



**Magizhchi**  
Tech Academy

**JAVA**

**FULL STACK**

**SYLLABUS**

**with PRACTICE.**



## Level - 1

- Java - Basics
- DSA-1 (Arrays: Insertion, Deletion, Searching, Recursion & Sorting)
- Java - Object oriented programming system
- DSA-2 (Linkedlist, Stack, Queue)
- Advanced core java
- Design pattern-1 (Creational patterns)
- Java unit testing framework (JUNIT)

**154 Hrs**

## Level - 2

- Entrepreneurship training
- Business analyst and system analyst
- Product knowledge
- Business analyst and system analyst project
- User interface and user experience - FIGMA
- FIGMA-Project
- JavaFX
- JavaFX-project
- Database-1 (Database fundamentals)
- Database-1 project (UML & Entity diagram)
- System application project
- Design pattern-2 (Structural design pattern)
- Database-2 (Database advanced PL/SQL)

**112 Hrs**

## Level - 3

- Web structure, hyper text markup language (HTML)
- Cascading style sheet (CSS)
- Website (Real world website creation training)
- Website - project
- Javascript

**62 Hrs**

## Level - 4

- Rest API (Application Programming Interface)
- Java 2 platform enterprise edition (J2EE)
- Spring ecosystem
- Web app (Real world web application training)
- Web app - project
- Data structure and Algorithm - 3 (Tree, Graph, Map)
- Design pattern-3 (Behavioural design pattern)
- Reverse engineer
- Agile with JIRA
- Deployment

**74 Hrs**

## Level - 5

- Artificial intelligence - 1 (Prompt engineering, Code creation, Testing the code using AI, Debugging)
- Artificial intelligence - 2 (Project using Replit, Chat GPT)
- Artificial intelligence - 3 (Website figma AI, Blackbox AI, Amazon AI, Loveable AI)
- Artificial intelligence - 4 (Code GEN, Cursor AI)

**12 Hrs**

# Level - I



154 Hrs

Days	Level	Course	Topics	Hours
1	Level - I	Java - Basics	Know about hardware	2
2			Know about software	2
3			Know about JAVA	2
4			Practice and Github repository	2
5			Datatype and Variables	2
6			Practice	2
7			Operator	2
8			Practice	2
9			Condition	2
10			Switch and Scanner	2
11			Nested IF	2
12			Practice	2
13			Loops	2
14			Practice	2
15			Practice	2
16			Array	2
17			Array multidimension	2
18			Practice	4
19			Function	2
20			Practice	4

Days	Level	Course	Topics	Hours
21	Level - 1	Java - Basics	Keyword and Type casting	4
<b>Total hours</b>		<b>Java - basics</b>		<b>48</b>
22	Level - 1	Data structure and algorithm-1 (Arrays: Insertion, Deletion, Searching, Recursion & Sorting)	Introduction, Pass by value and Pass by reference	2
23			Traverse, Swapping, Insertion, Deletion	4
24			Serching-linear search, Binary search	2
25			Recursion using in sedarch (linear, binay)	4
26			Sorting-bubble sort, Merge sort	4
27			Maang interview questions solved	2
<b>Total hours</b>		<b>Data structure and algorithm-1</b>		<b>18</b>
28	Level - 1	Java - object oriented programming system	Introduction, Class and object and practice	2
29			Constructor and Practice	4
30			Package and Netbeans practice	2
31			Inheritance and Practice	4
32			Abstraction, Interface and Practice	4
33			Access modifier and Practice	2
34			Encapsulation, Polymorphism and Practice	4
<b>Total hours</b>		<b>Java - Object oriented programming system</b>		<b>22</b>
35	Level - 1	Data structure and algorithm-2 (Linkedlist, Stack, Queue)	Linked list singular	4
36			Practice	2
37			Doubly and Circularly	4
38			Stack and Queue and Practice	2
<b>Total hours</b>		<b>Data structure and algorithm-2</b>		<b>12</b>

Days	Level	Course	Topics	Hours
39	Level - 1	Advanced core java	String, String builder, String buffer and Practice	4
40			Static and Final – practice	4
41			Exceptional handling and practice	4
42			Thread and practice	4
43			Inner class and arrays – practice	4
44			Collection – practice	4
45			Practice	2
46			Generics and ENUM – practice	4
47			File handling and practice	4
<b>Total hours</b>		<b>Advanced core java</b>	<b>34</b>	
48	Level - 1	Design pattern-1 (Creational patterns)	Singleton	2
49			Factory method	2
50			Builder	2
51			Practice	2
<b>Total hours</b>		<b>Design pattern-1 (Creational patterns)</b>	<b>08</b>	
52	Level - 1	Java unit testing framework (JUNIT)	UINT testing, Example of JUNIT, Annotations	4
53			Assertion, Test structure, ADV. JUNIT	4
54			Integration with development tools, Practice	4
<b>Total hours</b>		<b>Java unit testing Framework (JUNIT)</b>	<b>12</b>	



# Level - 2



112 Hrs

Days	Level	Course	Topics	Hours
55	Level - 2	Entreprenuership training	Mindset, Departments types	2
56			Marketing, Sales	2
57			Operation, Accounts, Finance	4
58			HR, Management	2
<b>Total hours</b>		<b>Entreprenuership training</b>	<b>10</b>	
59	Level - 2	Business analyst and system analyst	Understanding the bussines, Flow, Challenges	2
60			Strategies for the challenges and create block diagram for the flow	2
61			Screen design, System application	2
<b>Total hours</b>		<b>Business analyst and system analyst</b>	<b>06</b>	
62	Level - 2	Product knowledge	Software-1 and 2 business, Business analyst, System analyst and User interface	4
63		Business analyst and system analyst project	Make them to create business analyst and system analyst role for their business	4
<b>Total hours</b>			<b>08</b>	
64	Level - 2	User interface and user exceprience - FIGMA	Introduction, Components, Layout and Alignment	4
65			Styles, Variable, Variants, Prototype	4
66			Practice	2
67		FIGMA-Project	Make them to create a design for their business	4
<b>Total hours</b>			<b>14</b>	
68	Level - 2	JavaFX	JavaFX coding, Scenebuilder and FXML	2
69			Components and Practice	4

Days	Level	Course	Topics	Hours
70	Level - 2	JavaFX	Containers and Practice	4
71			They should create their screen - support	4
72		JavaFX-project	Event handling and Practice	4
<b>Total hours</b>				<b>18</b>
73	Level - 2	Database-1 (DataBase fundamentals)	Postgres installation, Constraints and Table creation	4
74			Data definition language (DDL) - Create, Alter, Drop, Truncate and Practice	4
75		Database-1 (DataBase fundamentals)	Data manipulation language (DML), Data query language (DQL) -Insert, Update and delete, Select	4
76			Joins and subquery and practice	4
77			Operators clauses and practice	2
78			Java database connectivity (JDBC) and practice	4
79			Practice, conversion for my SQL and mongo DB	2
<b>Total hours</b>				<b>24</b>
80	Level - 2	Database-1 project	Make them create tables for their project	4
81		System application project	Creation of project	4
<b>Total hours</b>				<b>08</b>
82	Level - 2	Design pattern-2 (Structural design pattern)	Decorator	2
83			Adapter, proxy	2
84			Practice	2

Days	Level	Course	Topics	Hours
85	Level - 2	Database-2 (Database advanced PL/SQL)	Function and procedures	4
86			Conditions, Loops	4
87			Trigger	2
88			Index and view, Data control language (DCL) and Transaction control language (TCL)	4
89			Practice	4
<b>Total hours</b>		<b>Database-2</b>		<b>18</b>

**Level - 2 Completed**

**Total hours 112**

# Level - 3



62 Hrs

Days	Level	Course	Topics	Hours
90	Level - 3	Web structure, hyper text markup language (HTML)	Web structure, Introduction, Essay tags, Table tags	4
91			Form tags, Media, iframe	4
92			Practice	4
<b>Total hours</b>		<b>Web structure (HTML)</b>		<b>12</b>
93	Level - 3	Cascading style sheet (CSS)	Introduction, Attributes - Inline, Inner, External and Selectors	4
94			Font, Color, Box model	2
95			Cascade, Specificity, Inheritance	4
96			Layout - Sizing units, Other attributes, Responsive design	2
97			Flexbox, Grid	4
98			Stacking context, Z-index (basics), Transitions, Animations (basics)	4
<b>Total hours</b>		<b>Cascading style sheet (CSS)</b>		<b>20</b>
99	Level - 3	Website	HTML, CSS website	4
100		Website - project	Create a website project	4
<b>Total hours</b>				<b>08</b>
101	Level - 3	Javascrip	Purpose and Fundemantel comparisions	4
102			OOPS	2
103			ES6 basics - Arrow function, Classes, Optional chaining, etc	2
104			Callbacks (DOM manipulation) - UI events, Forms	4
105			Promises, async await, call stack, run loop, queues	4

Days	Level	Course	Topics	Hours
106	Level - 3	Javascript	Modules, Packages - NPM	2
107				
108	Level - 3	Javascript	Storage (cookies, local storage, session storage), Web application training, javascript - network requests	4
109				
<b>Total hours</b>		<b>Javascript</b>		<b>22</b>

**Level - 3 Completed**

**Total hours 62**

# Level - 4



74 Hrs

Days	Level	Course	Topics	Hours
110	Level - 4	Rest API (Application Programming Interface)	Sample API, Postman	2
111		Java 2 platform enterprise edition (J2EE)	Servlet, Jakarta sever pages (JSP+) sample web project	4
112			Practice	4
<b>Total hours</b>				<b>10</b>
113	Level - 4	Spring ecosystem	Spring boot - Introduction, Dependancy injection (DI), Inversion of control (IOC), Aspect oriented programming (AOP)	2
114			MVC, annotations, Spring bean scope	4
115			Spring model view controller (MVC) and Microservice, Spring data	4
116			Spring rest API	2
117			Spring security	2
118			Spring testing	4
<b>Total hours</b>				<b>18</b>
119	Level - 4	Web app	Sample project	4
120		Web app - project	Do his own project	4
121			Do his own project	4
<b>Total hours</b>				<b>12</b>
122	Level - 4	Data structure and Algorithm - 3 (Tree, Graph, Map)	Tree	4
123			Graph and Map	4
124			Practice	4

Days	Level	Course	Topics	Hours	
125	Level - 4	Design pattern-3 (Behavioural design pattern)	Observer, Strategy	4	
126			Command, Chain of responsibility	4	
127			Practice	4	
<b>Total hours</b>				<b>24</b>	
128	Level - 4	Reverse engineer	Sample project debugging, Enhancing	4	
129		Agile with JIRA	JIRA tool explanation	4	
130		Deployment	Deployment	2	
<b>Total hours</b>				<b>10</b>	
<b>Level - 4 Completed</b>			<b>Total hours</b>	<b>74</b>	



# Level - 5



12 Hrs

Days	Level	Course	Topics	Hours
131	Level - 5	Artificial intelligence - 1	Prompt engineering, Code creation	2
132		Artificial intelligence - 2	Testing the code using AI, Debugging	4
133		Artificial intelligence - 3	Project using Replit, Chat GPT	2
134		Artificial intelligence - 4	Website figma AI, Blackbox AI, Amazon AI, Loveable AI	2
135		Artificial intelligence - 5	Code GEN, Cursor AI	2

Level - 5 Completed

Total hours 12

Total Days 135

Total Hours 414



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