06_correlation_and_extractors.md

Correlation & Extractors in JMeter

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1 What is Correlation?

Correlation means **capturing dynamic values from a response and reusing them in subsequent requests**.

Examples of dynamic values: - access_token - session_id - csrf_token - request_id - transaction_id

Without correlation: ❌Tests pass for 1 user ❌Tests fail for multiple users ❌APIs return 401 / 403 / 500

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2 Real-World Example

Login API Response

```
{
  "access_token": "eyJhbGciOiJIUzI1NiIs",
  "userId": "U12345"
}
```

These values **must be extracted** and reused.

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3 Types of Extractors in JMeter

Extractor	Used For
JSON Extractor	JSON responses (most common)
RegEx Extractor	HTML / text
Boundary Extractor	Simple left-right text
XPath Extractor	XML / SOAP

90% of API tests use JSON Extractor

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4 JSON Extractor (Most Important)

Configuration

```
Variable Name: access_token
JSON Path: $.access_token
Match No: 1
Default Value: NOT_FOUND
```

5 Using Extracted Values

In Header Manager:

```
Authorization: Bearer ${access_token}
```

In next API body:

```
{
  "userId": "${userId}"
}
```

6 Debugging Correlation

Add: - View Results Tree - Debug Sampler

Check: - Variable value is populated - NOT_FOUND is not present

7 Common Correlation Mistakes

❌Hardcoding tokens ❌Wrong JSON path ❌Extractor at wrong scope ❌Using login token for all threads

8 Best Practices

✔️Extract once per thread ✔️Reuse token ✔️Validate token expiry ✔️Keep extractors close to sampler

9 Interview Question

Why is correlation mandatory in load testing?

Answer: Because server-generated values change per request and per user.

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10 Mini Exercise

1. Login API
2. Extract token
3. Use token in 2 APIs
4. Validate success

Next Files (Coming Up)

- 07 Assertions & Validation
- 08 Timers & Think Time
- 09 CSV Data Config & Parameterization
- 10 Listeners & Result Analysis
- 11 Running JMeter in CLI & Azure Load Testing