Groovy Scripting (3 days)
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Day 1

Installation and introduction to groovy
Installing sdkman
Installing groovy development kit using sdkman
Understanding the various tools like groovyc, groovy shell and groovy console
Writing very basic commands on the groovy shell
How groovy compares to other JVM languages like Java

Variables & Operators
Defining variables using the 'def' keyword
Dynamic typing
Explicitly defining data types for a variable
Arithmetic, relational, logical operators
Elvis and spaceship operators in groovy

Functions
Defining functions in groovy
Function with implicit and explicit returns
Default arguments in functions
Closures
Functional programming in groovy
Functions that take groovy map as argument

Day 2

Branching & Looping
'if' , 'if-else if-else' selection statements for branching
The groovy 'switch' statement to achieve branching
Looping using 'while' and 'for'
'break' and 'continue' statements

Object oriented programming
Classes and objects
Difference between instance variables and static variables.
Instance and static functions
Constructors
Groovy bean class
On demand encapsulation of object attributes in groovy
Operator overloading in groovy classes
Composition

Inheritance
Abstract classes
Interfaces
Traits
Organizing groovy code in packages
Default packages imported in groovy code

Day 3

Collections
Using the List data type of groovy
Functional programming on list data structure using groovy closures
Meta programming on list data structure
Map data structure in groovy and various operations on a map

Exception handling
Flow of a program in the event of an exception thrown in the program
Exception handling using try-catch
Defining custom exceptions and throwing them
The finally block
How groovy exception handling is different from java exception handling

Metaprogramming
Meta Object protocol (MOP)
MetaClass
Adding dynamic methods to build in groovy classes at run time
Adding dynamic methods in custom groovy classes at run time

Builders
Introduction to the builder pattern
Designing domain specific language (DSL) to initialize objects in groovy
JSON builder
Object graph builder
Other builders available in the groovy programming language