Browser Independent
- → Fast Execution



Selenium Web Driver



Problem Statement

There are many periodic tasks such as updating data into the database, taking the backup of database that developers and administrators has to perform at every specific time

Following are the problems in doing them:

- Need to track the run of the process
- Every task has to be started at scheduled time
- It is very difficult to track where the problem happened

Solution: Selenium

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→ We can automate these tasks using Selenium WebDriver

→ Using Selenium WebDriver we can perform all user interaction that a user do manually. That saves us from the tedious periodic task

→ We will perform testing on Mambo which is a popular Content Management System (CMS)

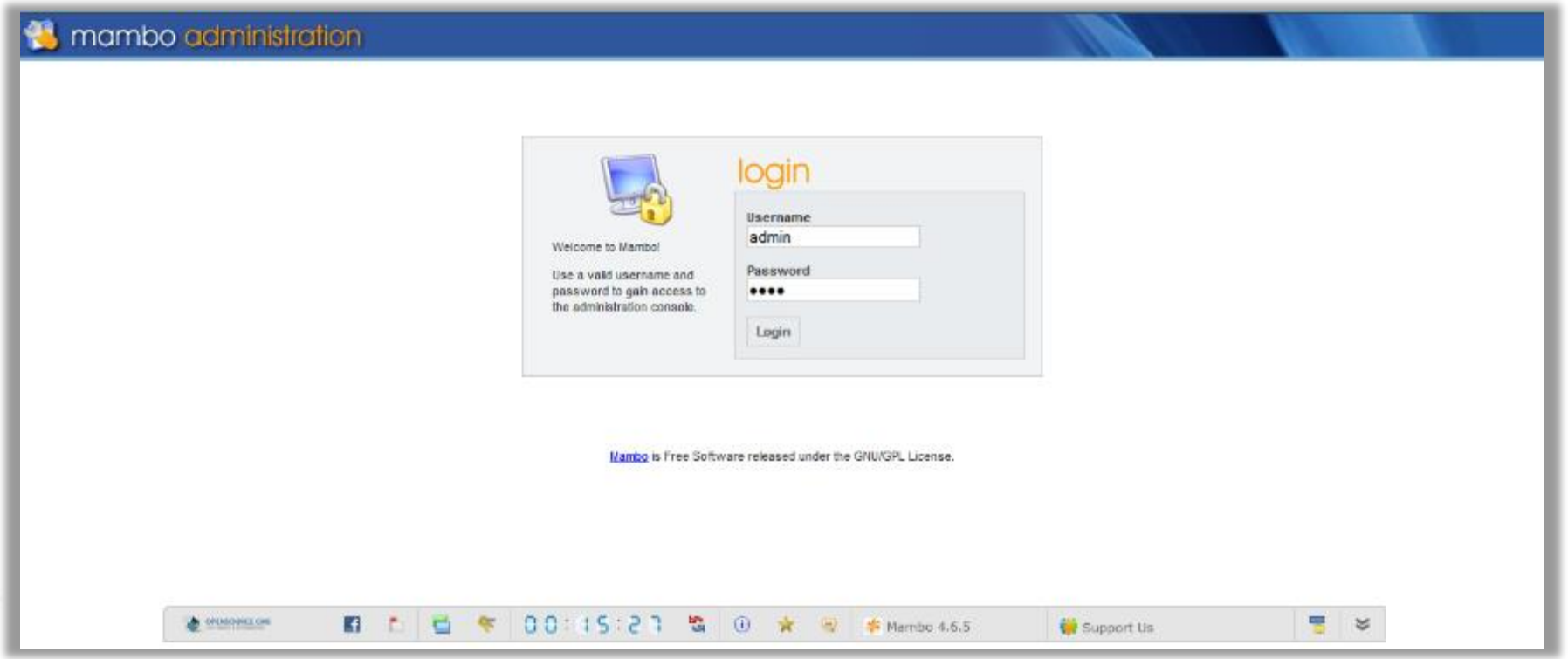
→ We will use Keyword Driven Framework so that it should work as per user instructions

→ Data to interact with the Mambo will come through the excel sheet

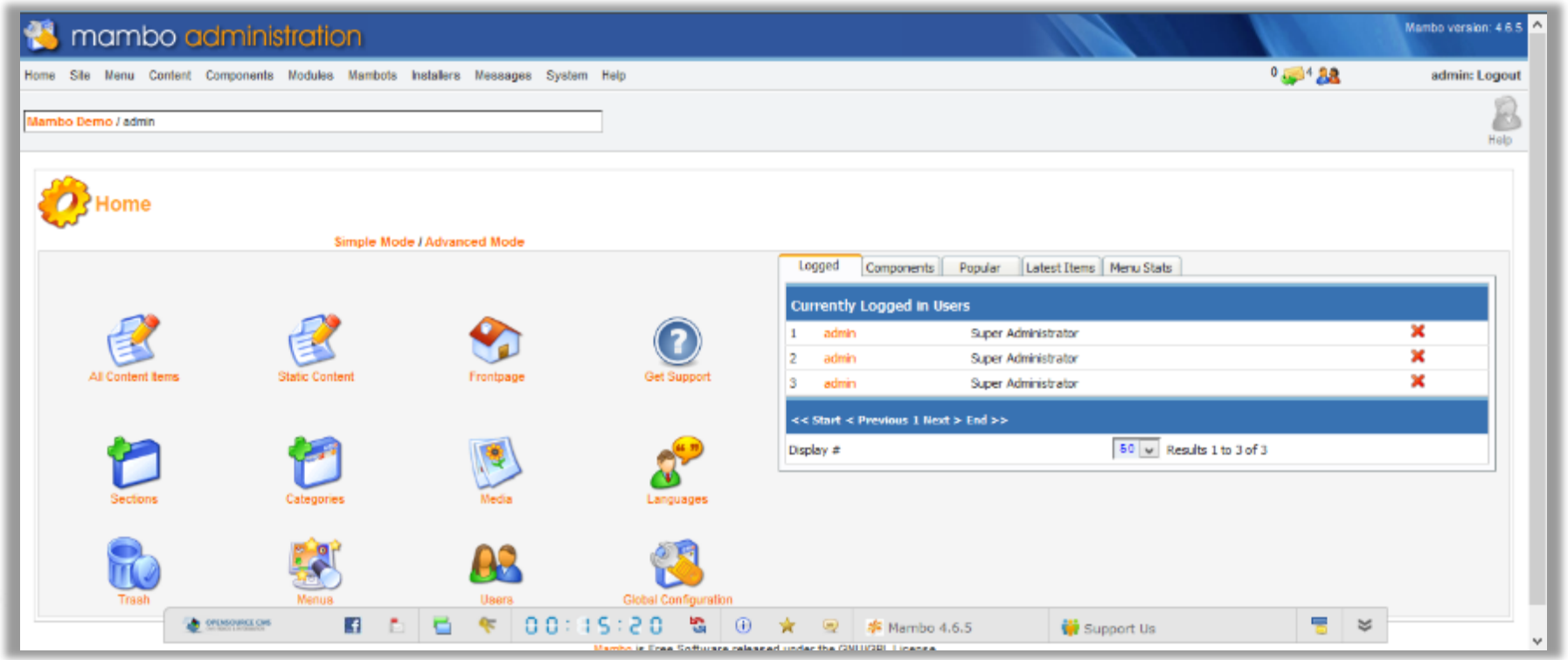
→ Test will handle Textboxes, Links, Checkboxes, Radio Buttons, Submit Button

→ Test will also navigate through Mambo Menu navigation. So we will be able to automate the Mambo Administration using Selenium WebDriver

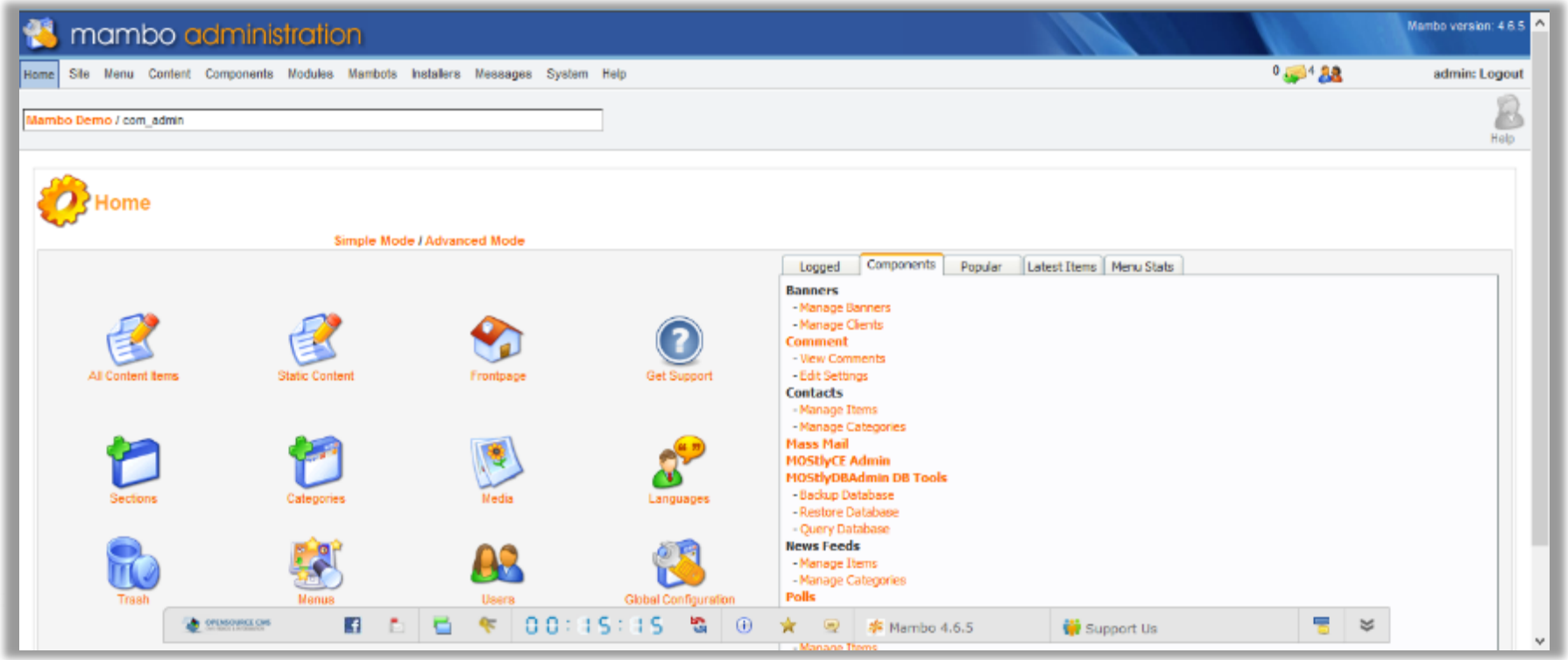
Mambo Login


mambo administration
login
Username
admin
Password
Login
Welcome to Mambo!
Use a valid username and password to gain access to the administration console.
Mambo is Free Software released under the GNU/GPL License.
Mambo 4.6.5
Support Us

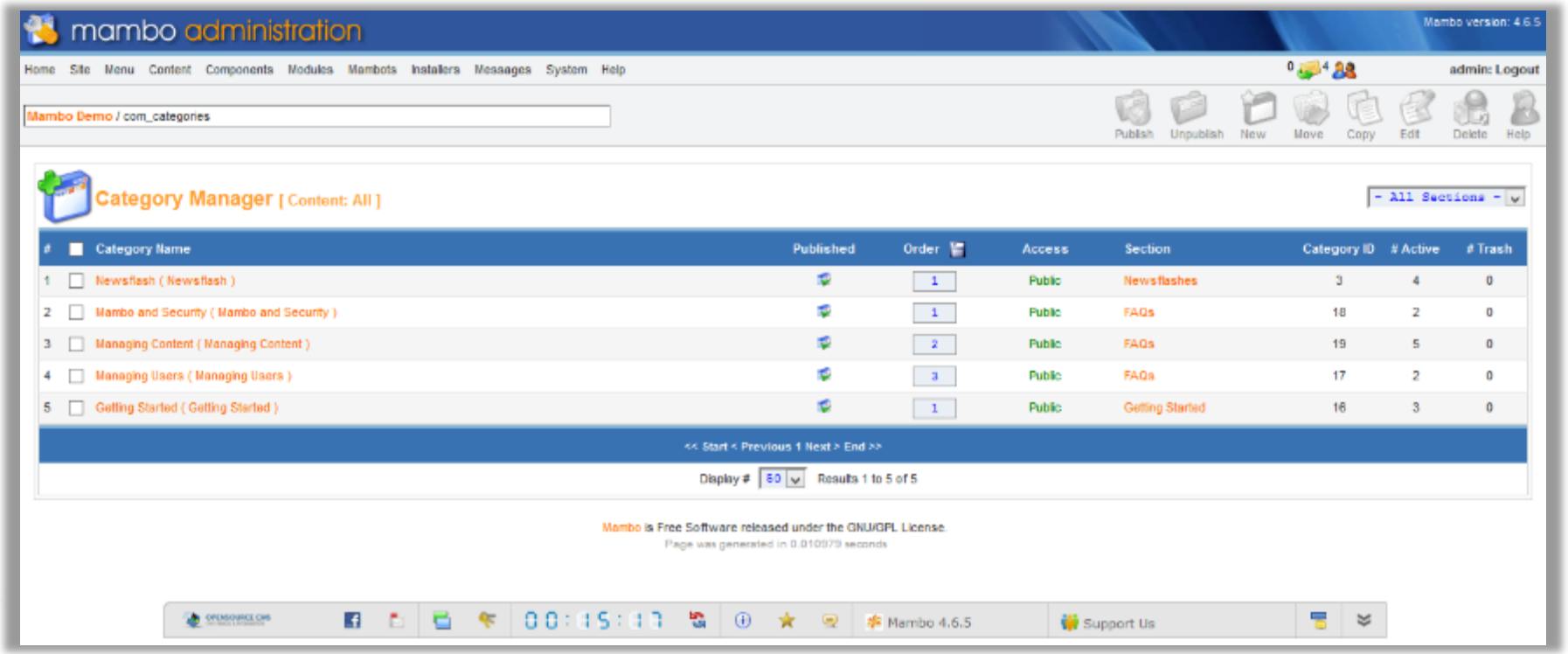
Mambo Admin


mambo administration
Mambo version: 4.6.5
Home Site Menu Content Components Modules Mambots Installers Messages System Help
admin: Logout
Mambo Demo / admin
Help
Home
Simple Mode / Advanced Mode
All Content Items
Static Content
Frontpage
Get Support
Sections
Categories
Media
Languages
Trash
Menus
Users
Global Configuration
Logged
Components
Popular
Latest Items
Menu Stats
Currently Logged in Users
1 admin Super Administrator
2 admin Super Administrator
3 admin Super Administrator
<< Start < Previous 1 Next > End >>
Display # 50 Results 1 to 3 of 3
00:15:20
Mambo 4.6.5
Support Us

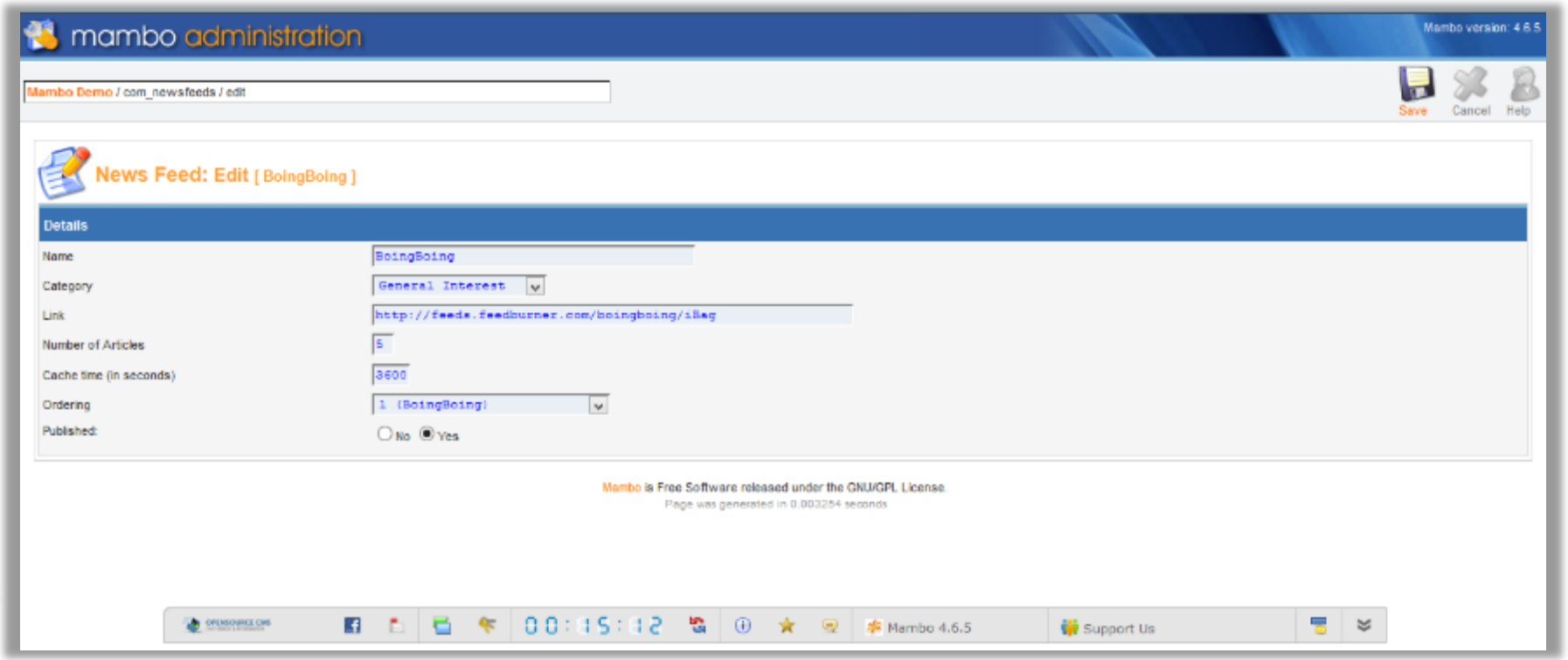
Mambo Navigation



Mambo Action



Interaction with Mambo



Demo

Companies Using Selenium

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Selenium– Job Trends

QUESTIONS

Course Topics

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→ Module 1
- » Introduction to Selenium & its components

→ Module 2
- » Selenium RC and Locater Techniques

→ Module 3
- » Selenium WebDriver

→ Module 4
- » Validation and Designing of Framework

→ Module 5
- » WerDriver Advanced Usage and Selenium IDE

→ Module 6
- » Programming and Report Generation

→ Module 7
- » Selenium-Grid, Sikuli, TestNG, Automating with AutoIt

→ Module 8
- » Project

How it Works?

LIVE Online Class

Class Recording in LMS

24/7 Post Class Support

Module Wise Quiz

Project Work

Verifiable Certificate

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