

An open book is shown from a low angle, with its pages fanned out. From the pages, a series of bright, golden-yellow light rays emanate, curving upwards and outwards. The background is dark, and the scene is filled with numerous small, sparkling light particles and larger, multi-pointed starburst effects, creating a magical and ethereal atmosphere.

# JAVA/J2EE

## Development Course

MSSQUARE GLOBAL Corporate Training Center

# Course Curriculum

- ❖ Introduction to programming
- ❖ OOPS Concepts
- ❖ Java Built-in packages and API
- ❖ Java streams API in depth
- ❖ Introduction to JAVA EE
- ❖ Hibernate & Springs
- ❖ Framework Design
- ❖ Web Services
- ❖ Web Technology, Project Setup
- ❖ Mock Interview
- ❖ HR Sessions
- ❖ Resume Preparation





# Why JAVA?

- This course is a foundation for any Java Programmer, Java Developer, Java Architect or any professional associated with Java who wants to explore and master the Java.
- Easy to learn
- Popularity of Java and High Salary
- Multiple open source libraries
- Java has abundant API
- Powerful development tools Eclipse, NetBeans, IntelliJ IDEA, etc
- Platform independent and free of cost

# Week wise Plan



## 01 Week 1

### ❖ Introduction to programming

- Introduction to java
- JDK installation
- Keywords, Identifiers, variables
- Operators
- Method/Functions
- Flow Control Statements
- Arrays
- Strings
- Interactive programs in java using Scanner
- Introduction to git and using basic commands
- Creating account on GitHub



## 02 Week 2

### ❖ Object Oriented Programming System

- Introduction to java
- Classes and Objects
- Object creation
- Reference variable
- Global and local variables
- Constructors
- Aggregation
- Composition
- Inheritance
- Method Overloading
- Method Overriding
- Abstract classes
- Interfaces, Typecasting
- JVM architecture
- Polymorphism, Abstraction, Java packages, Access Specifies



## 03 Week 3 & 4

### ❖ Java Built-in packages and API

- Introduction to java
- Overview of java API
- Object class
- String, String Buffer and String Builder
- Exception Handling
- Threads and multithreading
- Wrapper Classes
- Data Structures
- JAVA COLLECTION FRAMEWORKS
- File Handling
- Serialization
- Garbage Collector
- Encapsulation

## 04 Week 5

- ❖ Java streams api in depth

## 05 Week 6,7 & 8

- ❖ **Introduction to JAVA EE**

- Introduction to java
- What is an application? Types of application?
- What is standalone application?
- What is web application?
- What is network?
- What is internet?
- What is intranet?
- What is server?
- What is database?
- What is an api?
- What is J2ee?



- ❖ **JDBC**

- ❖ **Introduction**

- Steps to work with JDBC
- JDBC pre-requirements
- Installing MYSQL,DB server
- FIRST JDBC program

- ❖ **Drivers**

- Introduction
- What is a JAR file?
- About driver class
- How to load the driver class into the program
- Types of Driver

- ❖ **DB URL**

- What is URL?
- Structure of dB URL

- ❖ **Connection interface**

- Driver Manager class
- About the get connection method
- Connection object

## ❖ JDBC

### ❖ Connection interface

- Introduction
- Dynamic and static sql queries
- Statement and prepared statement objects
- ExecuteQuery() and executeUpdate() methods

### ❖ Result Set

- How to handle the result set object
- How to process the result set object

### ❖ Closing of JDBC Objects

- Why to close an object?
- How to close an object

## ❖ Servlet

### ❖ Introduction

- What is web browser?
- What is web resources?
- Types of web resources
- What is web server?
- Installing of Apache tomcat web server

### ❖ About Servlet

- Servlet introduction
- Creating the first servlet in web app
- Steps to create WAR file
- Build & Deployment process

### ❖ Web URL

- Servlet introduction
- Web URL structure.
- Query string.
- HTTP & HTTPS protocols.
- Key elements of HTTP request and HTTP response
- HTTP methods.
- Difference between GET and POST.



## ❖ Servlet

### ❖ Servlet Container

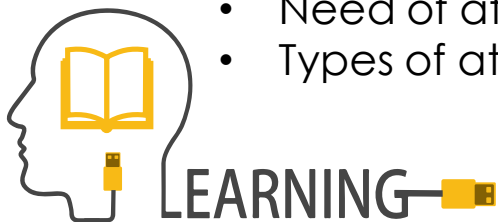
- About servlet containers & its advantages
- Request and response objects
- GetParameter() and getParameters() methods
- About XML
- About deployment descriptor(web.xml)

### ❖ Servlet Hierarchy

- Generic servlet
- HTTP Servlet
- Difference between Generic Servlet and HTTP Servlet
- Servlet life cycle
- Single thread model servlets
- Servlet context and servlet config
- Redirect, Forward and Include

### ❖ Attributes

- What is an attribute?
- Need of attributes
- Types of attributes



## ❖ Servlet

### ❖ Cookies

- Introduction
- Steps to create a cookie in the servlet
- Types of cookies
- Life cycle of cookies
- Application of cookies

### ❖ Session

- Introduction
- Steps to create a session in the webapp
- Types of session
- Life cycle of session
- Application of session



# 06 Week 9 & 10

## ❖ JSP

### ❖ Introduction

- How to create JSP
- Difference between Servlet and JSP

### ❖ JSP Scripting Elements

- Scriptlet tag
- Expression tag
- Declaration tag

### ❖ JSP Implicit Object

- Request object
- Response object
- Config object
- Application object
- Session object

### ❖ Exception Handling in JSP

- About isErrorPage and errorPage

## ❖ Hibernate

- Understand ORM and basics of Hibernate
- Understand and implement life cycle of Hibernate Persistence and Session Factory
- Implement Hibernate Mappings, Inheritance and Types
- Understand Hibernate Criteria and Query Language
- Exploring Hibernate Transactions, Filter and Performance
- Implement Hibernate Search and Validations
- Hibernate with NoSQL and Spring



## ❖ Hibernate

- Hibernate Overview
- Hibernate-ORM
- Hibernate Architecture
- Hibernate Environment Setup
- Hibernate Configuration
- Hibernate Session
- Hibernate Mapping Files
- Hibernate Mapping Types
- Hibernate Annotation
- Hibernate Query Language

## ❖ Spring

### ❖ Introduction

- Why spring
- Spring modulus
- Spring application
- Spring in eclipse

## ❖ Spring

### ❖ Spring IOC

- IOC container
- Dependency injection
- Constructor injection
- Constructor injection dependent object
- Constructor injection with collection
- Constructor injection with collection 2
- Constructor injection with map
- Constructor injection in inheritance been
- Setter injection
- Setter injection dependent object
- Setter injection with collection
- Setter injection with collection 2
- Setter injection with map
- Injection with map 2
- Constructor injection versus setter injection
- Auto wiring
- Factory method



## ❖ Spring

### ❖ Spring MVC

- IOC container
- MVC introduction
- multiple view pages
- multiple controllers
- model interface
- request Param annotation
- form tag library
- form text field
- form radio field
- form checkbox
- form drop-down list
- JDBC Template Example
- PreparedStatement
- ResultSetExtractor
- MVC CRUD Example
- SPEL Examples
- variable in SPEL
- spring MVC Validation

## 07 Week 11 & 12

- Webservices Introduction
- What is Webservices
- Why Webservices
- Real Time Examples of Webservices
- Different Webservices
- SOAP
- REST
- About HTTPS
- Understanding SOAP & REST Webservices
- Requirement of Webservices
- Advantage of Webservices
- Understanding XML & JSON
- JSON to Java Object and Vice-versa using GSON framework
- XML to Java Object and Vice-versa using JAXB framework
- Understanding XPath
- REST Webservice using Spring-REST & Apache Jersey
- Spring boot and Micronaut framework introduction





## 08 Week 13 & 14

### ❖ Web Technology

- Project Setup
- Responsive project using Html, CSS, JavaScript & bootstrap

## 09 Week 15 & 16

- ❖ Major Project
- ❖ Interview Preparation
- ❖ Mock Interviews
- ❖ HR Sessions



# Placement Process

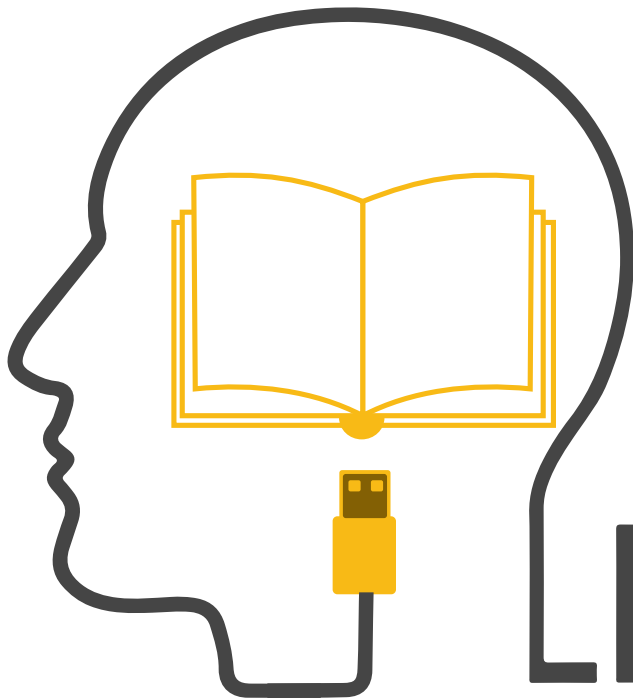


We Create  
Quality **Professional**



## Performance Analysis Based on Below Factors

- ❖ Performance in Basic Java & OOPS Concepts
- ❖ Unix & Database Knowledge
- ❖ API Testing, Java Built-in packages and API
- ❖ JAVA EE, JDBC, Servlet
- ❖ JSP, JSTL
- ❖ Framework, Hibernate
- ❖ Spring, Project and Domain Knowledge
- ❖ Delivery & Presentation Skills
- ❖ Communication Skills
- ❖ Confidence in interview



# LEARNING



# 2021-23 Placement Record

## 2023- Maximum Drawn Package

Iringneuna-16.28 LPA

## 2022- Maximum Drawn Package

Abhijeet Bhagude-13.0 LPA

Himanshu Sharma-13.0 LPA

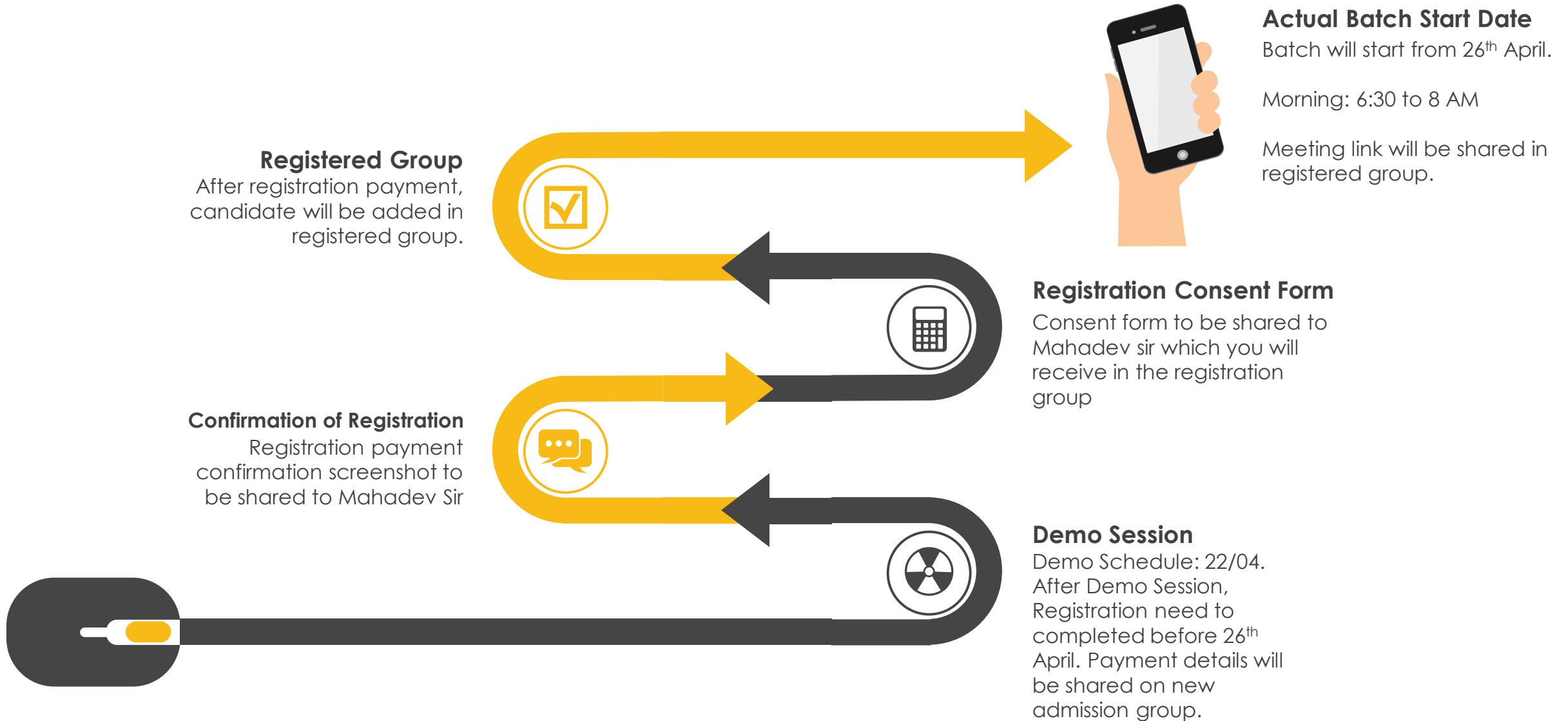
**Average Drawn Package by our candidate- 9.50 LPA**

**Minimum Drawn Package by our candidate- 6.0 LPA**

**Expectation from the candidates would be:**

- ❖ **3-4 Years of Experience** : 9 LPA to 16 LPA
- ❖ **2-3 Years of Experience** : 7 LPA to 11 LPA
- ❖ **1-2 Years of Experience** : 5 LPA to 8 LPA
- ❖ **Freshers**: 3 LPA to 5 LPA

# Registration Process





ANY QUESTIONS?

THANK YOU

MSSQUARE GLOBAL Corporate Training Center