Chapter: Gherkin Syntax Deep Dive

⏱ Duration: 1 hour

🎯 Learning Objectives

By the end of this chapter, you will be able to:

- Understand and use advanced Gherkin keywords: `And`, `But`, `Background`, and `Scenario Outline`
- Write expressive, readable, and maintainable `.feature` files
- Apply best practices to structure your BDD scenarios effectively

📖 What is Gherkin?

Gherkin is a domain-specific language used to write executable specifications in BDD. It is human-readable and structured to define system behavior without focusing on implementation details.

> Gherkin makes it easy for non-technical stakeholders to read and validate software requirements.

🧱 Gherkin Building Blocks (Recap)

- `Feature`: Describes the functionality under test.
- `Scenario`: A specific example or case under that feature.
- `Given / When / Then`: Define the preconditions, actions, and expected outcomes.

🔑 Deep Dive into Keywords

1. `And`, `But` – Chaining Steps

These keywords are used to improve the readability of `Given`, `When`, and `Then` steps.

```
Scenario: Login to the app
  Given the user navigates to the login page
  And the user has a valid username and password
  When the user submits the login form
  Then the user should be redirected to the dashboard
  But the user should not see any error messages
```

📝 **Note:** `And` and `But` can follow `Given`, `When`, or `Then`.

2. `Background` – Shared Setup for All Scenarios

Use Background to define common steps that apply to every scenario in a feature.

```
Feature: Manage To-Do List

Background:
  Given the user has launched the To-Do app
  And the user is logged in

Scenario: Add a new task
  When the user adds a task "Buy groceries"
  Then the task "Buy groceries" should be visible in the list

Scenario: Delete a task
  Given the user has a task "Pay bills"
  When the user deletes the task "Pay bills"
  Then the task should be removed from the list
```

💡 **Best Practice:** Don't overload Background with too many steps. Keep it relevant.

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3. Scenario Outline – Parameterized Scenarios

Scenario Outline allows running the same scenario with different input data.

```
Scenario Outline: Add multiple tasks
  Given the user has launched the To-Do app
  When the user adds a task "<task_name>"
  Then the task "<task_name>" should be visible in the list

Examples:
  | task_name       |
  | Buy groceries   |
  | Pay bills       |
  | Call mom        |
```

☑ **When to use:** Useful for data-driven testing with multiple combinations.

✍ Hands-on Exercise: Gherkin for To-Do List Feature

Write .feature file for the following user stories:

1. As a user, I want to add tasks so I can keep track of my to-dos.
2. As a user, I want to mark a task as complete so I know what I've finished.
3. As a user, I want to delete a task if it's no longer needed.

```
Feature: To-Do List Management

Background:
Given the user is logged in to the To-Do app

Scenario: Add a new task
When the user adds a task "Finish assignment"
Then the task "Finish assignment" should be visible in the list

Scenario: Mark a task as completed
Given the user has a task "Read book"
When the user marks the task "Read book" as completed
Then the task "Read book" should appear as completed

Scenario Outline: Delete a task
Given the user has a task "<task_name>"
When the user deletes the task "<task_name>"
Then the task "<task_name>" should be removed from the list

Examples:
| task_name |
| Watch video |
| Pay rent |
```

☑ Best Practices

Practice	Description
Use plain language	Avoid technical jargon. Keep scenarios readable by all team members
One scenario, one behavior	Each scenario should represent one atomic behavior
Use meaningful examples	Replace placeholder values with realistic, relatable data
Reuse steps	Avoid duplicating similar steps across features

🧠 Interview Questions

1. What is the difference between `Scenario` and `Scenario Outline` in Gherkin?
2. How does `Background` improve scenario readability?
3. Why should we prefer `And`/`But` over repeating `Given`/`Then`?
4. Can you give an example of a poorly written scenario and how you would fix it?
5. How do you decide when to use `Background` vs setup inside a `Scenario`?

🎥 Curated YouTube Videos

Here are some high-quality beginner-friendly video tutorials:

1. **Cucumber Gherkin Tutorial for Beginners**
   🔗 https://www.youtube.com/watch?v=U5X3vD4rCFE

2. **How to Write Gherkin Feature Files**
   🔗 https://www.youtube.com/watch?v=n1tEcDgUe7E

3. **BDD with Cucumber, Gherkin and Examples**
   🔗 https://www.youtube.com/watch?v=Em63T9Ecdjo

4. **Cucumber Tutorial: Scenario Outline vs Examples**
   🔗 https://www.youtube.com/watch?v=yzIxf6VhAqA

📌 Summary

- Use Gherkin to define behavior in a human-readable way.
- Keywords like `And`, `But`, `Background`, and `Scenario Outline` improve structure and reusability.
- Good Gherkin scenarios act as both **living documentation** and **executable test cases**.

📚 References

- Cucumber Gherkin Reference
- godog Documentation