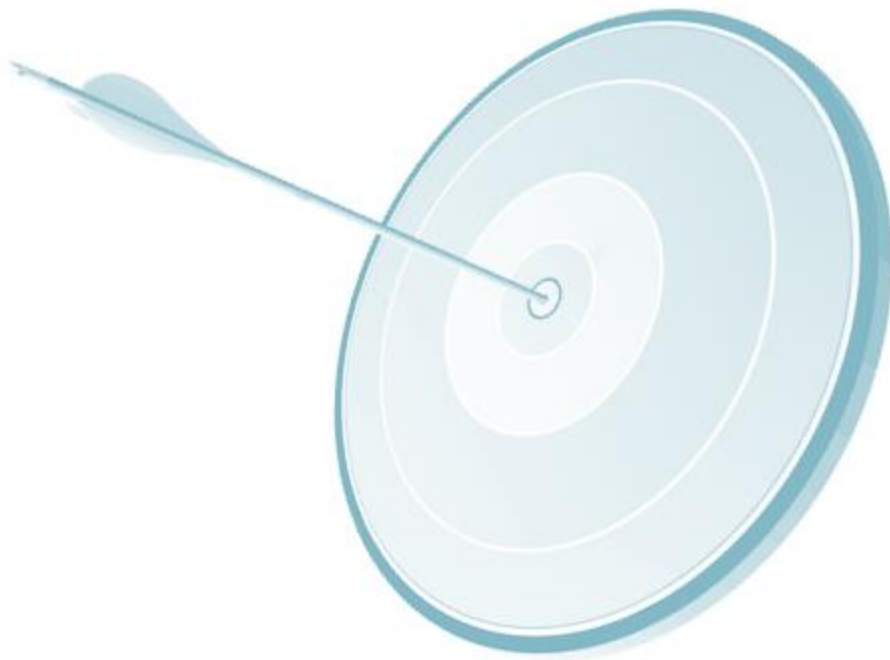


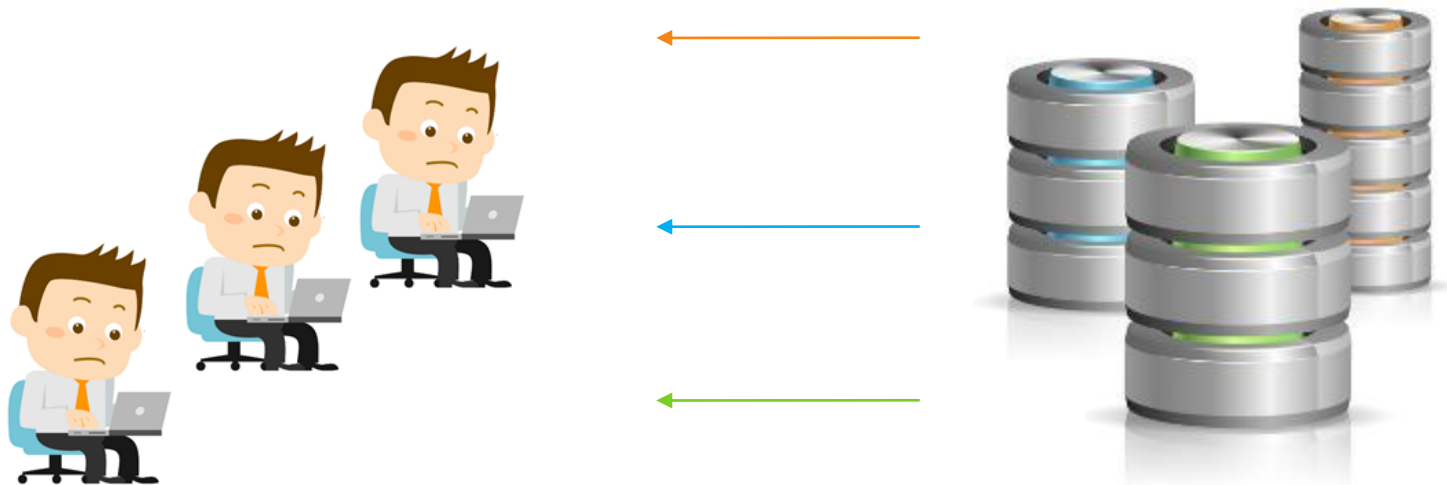


## AUTOMATION USING SELENIUM WEB DRIVER

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





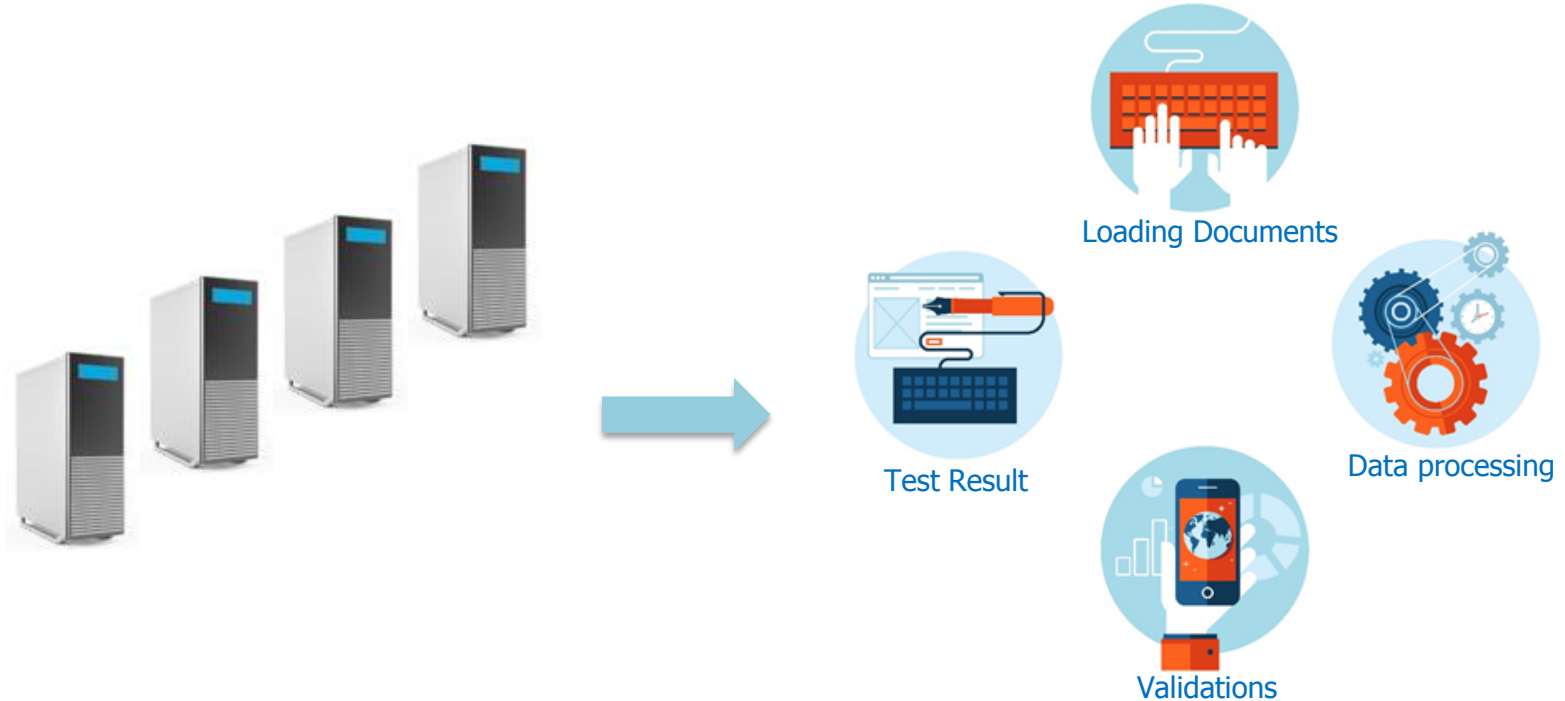
Manually loading the data from database



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



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



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



Geography Analysis



Graph & Chart Analysis



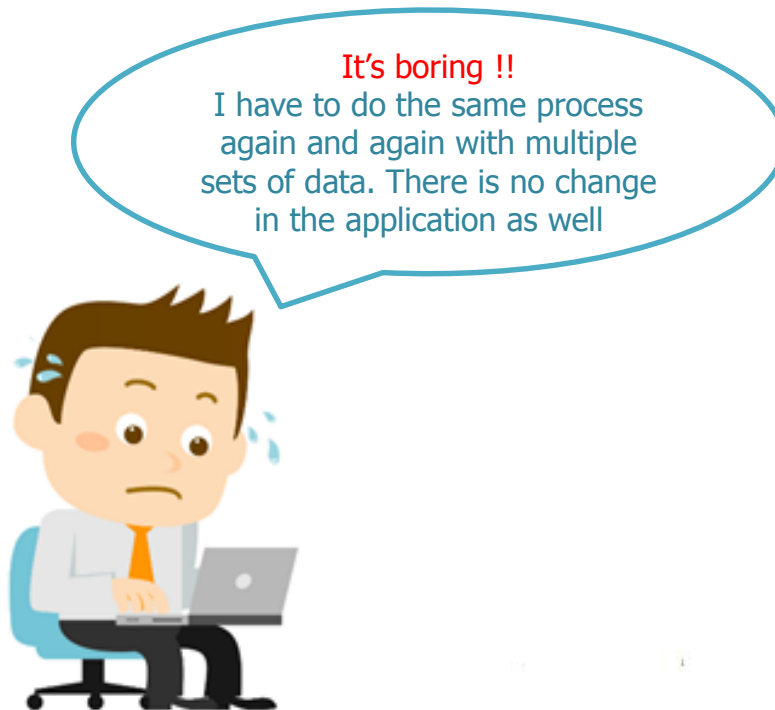
Data Analysis



Report Generation for higher management



Finance Analysis

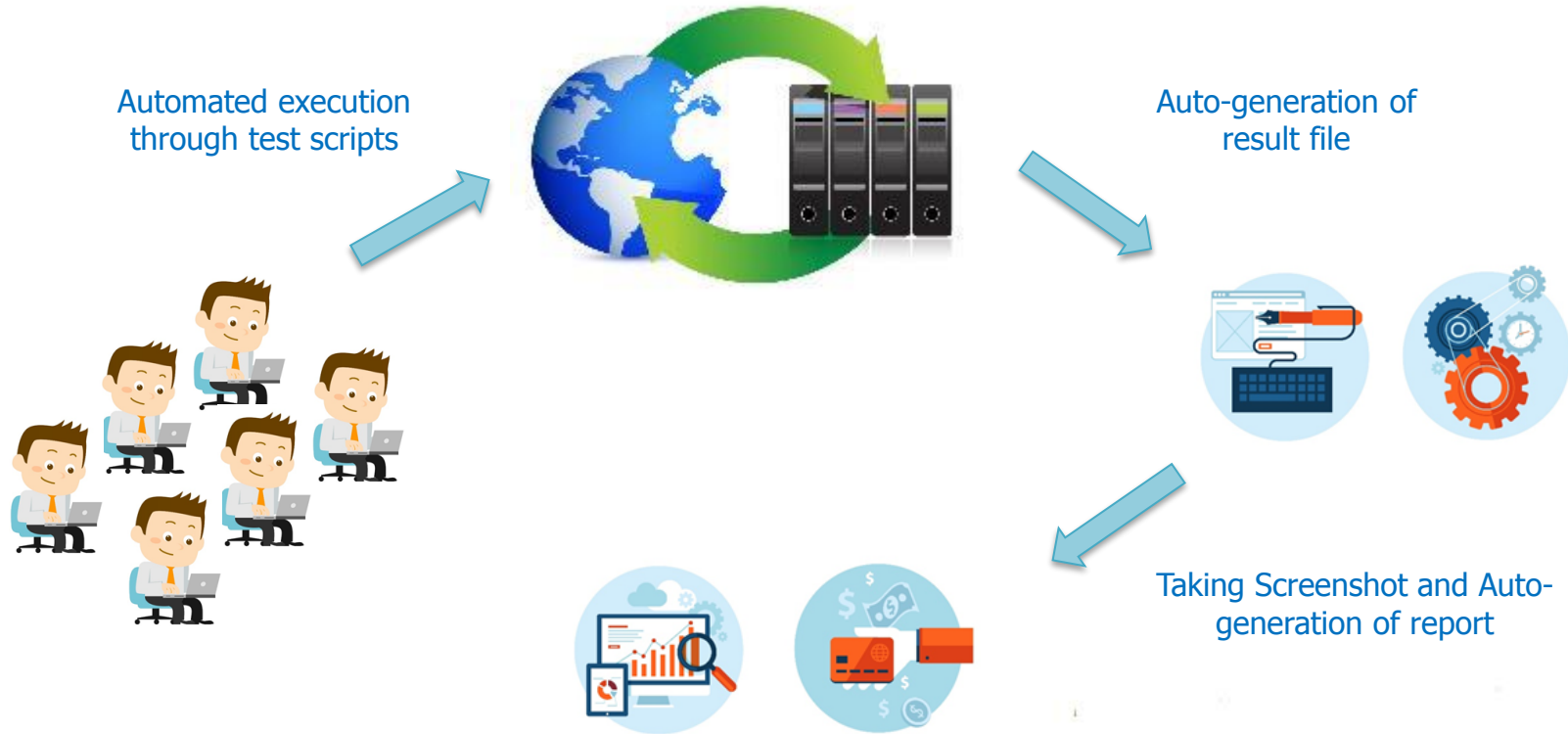




Automated Data transfer from database



# Selenium: Automation Testing (Contd.)



Amazing !!

Now I don't have to do the same process again and again with different sets of data. Everything is handled by the tool itself. Even execution flow is too fast.



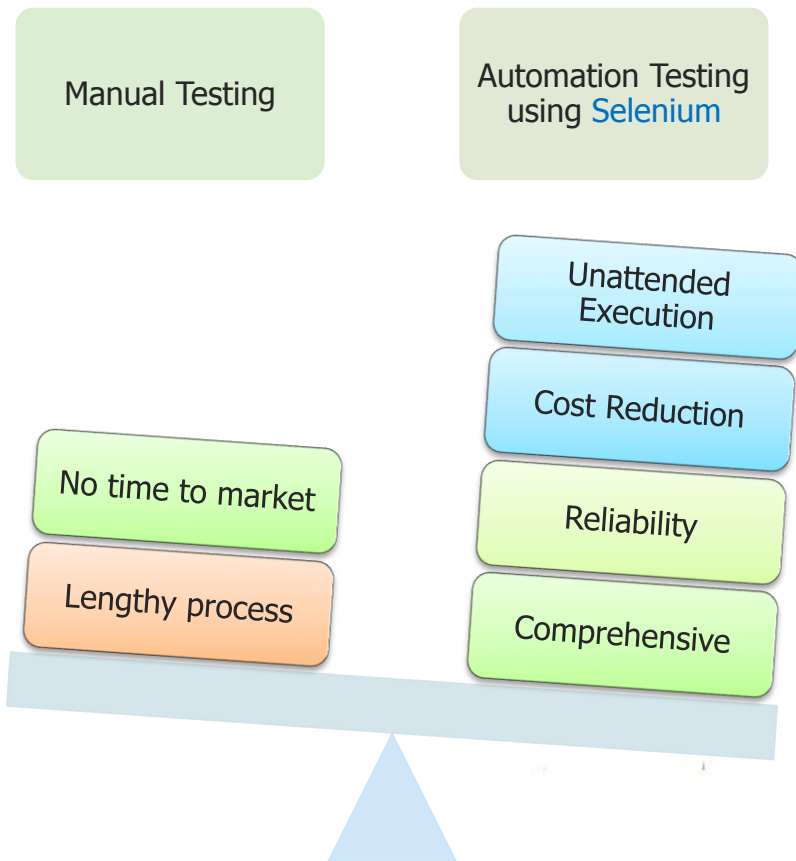
Thanks to Automation

# What is Selenium?

**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





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The screenshot displays the edureka! website interface. At the top, a green banner states "RANKED NO. 1 in DELOITTE'S TECHNOLOGY FAST 50 INDIA 2014." with a "Know more >>>" link. Below this is a navigation bar with links for "EDUREKA FOR ORGANIZATIONS", "BECOME AN INSTRUCTOR", "COURSES", "REVIEWS", "BLOG", "SIGN IN", and "SIGN UP". The main content area features a grid of course cards, each with a "NEW!" badge, a star rating, a user count, and a price. The left sidebar lists various course categories.

Course Category	Course Title	Rating	Users	Price (INR)
Trending	PHP & MySQL	★★★★★	187	19,995
	Mastering Perl Scripting	★★★★★	126	19,995
	Linux Administration	★★★★★	177	19,995
	Microsoft .NET framework	★★★★★	106	19,995
New & Noteworthy	iOS Development	★★★★★	274	17,795
	DevOps	★★★★★	518	17,795
	Design Patterns	★★★★★	143	17,795
	Front End Web Development	★★★★★	97	19,995

## → 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 =  $24 \times 60$  minutes

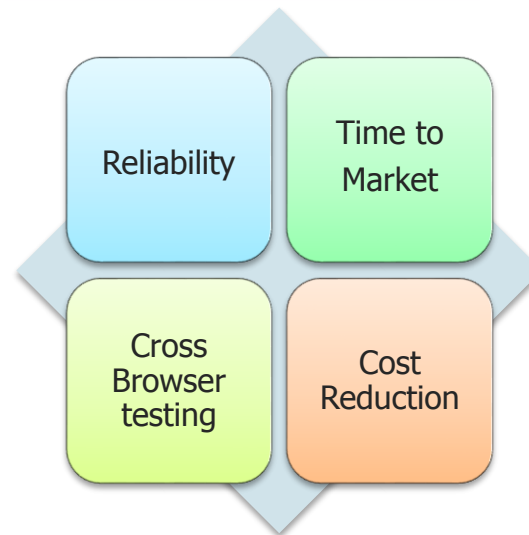
Per script execution = 5 minutes

$(60 \times 9) / 5$  minutes = 108 Test Cases / machine

$(60 \times 24) / 5$  minutes = 288 Test Cases / machine

4 Machine =  $288 \times 4 = 1152$  Test Cases

$1152 \times 4$  Days = 4608 Test Cases





- 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

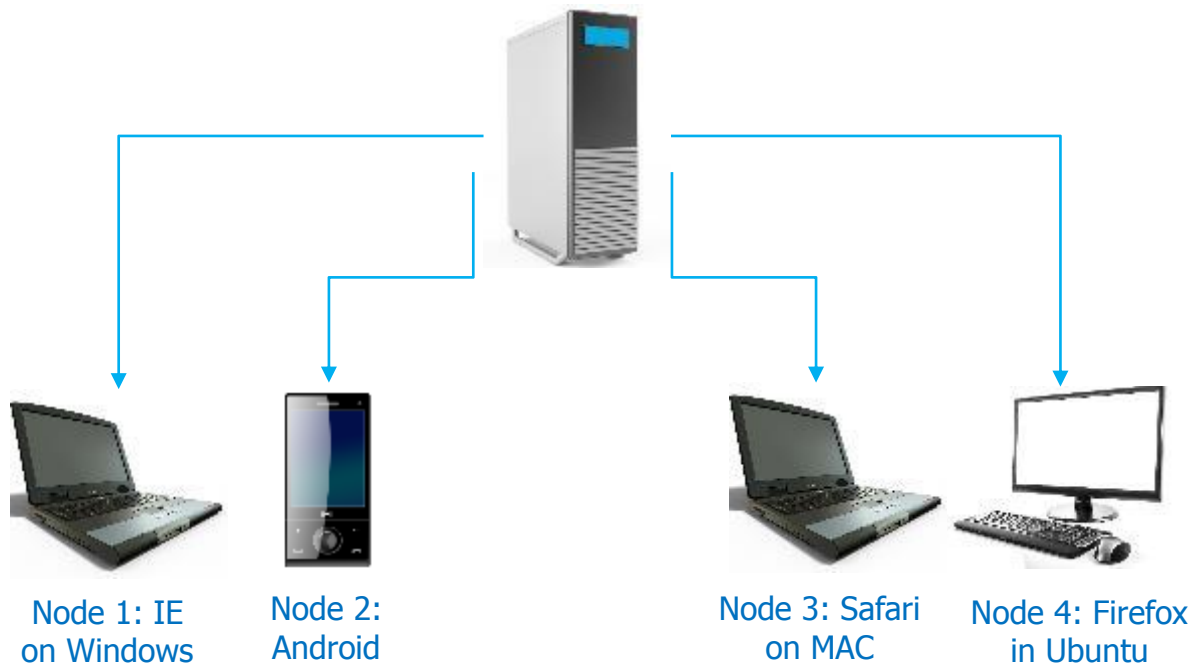


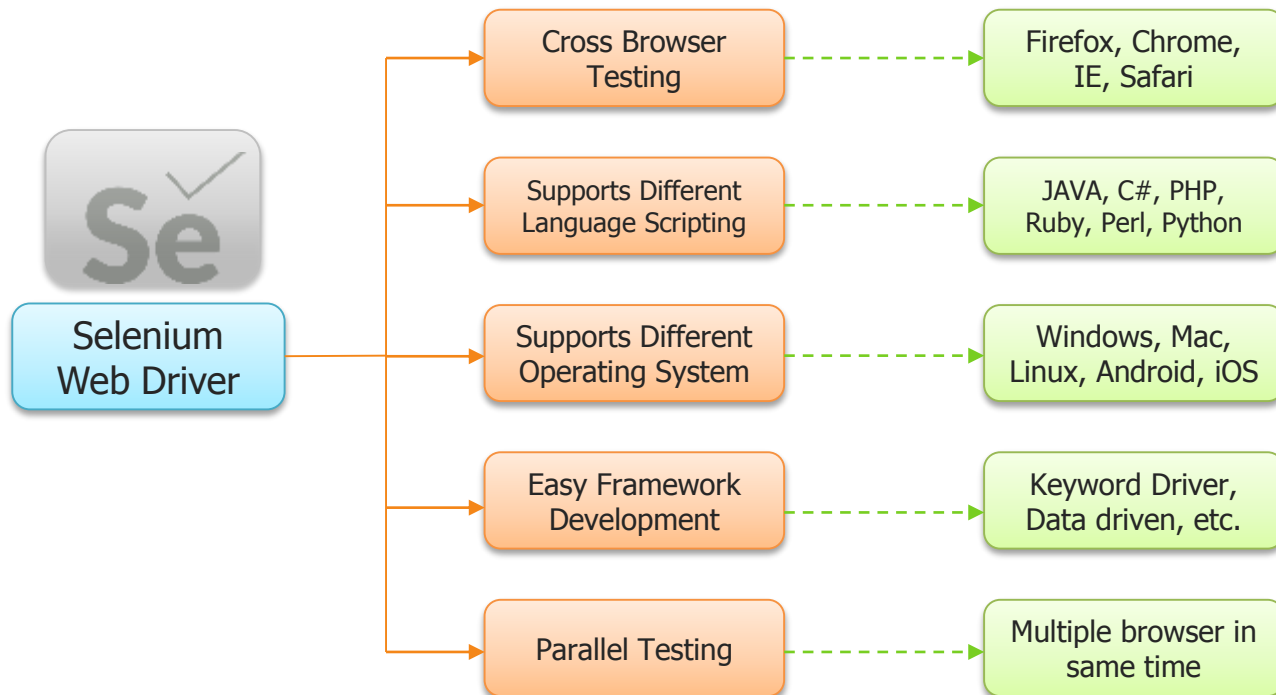
- Selenium-Grid allows us to execute Test Script on different machines at the same time (parallel execution) from one system called Hub
- Each machine is called node
- That is, Selenium-Grid runs multiple tests at the same time against different machines running different browsers and operating systems



# Selenium Grid (Contd.)

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





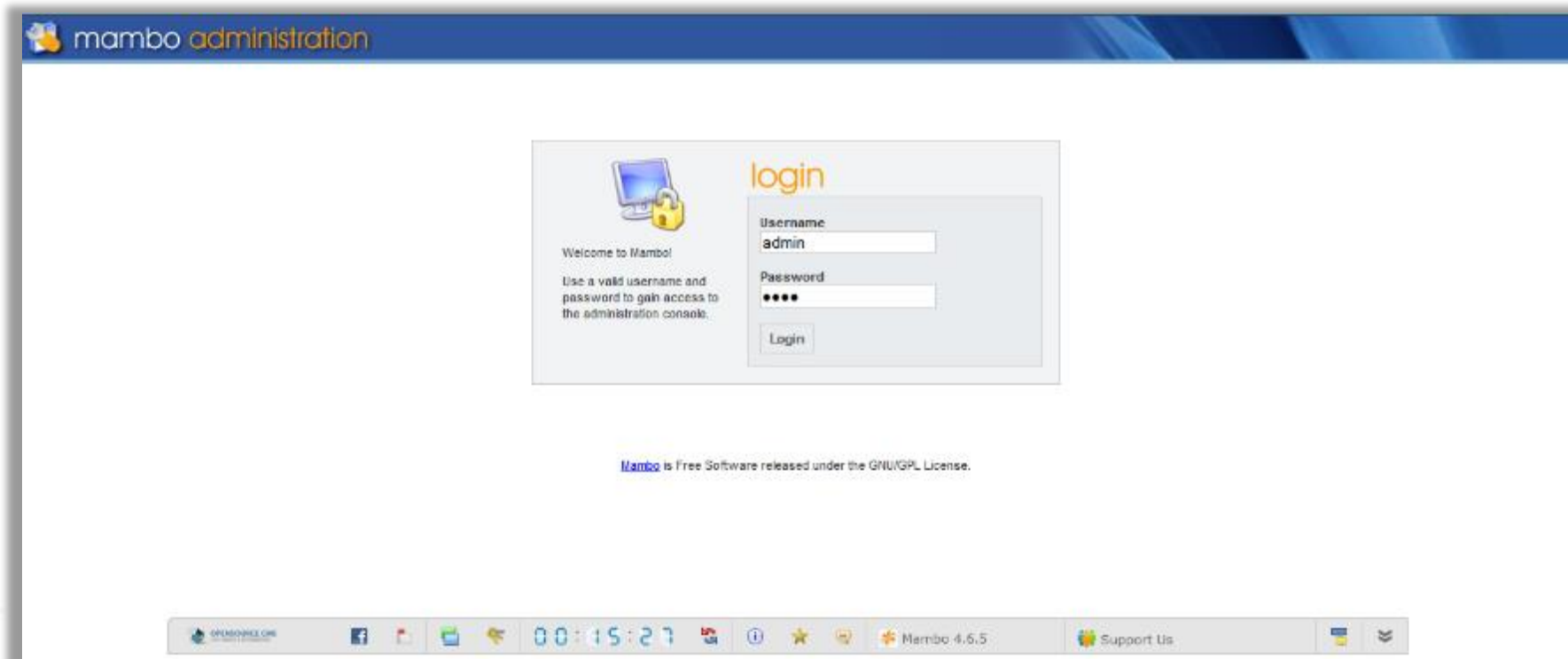
There are many periodic tasks such as updating data into the database, taking the backup of database that developers and administrators has to perform at every specific time

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



- 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 administration** Mambo version: 4.6.5

Home Site Menu Content Components Modules Mambo's Installers Messages System Help

Mambo Demo / admin

admin: Logout

Help

**Home** Simple Mode / Advanced Mode

All Content Items Static Content Frontpage Get Support

Sections Categories Media Languages

Trash Menus Users Global Configuration

**Currently Logged in Users**

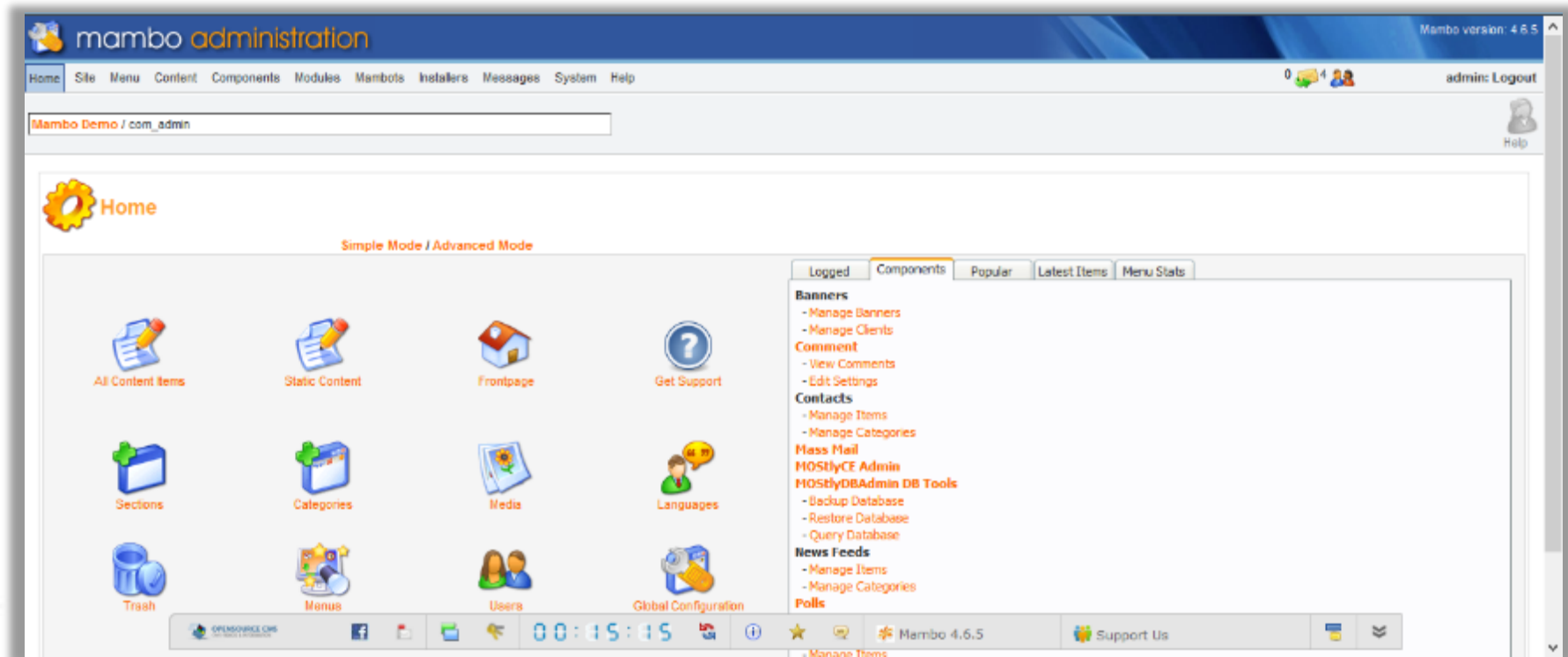
1	admin	Super Administrator	X
2	admin	Super Administrator	X
3	admin	Super Administrator	X

<< Start < Previous 1 Next > End >>

Display # 50 Results 1 to 3 of 3

00:45:20 Mambo 4.6.5 Support Us

Mambo is Free Software released under the GNU/GPL License





The screenshot displays the Mambo 4.6.5 administration interface. At the top, the 'mambo administration' header is visible, along with the version 'Mambo version: 4.6.5'. A navigation menu includes links for Home, Site, Menu, Content, Components, Modules, Mambots, Installers, Messages, System, and Help. The user 'admin' is logged in, and a toolbar with icons for Publish, Unpublish, New, Move, Copy, Edit, Delete, and Help is present. The main content area is titled 'Category Manager [ Content: All ]' and features a table of categories.

#	<input type="checkbox"/> Category Name	Published	Order	Access	Section	Category ID	# Active	# Trash
1	<input type="checkbox"/> Newstflash ( Newstflash )		1	Public	Newstflashes	3	4	0
2	<input type="checkbox"/> Mambo and Security ( Mambo and Security )		1	Public	FAQs	18	2	0
3	<input type="checkbox"/> Managing Content ( Managing Content )		2	Public	FAQs	19	5	0
4	<input type="checkbox"/> Managing Users ( Managing Users )		3	Public	FAQs	17	2	0
5	<input type="checkbox"/> Getting Started ( Getting Started )		1	Public	Getting Started	16	3	0

Below the table, there are navigation links: '<< Start < Previous 1 Next > End >>'. A display count shows 'Display # 50 Results 1 to 5 of 5'. At the bottom, a footer states 'Mambo is Free Software released under the GNU/GPL License.' and 'Page was generated in 0.010979 seconds'. The bottom-most bar contains social media icons, a timer '00:45:47', and the text 'Mambo 4.6.5' and 'Support Us'.

The screenshot displays the Mambo administration interface. At the top, the header bar includes the 'mambo administration' logo on the left and 'Mambo version: 4.6.5' on the right. Below the header, a breadcrumb trail shows 'Mambo Demo / com\_newsfeeds / edit'. To the right of the breadcrumb are three icons: a floppy disk labeled 'Save', a crossed-out 'X' labeled 'Cancel', and a person icon labeled 'Help'.

The main content area is titled 'News Feed: Edit [BoingBoing]' with a document icon. Below this title is a 'Details' section containing a form with the following fields:

- Name:** A text input field containing 'BoingBoing'.
- Category:** A dropdown menu with 'General Interest' selected.
- Link:** A text input field containing 'http://feeds.feedburner.com/boingboing/11ag'.
- Number of Articles:** A text input field containing '5'.
- Cache time (in seconds):** A text input field containing '3600'.
- Ordering:** A dropdown menu with '1 (BoingBoing)' selected.
- Published:** Radio buttons for 'No' and 'Yes', with 'Yes' being the selected option.

Below the form, a message states: 'Mambo is Free Software released under the GNU/GPL License. Page was generated in 0.003254 seconds'.

The footer bar contains several elements from left to right: 'OPEN SOURCE CMS' logo, social media icons for Facebook, Twitter, and YouTube, a digital clock showing '00:45:42', a 'Mambo 4.6.5' logo, a 'Support Us' button, and a small Mambo logo.



## Demo

ThoughtWorks®



J.P.Morgan





# QUESTIONS



→ Module 1

- » Introduction to Selenium & its components

→ Module 2

- » Selenium RC and Locator Techniques

→ Module 3

- » Selenium WebDriver

→ Module 4

- » Validation and Designing of Framework

→ Module 5

- » WebDriver 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



Thank you!

