

Become a Certified Professional →

## How to handle Actions class in Selenium WebDriver?

Last updated on Nov 27,2019 19.9K Views



Vaishnavi M R

Actions play a vital role in testing an application using [Selenium](#). In order to perform any operations on the web application like accessing the drop-down box, double click, right click and many more, actions class is a necessity. On that note, I'm writing this article on how to handle the Actions class in Selenium to help you understand how actions work.

I'll be discussing this topic in the following sequence:

- [What is the Actions class?](#)
- [Different methods under Actions class](#)
- [How to handle Actions class in Selenium](#)
- [Demo](#)

So, let's get started.

### What is the Actions class?

Actions class is a built-in ability to handle various types of keyboard and mouse events. In [Selenium WebDriver](#), handling these events including operations such as drag and drop or clicking on multiple elements with the help of the control key are done using the advanced user interactions API. It mainly consists of *Actions* which are needed while performing various operations.



This *Actions class* is the user-facing API for emulating complex action events. You can directly use this class rather than using the input devices, i.e. keyboard and mouse.

```
1 | Actions action = new Actions(driver);
2 | action.moveToElement(element).click().perform();
```

I will use ***perform()*** to execute the actions.

Using this Actions API, keyboard interactions can be easily handled by the [WebDriver](#). To use mouse actions, I will use the current location of the web element and then perform some kind of operation.

Now, let us learn about the different methods under this class that are used to perform some actions.

### Different methods under Actions class

There are basically two methods which help in working with the actions in [Selenium](#), namely:

- Keyboard interface
- Mouse interface

Let us learn about them in detail.

#### Keyboard interface



FREE WEBINAR

Selenium Tutorial For Beginners in ...

Become a Certified Professional →



[Instructor-led Sessions](#)

[Assessments](#)

[Assignments](#)

[Lifetime Access](#)

[Explore Curriculum](#)

- **sendKeys(keysToSend):** Sends a series of keystrokes onto the element.
- **keyDown(theKey):** Sends a key press without release it. Subsequent actions may assume it as pressed.

Example: Keys.ALT, Keys.SHIFT, or Keys.CONTROL);

- **keyUp(theKey):** Performs a key release.

### Mouse interface

- **click():** Clicks on the element.
- **doubleClick ():** Double clicks on the element.
- **contextClick() :** Performs a context-click (right-click) on the element.
- **clickAndHold():** Clicks at the present mouse location without releasing.
- **dragAndDrop(source, target):** Clicks at the source location and moves to the location of the target element before releasing the mouse. source (element to grab, target – element to release).
- **dragAndDropBy(source, xOffset, yOffset):** Performs click-and-hold at the source location, shifts by a given offset value, then frees the mouse. (X offset – to shift horizontally, Y Offset – to shift vertically).
- **moveByOffset(x-offset, y-offset):** Shifts the mouse from its current position (or 0,0) by the given offset. x-offset – Sets the horizontal offset (negative value – shifting the mouse to the left), y-offset – Sets the vertical offset (negative value – shifting the mouse to the up).
- **moveToElement(toElement):** It shifts the mouse to the center of the element.
- **release():** Releases the pressed left mouse button at the existing mouse location.

Once you get a proper idea about the different methods under the Actions class, it will be easy to implement a use case of the same.

### How to handle actions class in Selenium

To handle these actions class in Selenium, you must follow a proper format.

- Create an object of the Actions class 'action'
- Focus on the element using [WebDriver](#): action.moveToElement(element).build().perform();
- Build().perform() is used to compile and execute the actions class.
- Use the different methods under the actions class to perform various operations like click(), drag and drop and so on.

Now let's consider working on a demo to understand how Actions class work.

### Demo

I will be performing actions on two websites namely [edureka.co](#) and [jqueryui.com](#).

- Download the [Java](#) libraries on to your system.
- The first thing to do when you want to work with Selenium is to make sure you know [how to install](#) it to your system.
- An IDE to work on. I prefer working on the Eclipse IDE because it is user-friendly and it is easy to execute Java projects.
- Select the [browser driver](#) of your choice.
- Get the URL of the web page that you want to test.
- Perform corresponding actions like clicking the button, mouse move, key press and so on.

Refer this code to understand how actions are helpful while testing an application.



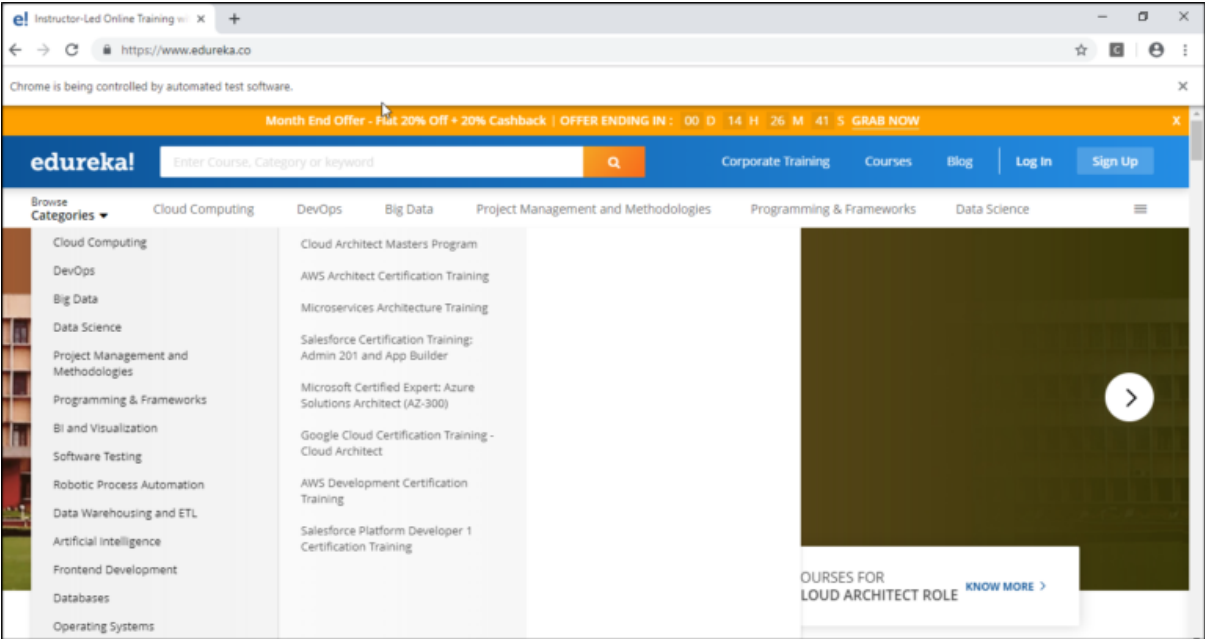
FREE WEBINAR

*Selenium Tutorial For Beginners in ...*


Become a Certified Professional →

```
5  import org.openqa.selenium.Keys;
6  import org.openqa.selenium.WebDriver;
7  import org.openqa.selenium.WebElement;
8  import org.openqa.selenium.chrome.ChromeDriver;
9  import org.openqa.selenium.interactions.Action;
10 import org.openqa.selenium.interactions.Actions;
11
12 public class Selenium {
13
14     public static void main(String[] args) throws InterruptedException {
15         System.setProperty("webdriver.chrome.driver", "C:\\Users\\Vaishnavi\\Desktop\\chromedriver_win32 (2)\\chromedriver.exe");
16         WebDriver driver = new ChromeDriver();
17         driver.get("<a href='http://www.edureka.co/'>http://www.edureka.co/</a>");
18         driver.manage().window().maximize();
19         driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);
20         Thread.sleep(3000);
21         Actions builder = new Actions(driver);
22         builder.moveToElement(driver.findElement(By.id("header_topcat"))).build().perform();
23         Thread.sleep(3000);
24         WebElement link = driver.findElement(By.cssSelector("#software-testing-certification-courses"));
25         builder.moveToElement(link).build().perform();
26         Thread.sleep(2000);
27         driver.findElement(By.xpath("//ul[@class='dropdown-menu']/li/a[text()='Software Testing']")).click();
28         Thread.sleep(4000);
29         WebElement act = driver.findElement(By.id("search_inp"));
30         builder.moveToElement(act).build().perform();
31         Thread.sleep(3000);
32         WebElement search = driver.findElement(By.xpath("//span[@class='typeahead__button']"));
33         builder.moveToElement(search).build().perform();
34         Thread.sleep(3000);
35         Action seriesOfActions;
36         seriesOfActions = builder
37             .sendKeys(act, "Selenium")
38             .keyDown(search, Keys.SHIFT)
39             .keyUp(search, Keys.SHIFT)
40             .build();
41         seriesOfActions.perform();
42         Thread.sleep(3000);
43         driver.quit();
44     }
45 }
46 }
```

The output for the above code is depicted below:




Software Testing Training



SELENIUM  
CERTIFICATION  
TRAINING

Selenium Certification  
Training


Reviews  
★★★★★ 5(23370)



MANUAL TESTING  
CERTIFICATION  
TRAINING

Manual Testing  
Certification Training


Reviews  
★★★★★ 5(4169)



MOBILE APP  
TESTING USING  
APIIUM

Mobile App Testing Using  
Appium

Reviews  
★★★★★ 5(1617)

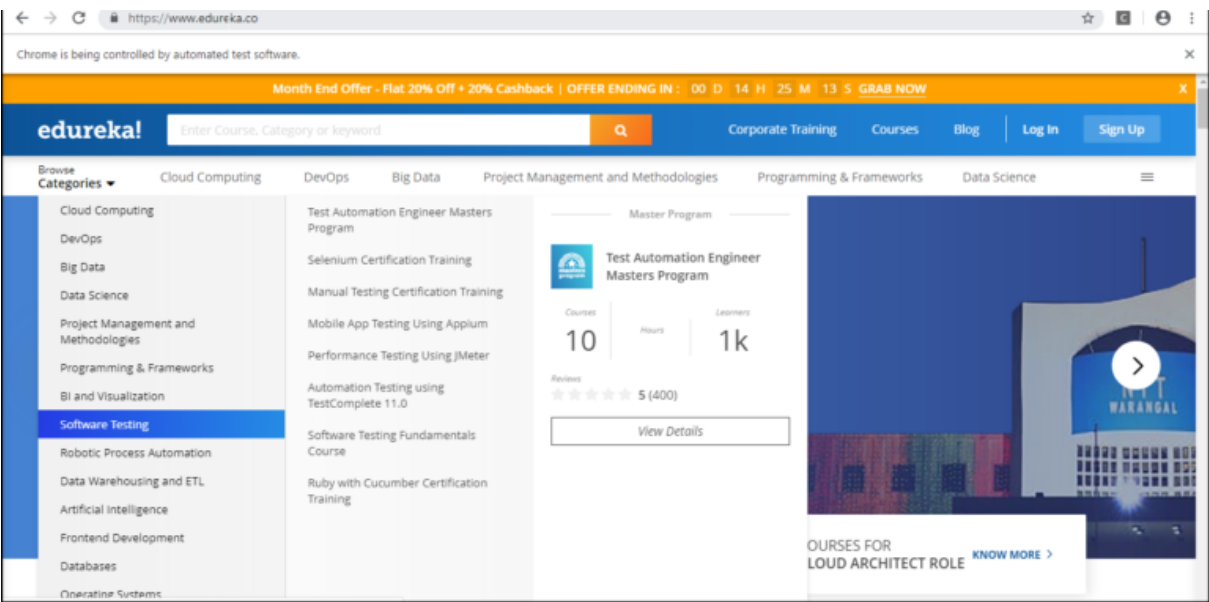


SOFTWARE  
TESTING  
FUNDAMI  
COURSE

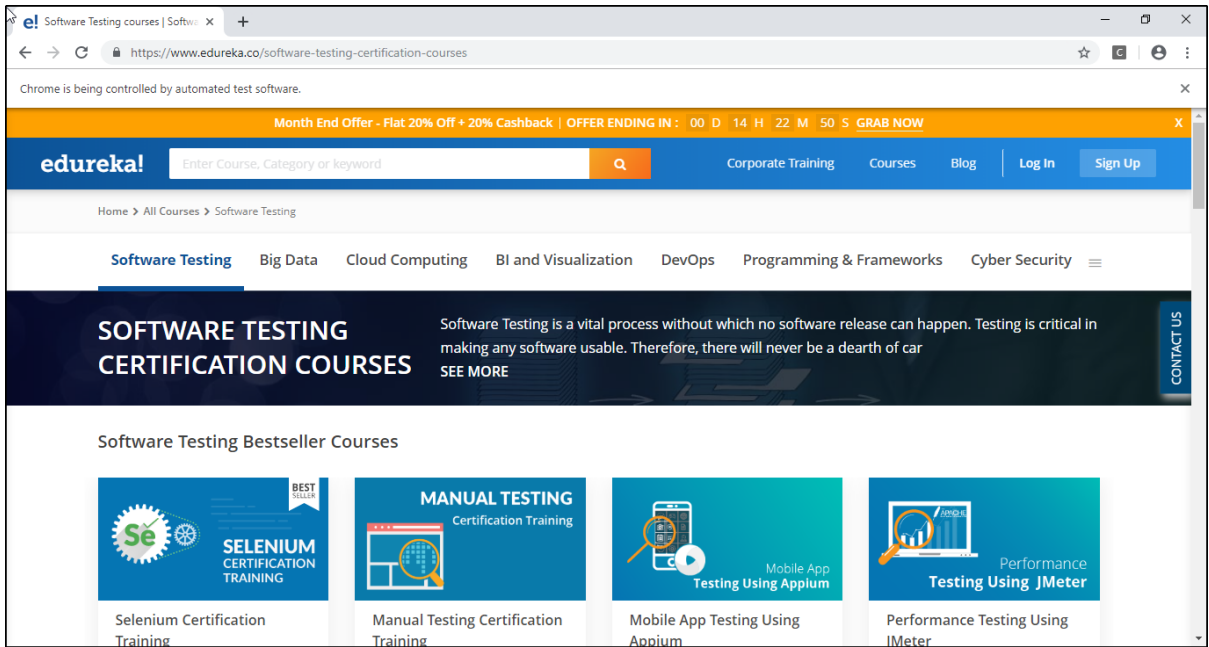
Software Testing  
Fundamentals Cou

Reviews

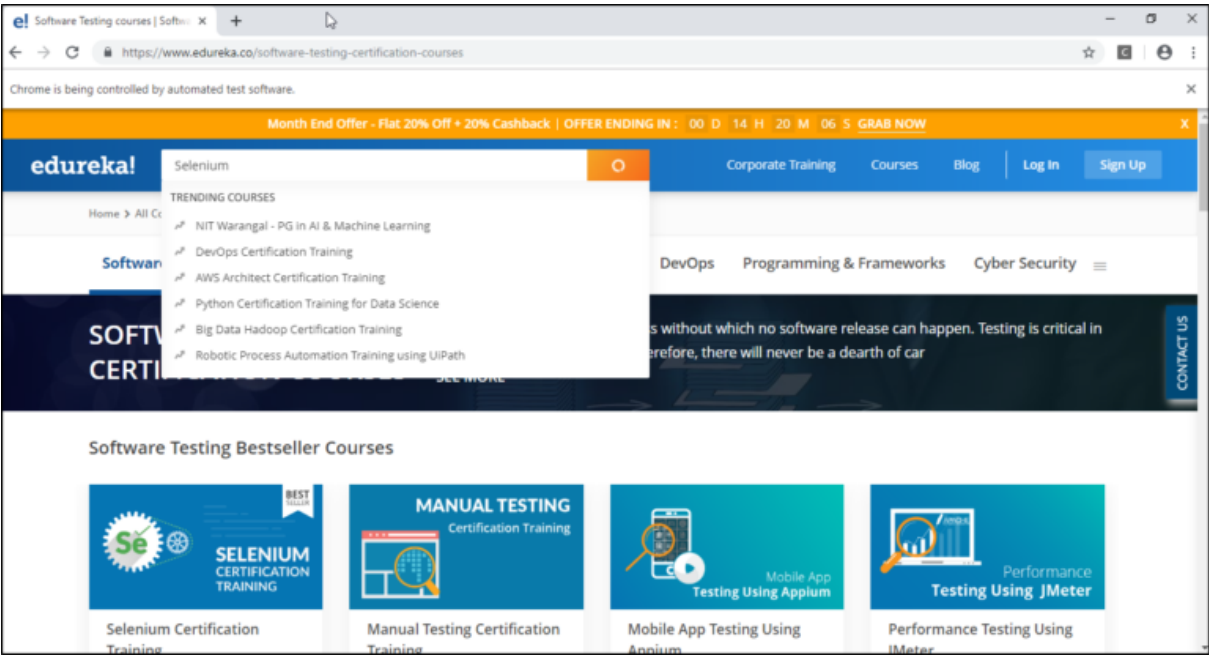
Become a Certified Professional →



Clicks on “Software testing” and navigates to that page.



Performs keyboard functions like KeyUp, KeyDown, and sendKeys().



To perform drag and drop, I have considered this website which solely deals with drag and drop, [jqueryui.com](https://jqueryui.com).

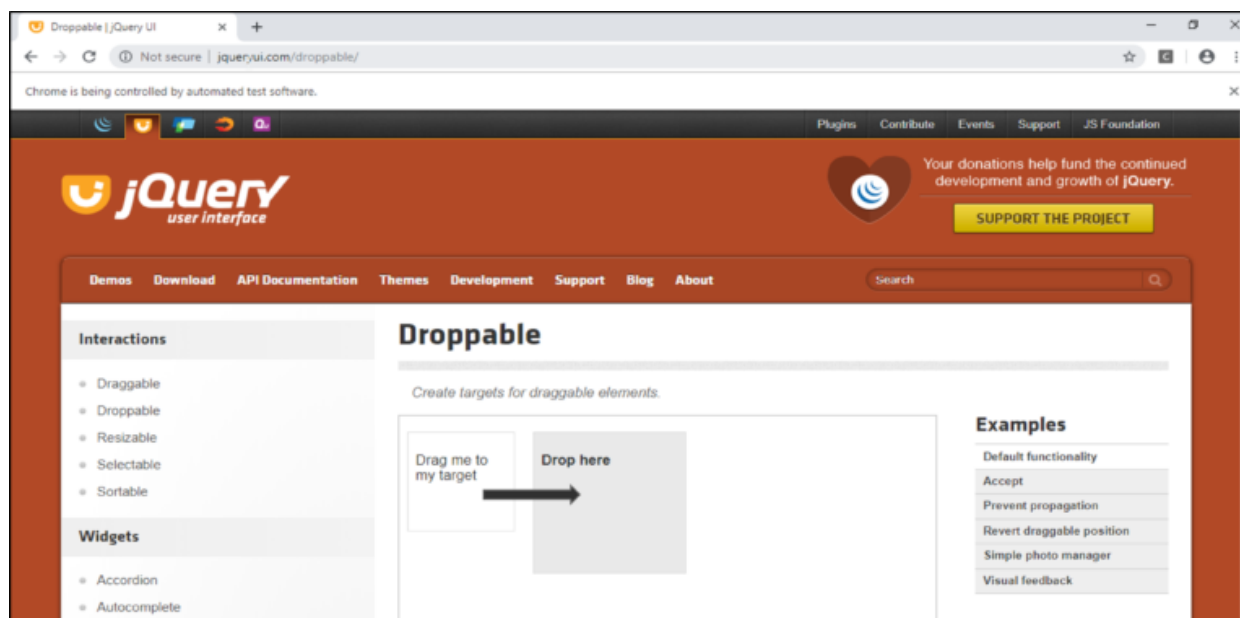
Become a Certified Professional →

```

5  import org.openqa.selenium.WebElement;
6  import org.openqa.selenium.chrome.ChromeDriver;
7  import org.openqa.selenium.interactions.Actions;
8
9  public class demo {
10
11  public static void main(String[] args) throws InterruptedException {
12  System.setProperty("webdriver.chrome.driver", "C:\\Users\\Vaishnavi\\Desktop\\chromedriver_win32 (2)\\chromedriver.exe");
13  WebDriver driver = new ChromeDriver();
14  driver.get("<a href='http://jqueryui.com/droppable/'>http://jqueryui.com/droppable/</a>");
15  driver.manage().window().maximize();
16  driver.switchTo().frame(0);
17  WebElement SourceElement= driver.findElement(By.id("draggable"));
18  WebElement TargetElement= driver.findElement(By.id("droppable"));
19  Actions action = new Actions(driver);
20  Thread.sleep(3000);
21  action.dragAndDrop(SourceElement, TargetElement).build().perform();
22  //action.clickAndHold(SourceElement).moveToElement(TargetElement).release().build().perform();
23  Thread.sleep(3000);
24  driver.quit();
25
26  }
27
28  }

```

The output for the above code is depicted below:



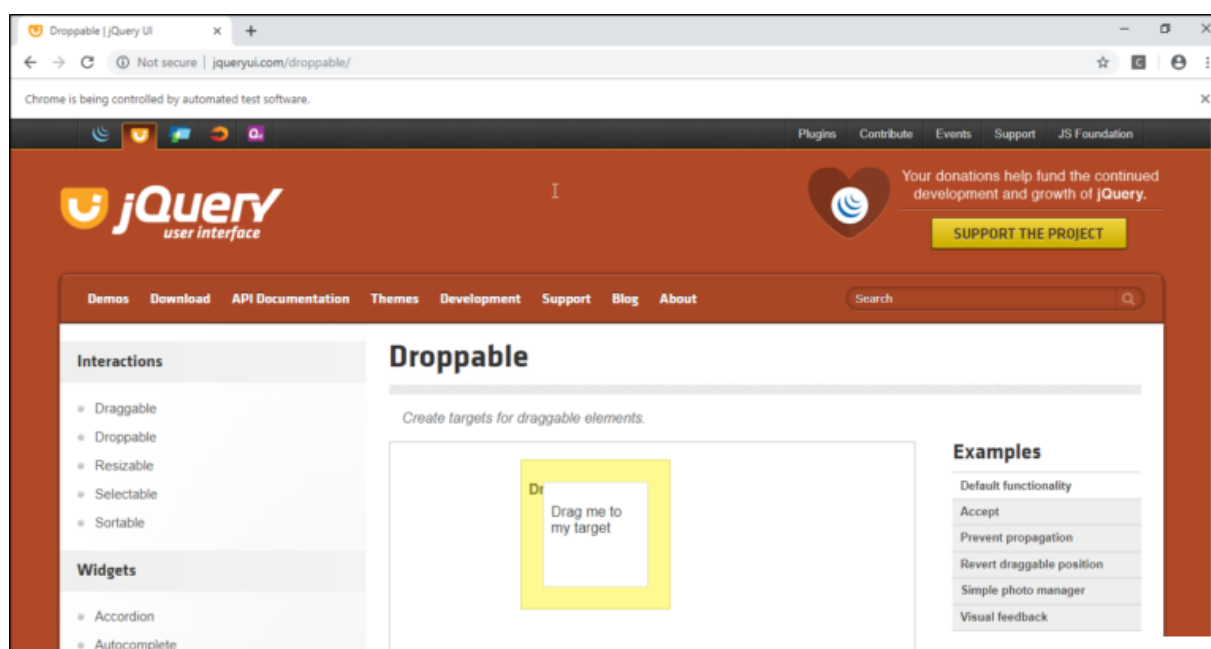
Drags the corresponding element to the target and drops it.



## Selenium Certification Training

[Weekday / Weekend Batches](#)

[See Batch Details](#)



FREE WEBINAR

*Selenium Tutorial For Beginners in ...*



Become a Certified Professional →

network of more than 650,000 satisfied learners spread across the globe. This course is designed to introduce you to the complete Selenium features and its importance in testing software.

Got a question for us? Please mention it in the comments section of “Actions class in Selenium” and we will get back to you.

Recommended videos for you



Why Use Selenium with \$3 Million Bugs?

Watch Now



Selenium IDE Tutorial – Get Started With Selenium IDE

Watch Now



Selenium Tutorial – A Complete Tutorial on Selenium Automation Testing

Watch Now



Selenium Grid Tutorial – Get Started With Selenium Grid

Watch Now

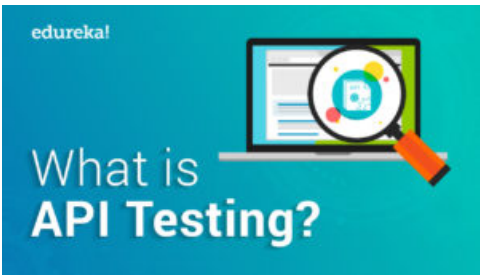
⏪

Recommended blogs for you



Top 40 Test Automation Interview Questions You Need To Know In 2020

Read Article



What is API Testing? A Simple Guide on How to Perform API Testing

Read Article



What is Selenium? Getting started with Selenium Automation Testing

Read Article



What is Integration Testing? A Simple Guide on How to Perform Integration Testing

Read Article

⏪

Comments

0 Comments

Become a Certified Professional →

Learn PL/SQL Programming For ...

4 months ago · 1 comment

PL/SQL is a procedural language that overcomes the shortcomings faced ...

Top 50 Excel Interview Questions and ...

3 months ago · 1 comment

Excel is one software that all companies expect you to know and going ...

Social Media Marketing: An ...

a month ago · 3 comments

In the world of smartphones and Artificial Intelligence, it is quite important to ...

What is Ultimate ...

2 months

What is C Know Its ' The way !

0 Comments

<https://www.edureka.co/blog/>

Disqus' Privacy Policy

1

 Login ▾

Recommend

Tweet

Share

Sort by Best ▾

Start the discussion...

LOG IN WITH

OR SIGN UP WITH DISQUS

Name

Be the first to comment.

Subscribe

Add Disqus to your siteAdd DisqusAdd

Do Not Sell My Data

Trending Courses in Software Testing

[Selenium Certification Training](#)

24k Enrolled Learners

Weekend

Live Class

[Reviews](#)

★★★★★ 5 (9350)

[Manual Testing Certification Training](#)

5k Enrolled Learners

Weekend

Live Class

[Reviews](#)

★★★★★ 5 (1700)

[Mobile App Testing Using Appium](#)

2k Enrolled Learners

Weekend

Live Class

[Reviews](#)

★★★★★ 5 (650)

[Software Testing Fundamentals Course](#)

1k Enrolled Learners

Weekend

Live Class

[Reviews](#)

★★★★★ 5 (200)

⌵

Browse Categories

- Artificial Intelligence
- BI and Visualization
- Big Data
- Blockchain
- Cloud Computing
- Cyber Security
- Data Science
- Data Warehousing and ETL
- Databases
- DevOps
- Digital Marketing
- Front End Web Development
- Mobile Development
- Operating Systems
- Programming & Frameworks
- Project Management and Methodologies
- Robotic Process Automation
- Systems & Architecture

edureka!

TRENDING CERTIFICATION COURSES

TRENDING MASTERS COURSE!

FREE WEBINAR

*Selenium Tutorial For Beginners in ...*



Become a Certified Professional →

[Tableau Training & Certification](#)  
[Python Certification Training for Data Science](#)  
[Selenium Certification Training](#)  
[PMP® Certification Exam Training](#)  
[Robotic Process Automation Training using UiPath](#)  
[Apache Spark and Scala Certification Training](#)  
[Microsoft Power BI Training](#)  
[Online Java Course and Training](#)  
[Python Certification Course](#)

COMPANY

[About us](#)  
[News & Media](#)  
[Reviews](#)  
[Contact us](#)  
[Blog](#)  
[Community](#)  
[Sitemap](#)  
[Blog Sitemap](#)  
[Community Sitemap](#)  
[Webinars](#)

[Big Data Architect Masters Program](#)  
[Machine Learning Engineer Masters Program](#)  
[Full Stack Web Developer Masters Program](#)  
[Business Intelligence Masters Program](#)  
[Data Analyst Masters Program](#)  
[Test Automation Engineer Masters Program](#)  
[Post-Graduate Program in Artificial Intelligence & Machine Learning](#)  
[Post-Graduate Program in Big Data Engineering](#)

WORK WITH US

[Careers](#)  
[Become an Instructor](#)  
[Become an Affiliate](#)  
[Become a Partner](#)  
[Hire from Edureka](#)

DOWNLOAD APP



CATEGORIES

CATEGORIES

[Cloud Computing](#) | [DevOps](#) | [Big Data](#) | [Data Science](#) | [BI and Visualization](#) | [Programming & Frameworks](#) | [Software Testing](#) | [Project Management and Methodologies](#) | [Robotic Process Automation](#) | [Frontend Development](#) | [Data Warehousing and ETL](#) | [Artificial Intelligence](#) | [Blockchain](#) | [Databases](#) | [Cyber Security](#) | [Mobile Development](#) | [Operating Systems](#) | [Architecture & Design Patterns](#) | [Digital Marketing](#)

TRENDING BLOG ARTICLES

TRENDING BLOG ARTICLES

[Selenium tutorial](#) | [Selenium interview questions](#) | [Java tutorial](#) | [What is HTML](#) | [Java interview questions](#) | [PHP tutorial](#) | [JavaScript interview questions](#) | [Spring tutorial](#) | [PHP interview questions](#) | [Inheritance in Java](#) | [Polymorphism in Java](#) | [Spring interview questions](#) | [Pointers in C](#) | [Linux commands](#) | [Android tutorial](#) | [JavaScript tutorial](#) | [jQuery tutorial](#) | [SQL interview questions](#) | [MySQL tutorial](#) | [Machine learning tutorial](#) | [Python tutorial](#) | [What is machine learning](#) | [Ethical hacking tutorial](#) | [SQL injection](#) | [AWS certification career opportunities](#) | [AWS tutorial](#) | [What Is cloud computing](#) | [What is blockchain](#) | [Hadoop tutorial](#) | [What is artificial intelligence](#) | [Node Tutorial](#) | [Collections in Java](#) | [Exception handling in java](#) | [Python Programming Language](#) | [Python interview questions](#) | [Multithreading in Java](#) | [ReactJS Tutorial](#) | [Data Science vs Big Data vs Data Analyt...](#) | [Software Testing Interview Questions](#) | [R Tutorial](#) | [Java Programs](#) | [JavaScript Reserved Words and Keywor...](#) | [Implement thread.yield\(\) in Java: Exam...](#) | [Implement Optical Character Recogniti...](#) | [All you Need to Know About Implemen...](#)

© 2020 Brain4ce Education Solutions Pvt. Ltd. All rights Reserved. [Terms & Conditions](#)



[Legal & Privacy](#)

"PMP®","PMI®", "PMI-ACP®" and "PMBOK®" are registered marks of the Project Management Institute, Inc. MongoDB®, Mongo and the leaf logo are the registered trademarks of MongoDB, Inc.