

## 1. Vue.JS

Course outline	<p><b>Web development</b></p> <p><b>HTML/CSS</b></p> <ul style="list-style-type: none"><li>- Introducing HTML5</li><li>- Creating an HTML document ,Tags, Comments</li><li>- Working with hyperlinks, images and attributes</li><li>- Working with Block, Inline and Text elements</li><li>- Working with tables</li><li>- Working with forms, Global structure, Sending form data</li><li>- Introducing CSS3, Syntax, internal, inline, external styles, cascading and inheritance</li><li>- CSS, CSS3 properties(selectors, boxes, text styles, pseudoclasses elements, ...)</li><li>- Positioning</li><li>- Flexible Box Layout</li></ul> <p><b>JavaScript</b></p> <ul style="list-style-type: none"><li>- DOM main concpets, Placement in HTML</li><li>- Events and their processing</li><li>- Working with forms, Browser-server relations</li><li>- AJAX requests</li></ul>
	<p><b>Advanced JavaScript</b></p> <ul style="list-style-type: none"><li>- JS Objects Using (Number, Boolean, String, Array, Data, Math)</li><li>- Behavior of a variable. Hoisting, ES6+ block scope variables. let, const</li><li>- Functions in deep. Arguments.</li><li>- ES6 arrow functions</li><li>- Closures</li><li>- Promise, Callbacks (Promise vs Callbacks)</li></ul> <p><b>OOP Concepts</b></p> <ul style="list-style-type: none"><li>- OOP in JavaScript, Constructors</li><li>- Execution context in JavaScript. This. Call, Bind, Apply</li><li>- ES6 Class, Inheritance</li></ul>
	<p><b>Technology   Vuejs  </b></p> <p><b>VueJS Main Concepts</b></p> <ul style="list-style-type: none"><li>- Introduction to frameworks, Vue.js. Creating a new Vue app</li><li>- Vue base concepts. Introducing templates</li><li>- Rendering Elements</li><li>- Components and Props</li><li>- Data handling and processing</li><li>- Conditional Rendering</li><li>- Vuex</li></ul>
Duration of the course	160 hours

## 2. Node.js (Express)

Course outline	<b>NODE.JS</b> <ul style="list-style-type: none"><li>- Introduction to Node.JS</li><li>- Working environment</li><li>- Variables, Primitive and Reference types</li><li>- Operators, assignment, arithmetic</li><li>- Conditional constructions</li><li>- Loops</li><li>- Functions</li><li>- Working with Strings and numbers</li><li>- Objects</li><li>- Arrays</li><li>- Modules</li><li>- Native modules in Node.js</li><li>- Reading and writing file (stream)</li><li>- Http server , create basic server</li><li>- Objects request, response in Node.JS</li><li>- Routing</li><li>- Postman and how to use it</li><li>- JS Objects Using (Number, Boolean, String, Array, Data, Math)</li><li>- Behaviour of a variable. Hoisting, ES6+ block scope variables. let, const</li><li>- Functions in deep. Arguments.</li><li>- ES6 arrow functions</li><li>- Closures</li><li>- Promise, Callbacks (Promise vs Callbacks)</li><li>- Async Await</li><li>- Error handling in Node.Js</li><li>- OOP in JavaScript, Constructors</li><li>- Execution context in JavaScript. This. Call, Bind, Apply</li><li>- ES6 Class, Inheritance</li><li>- Event loop in Node.JS and V8</li><li>- Github - basic understanding of github flow</li></ul>
	<b>Mongodb</b> <ul style="list-style-type: none"><li>- Introduction to databases</li><li>- Installation of MongoDB</li><li>- SQL and NoSQL databases</li><li>- MongoDB Crud operations</li><li>- Aggregation function in MongoDB</li><li>- Create connection from Node.JS to MongoDB</li></ul>

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	<p><b>Express framework</b></p> <ul style="list-style-type: none"><li>- Installing express.js in local machines</li><li>- Basic understanding in express.js framework</li><li>- Routes , Request Response in express.js</li><li>- Authorization Authentication</li><li>- JWT token</li><li>- JWT auth flow</li><li>- Encryption and Hashing</li><li>- Working with database</li><li>- Installing atlas(compass) on local machine</li><li>- Understanding MVC the pattern</li><li>- Project structuring based on MVC the pattern</li><li>- Validations, middlewares, exceptions, and, how to handle errors</li><li>- HTTP status codes and responses with that status codes</li><li>- Request and response objects in express.js</li><li>- Routing</li><li>- Req, res in express.js</li><li>- Error handling in express</li><li>- Code style and structure</li></ul>
Duration of the course	160 hours

### 3. Android

<b>Course outline</b>	<b>Java</b> <ul style="list-style-type: none"><li>- Introduction to Java.</li><li>- Data Types, Variables, and Arrays</li><li>- Operators</li><li>- Control statements</li><li>- Classes and OOP</li><li>- Packages and Interfaces</li><li>- Exception handling</li><li>- Multithreading</li><li>- Exception handling</li><li>- Multithreading</li><li>- Enumerations, Autoboxing, and Annotations</li><li>- Generics</li></ul>
	<b>Kotlin</b> <ul style="list-style-type: none"><li>- Introduction: variables, default and named arguments, type safety</li><li>- Classes: data classes, open keyword, sealed classes, generics</li><li>- Functions: lambdas, inline functions, extensions functions, scope functions</li><li>- Conventions: ranges, loops, operator overloading, invoke</li><li>- Collections: mutable lists, mutable maps, sequences, operator functions</li><li>- Properties: set and get, lazy, delegation</li><li>- Coroutines: introduction, suspend functions, coroutine builders, job</li><li>- Flows: flow builders, operators, terminal operators, state and shared flows</li></ul>
	<b>Android</b> <ul style="list-style-type: none"><li>- Introduction: Android OS, Android App development, Android Studio and tools, gradle</li><li>- Views and Layouts: FrameLayout, LinearLayout, common views</li><li>- ConstraintLayout, Motion Layout</li><li>- App lifecycle. Activities. Fragments. Services. Broadcasts, Content Providers.</li><li>- RecyclerView. Adapter. ViewHolder. ListAdapter. DiffUtils</li><li>- Permissions</li><li>- Explore Jetpack and AndroidX</li><li>- ViewModel. LiveData. Replace LiveData with StateFlow</li><li>- ViewBinding and DataBinding</li><li>- Room db. Paging. DataStore</li><li>- Perform REST API calls with Retrofit. Gson</li><li>- Navigation</li><li>- DI (Hilt vs Koin)</li></ul>
<b>Duration of the course</b>	130 hours

## 4. QA Automation

<b>Course outline</b>	<b>Python</b> <ul style="list-style-type: none"><li>- Introduction to Python</li><li>- Environment Setup</li><li>- Variables</li><li>- Data Types</li><li>- Basic Operators in Python</li><li>- Introduction to Git</li><li>- Conditional Code</li><li>- Control flow (Loops)</li><li>- Python Lists</li><li>- Python Tuples</li><li>- Python Dictionary</li><li>- Functions</li><li>- Files: Input and Output</li><li>- OOP (Object Oriented Programming)</li><li>- Classes and Objects</li></ul>
	<b>Selenium</b> <ul style="list-style-type: none"><li>- Introduction to Selenium and Web Automation</li><li>- Features</li><li>- Environment with Python</li><li>- WebDriver and its functions</li><li>- Web elements and locators: id, name, class, tag, xpath, css</li><li>- Types of web elements: buttons, links, dropdowns, checkboxes, radio buttons, etc.</li><li>- Selenium scripts</li><li>- Data Driven Testing and Framework Development</li><li>- Parameterization and data-driven testing with Selenium and Python</li><li>- Introduction to test frameworks: pytest</li><li>- Advanced Selenium topics: headless browser testing, browser profiling, browser extensions</li><li>- Selenium Grid and parallel testing</li><li>- Debugging and troubleshooting Selenium scripts</li></ul>
	<b>API</b> <ul style="list-style-type: none"><li>- Introduction to Web Services</li><li>- REST Web Services</li><li>- BaseURL</li><li>- Resources in REST API</li><li>- Request: GET and POST, PUT and DELETE</li><li>- Requests library</li><li>- Overview of HTTP: request, methods, headers, cookies</li><li>- HTTP status codes and response headers</li><li>- Parsing and extracting data from HTTP responses</li><li>- JSON and XML data formats in Requests</li><li>- Handling binary data with Requests: images, audio, video</li></ul>

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	- Handling redirects and authentication
Duration of the course	106 hours

## 5. Business Intelligence and Data Analytics

### Course outline

#### 1. Introduction to Data analysis

- What is Data Analysis
- Top Tools used in Data Analysis

#### 2. Introduction to Business Intelligence

- What is Business Intelligence
- Business Intelligence vs Data Science
- The Roles in Business Intelligence
- Communicating with Data
- Key Concepts of Data

#### 3. Descriptive Statistics

- What is Descriptive Statistics?
- Population vs Sample
- Sampling Techniques
- Measures of Location
- Measures of Dispersion
- Shape of the Data
- Correlation Analysis
- Regression Analysis

#### 4. Introduction to SQL

- Relational Database
- Management Systems (RDBMS)
- Getting Started with SQL Server
- Introduction to SQL Server Basics
- Data Definition
- Data Types
- Constraints

#### 5. Getting Started with SQL Server

- Operations with tables, set operations
- Grouping Data

#### 6. Working with Data

- Introduction to DDL, DQL, DML, DCL, TCL
- Pivot

- Modifying Data
- Introduction to Subqueries / Correlated Subqueries
- Introduction to Common Table Expressions (CTE)
- Introduction to Temporary Tables
- Introduction to Views
- Introduction to Indices
- Introduction to Stored Procedures
- Introduction to Triggers

#### 6. **Data Analysis in MS Excel**

- Introduction to MS Excel
- Analyze Data
- Transform Data
- Excel Tables
- Dynamic Arrays
- PIVOT Tables
- Visualize Data

#### 7. **Power Query**

- Power Query Interface
- Basic Transformations
- Extracting Information
- Consolidating Data
- Dealing with Errors

#### 8. **Power PIVOT**

- A Basic Data Model
- Basic Measures
- Expanding Dashboard
- DAX Across Relationships
- DAX Advanced Functions
- DAX Time Intelligence

#### 9. **Power BI**

- Introduction to Relational Databases, Tables and schemas, understanding hierarchies and types of relationships.
- Introduction to Business Intelligence tools.
- Power BI Interface.



- Power BI services.
- Power Query:
  - Introduction to Power Query and its tools.
  - Getting data from various sources.
  - Data Transformation.
  - M language.
- Building Power BI Data model.
- Data Analysis Expressions (DAX).
- Introduction to measures.
- Dashboards & Data Visualization
- Building Power BI Report
- Introduction to Advanced Visuals
- Introduction to Advanced User Experience
- Introduction to Advanced Power Query
- Introduction to Advanced Data Modeling and DAX
- Artificial Intelligence in Power BI
- Power BI Administration in Power BI Service and Summary.

### **Python (16 hours)**

- Introduction to python: variables, operations, indexes
- Data structures
- Functions
- Loops
- Pandas: series, Data frames, filters
- Pandas: grouping and ordering, importing/exporting data
- Visualizations: matplotlib, seaborn
- ML: supervised, unsupervised, and reinforced learning
- Exploratory Analysis with python.

Duration of the course	66 hours
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