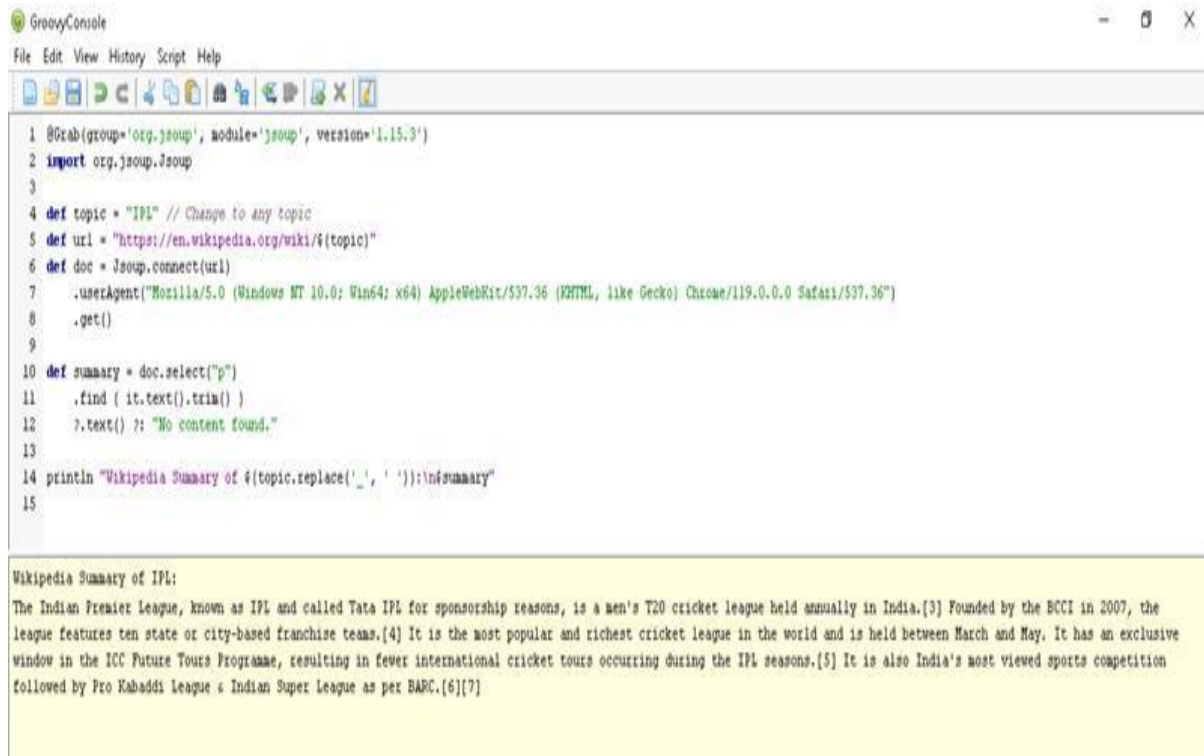


CASE STUDIES:

1.web Scraping & Data Extraction with Groovy & Jsoup :



```
1 @Grab(group='org.jsoup', module='jsoup', version='1.15.3')
2 import org.jsoup.Jsoup
3
4 def topic = "IPL" // Change to any topic
5 def url = "https://en.wikipedia.org/wiki/${topic}"
6 def doc = Jsoup.connect(url)
7     .userAgent("Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/119.0.0.0 Safari/537.36")
8     .get()
9
10 def summary = doc.select("p")
11     .find { it.text().trim() }
12     ?.text() ?: "No content found."
13
14 println "Wikipedia Summary of ${topic.replace('_', ' ')}:\n$summary"
15
```

Wikipedia Summary of IPL:

The Indian Premier League, known as IPL and called Tata IPL for sponsorship reasons, is a men's T20 cricket league held annually in India.[3] Founded by the BCCI in 2007, the league features ten state or city-based franchise teams.[4] It is the most popular and richest cricket league in the world and is held between March and May. It has an exclusive window in the ICC Future Tours Programme, resulting in fewer international cricket tours occurring during the IPL seasons.[5] It is also India's most viewed sports competition followed by Pro Kabaddi League & Indian Super League as per BARC.[6][7]

2. log file Analysis & Monitoring with Groovy :

```
GroovyConsole
File Edit View History Script Help

1 import java.nio.file.*
2
3 def logFilePath = "C:/Users/Administrator/Documents/demologfile.txt"
4 def logFile = new File(logFilePath)
5 if (!logFile.exists()) {
6     println "Error: Log file not found at $logFilePath"
7     return
8 }
9 def logData = [:].withDefault { 0 }
10
11 logFile.eachLine { line ->
12     def matcher = line =~ /\d{4}-\d{2}-\d{2} \d{2}:\d{2}:\d{2} \s+(INFO|WARNING|ERROR) \s+(.+)/
13     if (matcher.find()) {
14         def timestamp = matcher[0][1]
15         def statusCode = matcher[0][2]
16         def message = matcher[0][3]
17         logData[statusCode]++ // Count occurrences
18         println "[${timestamp}] Status: ${statusCode} - ${message}"
19     }
20 }
21 println "\nLog Analysis Summary:"
22 if (logData.isEmpty()) {
23     println "No matching log entries found."
24 } else {
25     logData.each { key, value -> println "$key : $value occurrences" }
26 }
27
```

```
[2025-02-17 10:15:32] Status: INFO - Server started successfully.
[2025-02-17 10:16:45] Status: WARNING - High memory usage detected.
[2025-02-17 10:17:12] Status: ERROR - Failed to connect to database.
[2025-02-17 10:20:05] Status: INFO - User 'admin' logged in from IP 192.168.1.100.
[2025-02-17 10:22:30] Status: ERROR - Timeout occurred while processing request.
[2025-02-17 10:25:50] Status: INFO - Scheduled job 'backup' started.
[2025-02-17 10:30:15] Status: WARNING - Disk space running low on /var/log.
[2025-02-17 10:35:40] Status: ERROR - File system corruption detected.
[2025-02-17 10:40:10] Status: INFO - User 'guest' logged out.
[2025-02-17 10:45:25] Status: INFO - Server shutting down for maintenance.

Log Analysis Summary:
INFO : 5 occurrences
WARNING : 2 occurrences
ERROR : 3 occurrences
Result: [INFO:5, WARNING:2, ERROR:3]
```

3. Groovy DSL for Configuration Management:

```
1 class ConfigDSL {
2     String environment
3     Database database = new Database()
4     Server server = new Server()
5     void environment(String env) {
6         environment = env
7     }
8     void database(Closure closure) {
9         closure.delegate = database
10        closure.resolveStrategy = Closure.DELEGATE_FIRST
11        closure()
12    }
13    void server(Closure closure) {
14        closure.delegate = server
15        closure.resolveStrategy = Closure.DELEGATE_FIRST
16        closure()
17    }
18    void printConfig() {
19        println "Environment: $environment"
20        println "Database Host: ${database.host}"
21        println "Database User: ${database.user}"
22        println "Database Password: ${database.password}"
23        println "Server Memory: ${server.memory}"
24        println "Server CPU: ${server.cpu}"
25    }
26 }
```

```
Environment: production
Database Host: db.example.com
Database User: admin
Database Password: securePassword
Server Memory: 8GB
Server CPU: 4
```