

Cypress Automation Testing

Sr. No.	Module	Sub-Topic	Objective	Duration	Assignment / Practice
1	Getting Started	What is Cypress & its use cases	Understand Cypress purpose in modern testing	15 min	Read official Cypress intro page
		Install Cypress via npm + setup VSCode	Set up Cypress locally in a project	15 min	Initialize project with 'npm init'
		Explore Cypress folder structure	Understand e2e, support, fixtures folders	15 min	Open and explore folder contents
2	Writing First Test	Create first test with 'cy.visit()'	Load a webpage using Cypress	15 min	Write test for example.com
		Use '.get()' and '.should()' for assertions	Perform basic element validations	15 min	Test login form input fields
		Hands-on: Test a basic login page	Combine commands to automate login test	15 min	Create login.spec.cy.js
3	Custom Commands	What are custom commands	Understand need and syntax of custom commands	15 min	Read about 'Cypress.Commands.add()'
		Create a reusable login command	Implement command to reuse login	15 min	Create custom login command
		Use command across multiple tests	DRY ("Don't Repeat Yourself") principle using commands	15 min	Apply to register & contact form tests
4	Hooks	Intro to 'before', 'after' hooks	Understand global setup and teardown	15 min	Add 'before()' to initialize test state
		Use 'beforeEach', 'afterEach' in tests	Reuse logic before/after each test	15 min	Implement in form.test.cy.js
		Hands-on with hooks	Practice by cleaning session before each test	15 min	Use 'cy.clearCookies()' in 'beforeEach()'
5	Traversing DOM	Use .first(), .last(), .eq()	Learn to filter and access specific elements from a list or collection	15 min	Select first, last, and nth element from a list and assert their values
		Use .parent(), .parents()	Navigate to immediate or all ancestor elements	15 min	Get parent div of a selected element
		Use .parentsUntil()	Traverse ancestors until a specific selector	15 min	Traverse up to a container class element
		Use .children()	Access direct children of an element	15 min	Count child items in a list
		Use .find(), .contains()	Search descendants of an element	15 min	Find input fields inside a form
		Use .next(), .nextAll(), .nextUntil()	Get next sibling(s) of an element	15 min	Find the next section after a heading
		Use .prev(), .prevAll(), .prevUntil()	Get previous sibling(s) of an element	15 min	Highlight all previous items in a menu list
		Use .siblings()	Select all siblings of an element	15 min	Interact with buttons in the same container
		Use .closest()	Find closest ancestor matching a selector	15 min	Get wrapper div of a clicked button
		Hands-on: Advanced Traversal	Combine multiple DOM traversal commands	15 min	Locate dynamic elements on complex pages
6	Radio buttons and check box	Handling Radio Buttons	Learn how to select and assert radio button values	15 min	Select gender option in a form
		Handling Checkboxes	Learn how to check, uncheck, and validate checkbox states	15 min	Select multiple skills in a preferences form
7	Dropdown	Handling Static Dropdowns	Select options from standard <select> dropdowns using .select()	15 min	Choose country from a dropdown and verify the selection
		Handling Dynamic/Custom Dropdowns	Interact with non-HTML dropdowns (like div-based dropdowns)	15 min	Click custom dropdown and select a city option
8	File Handling	File Upload	Upload files using plugins like cypress-file-upload	15 min	Upload a PDF or image and assert successful submission
		File Download	Verify file downloads and check file content using Node.js or plugin	15 min	Download a report and verify content in downloads folder
9	Getting Text	Getting Text using .invoke('text')	Retrieve element text using Cypress's invoke method	15 min	Validate a button's label using .invoke('text')
		Getting Text using .text() (jQuery)	Use .then() with .text() to fetch text via jQuery	15 min	Capture and log text of a paragraph element
10	task in cypress	Using cy.task() - Basic	Execute custom Node.js code like logging or reading local files	15 min	Print a message to terminal or read a file using cy.task()
		Using cy.task() - With Params	Pass and use arguments in cy.task() for dynamic operations	15 min	Pass a filename and return content from plugin function
11	Web Tables	Reading Data from Tables	Access and verify table rows, columns, and cell values	15 min	Read data from a user table and validate column values
		Interacting with Table Elements	Perform actions like click/edit/delete within table rows	15 min	Click an edit button in a specific row based on cell content
12	JS Alerts	Handling Alerts & Confirms	Handle simple alerts (alert) and confirm dialogs (confirm)	15 min	Accept/Cancel confirm dialog and assert correct behavior
		Handling Prompts (with Stubbing)	Handle JavaScript prompt() using Cypress stubbing/interception	15 min	Stub prompt value and verify it appears correctly on the page

13	Handling iFrames	Intro to iFrames	Understand what iFrames are and how they behave in DOM	15 min	Locate and inspect iframe on a webpage
		iFrame Handling Techniques	Use plugin or custom command to interact with iFrame	15 min	Fill input inside an iframe using plugin/custom code
14	Shadow DOM	Accessing Open Shadow DOM	Learn to interact with open shadow roots using shadow()	15 min	Extract and assert text inside open shadow element
		Handling Closed Shadow DOM	Understand limitations and explore custom access techniques	15 min	Try accessing elements inside a closed shadow root
15	Multi-Window	Handling New Tab Navigation	Learn Cypress limitations and workarounds with target= _blank links	15 min	Remove target attr and assert redirected page content
		Handling Pop-ups/New Windows	Work with browser window-level alerts or modals using Cypress constraints	15 min	Validate external link opens in new window using stub
16	Mouse Actions	Click and Double Click Actions	Perform .click() and .dblclick() operations	15 min	Trigger click events and verify UI behavior
		Right Click and Hover Actions	Use .rightclick() and .trigger('mouseover') for interactions	15 min	Open context menu and hover over dropdown items
		Mouse Down, Mouse Up, and Move	Simulate .mousedown(), .mouseup(), and .mousemove() events	15 min	Simulate drag action or progress slider
17	Date Picker	Handling Simple Date Pickers	Select dates using native HTML5 date inputs or basic calendar popups	15 min	Pick today's date and assert input value
		Handling Complex/Custom Date Pickers	Work with dynamic calendars, month navigation, and custom UI pickers	15 min	Select a future date (e.g., +2 months) in a custom date widget
18	Network Control	Basic Usage of cy.intercept()	Intercept and wait for API calls, validate status code & response	15 min	Intercept a GET call and assert response data
		Mocking with cy.intercept()	Stub/mock responses for testing UI behavior without real API	15 min	Mock a POST request and assert UI changes using fake response
19	Test Data	Using .json Fixture Files	Load static test data from .json files using cy.fixture()	15 min	Create and load user.json, fill and validate a form
		Using .js Data Modules	Create reusable JS data objects and import into test files	15 min	Export data from .js and reuse it across multiple tests
		Reading Excel Data with Plugin	Use Cypress plugins (e.g., .xlsx) to parse .xlsx test data	15 min	Read and print values from Excel, assert on any field
		Data-Driven Tests with Excel	Run tests dynamically using row-based Excel input	15 min	Loop over Excel rows and execute test cases for each user
20	API Testing	GET & POST Methods	Perform API testing using cy.request() with GET and POST	15 min	Send a GET to fetch users and POST to create a new user
		PUT & DELETE Methods	Test update and delete operations using PUT and DELETE	15 min	Update user info and delete a record using API
		Method Chaining	Chain requests and validate dependent calls	15 min	Create a user → fetch ID → update → delete
		Hands-on Practice with Examples	Practice multiple real-world APIs (CRUD examples, dummy JSON APIs, etc.)	15 min	Test a dummy product API: CRUD operations end-to-end
21	POM	Introduction to POM	Understand POM architecture and folder structure	15 min	Explain pageObjects, tests, utils structure with diagram
		Creating Page Classes and Functions	Create reusable page classes with locators and action functions	15 min	Build LoginPage.js with methods for input and login click
		Using Page Classes in Tests	Import and use page classes in your test specs	15 min	Use LoginPage in a login test, assert successful login
		Multiple Page Examples (POM Practice)	Work with multiple pages (e.g., login, dashboard, cart) using POM	15 min	Use ProductPage and CartPage to add items and checkout in a flow
22	Session Management	Using cy.session()	Preserve login or app state across multiple specs/tests	15 min	Store login session and reuse it in another test
23	Environments	Setting and Accessing Env Vars	Use cypress.config.js or CLI to manage env variables	15 min	Create env variable for username and access it via Cypress.env()
		Using Different Env Files	Switch between staging/dev/prod configs using different files or CLI	15 min	Run tests using a staging config with dynamic baseUrl
24	Screenshots & Videos	Capturing Screenshots & Videos	Learn to capture screenshots manually/automatically and record test videos	15 min	Use cy.screenshot() and review video recording in cypress/videos
25	Reports	Using Reporters	Learn to configure and use Mocha reporters like spec, junit, or HTML reports	15 min	Generate test report using Mochawesome or JUnit reporter
26	BDD with Cucumber	Intro to BDD & Gherkin syntax	Understand Feature files and Scenarios	15 min	Write a feature file
		Setup Cypress with Cucumber	Install plugins and integrate	15 min	Connect `feature` to step definitions
		Write step definitions for test	Automate steps with Cypress commands	15 min	Match Given/When/Then to Cypress

27	Git & GitHub	Git basics & repo creation	Use Git CLI to init, commit, push	15 min	Push Cypress project to GitHub
		Git branching and merging	Learn feature/bugfix branches	15 min	Create branch & merge to main
28	CircleCI & CI/CD	Intro to CI/CD and CircleCI	Understand pipeline need	15 min	Explore CircleCI dashboard
		Setup Cypress pipeline in CircleCI	Automate tests using YAML config	15 min	Run tests on GitHub push
29	Manual Testing	Manual Testing Points for Interview	Key concepts like SDLC, STLC, test case design, defect lifecycle	15 min	Prepare notes on testing types, severity vs priority, bug lifecycle
30	QnA	Interview-Based Questions	Discuss most commonly asked Cypress and automation-related interview Qs	15 min	Answer questions on locators, POM, intercept, assertions, commands