

CLOCK CONTROL



YOU WILL LEARN

- speed up tests by fast-forwarding timers
- control the application clock and date

- clean up the existing code
 - git reset --hard
 - git clean -d -f
- git checkout e9
- npm install

CLOCK APIs

Playwright v1.45+ has **Clock API** and Cypress has the **cy.clock** command.
Let's use it to "fast forward" time to fire the interval timers quicker.

```
// app.js
// how would you test the periodic loading of todos?
setInterval(() => {
  this.$store.dispatch('loadTodos')
}, 60_000)
```

PLAYWRIGHT

```
// pw/clock.spec.js
const { test, expect } = require('@playwright/test')

test.describe('App', () => {
  test('fetches todos every 60 seconds', async ({ page }) => {
    // install synthetic clock using clock.install
    // https://playwright.dev/docs/clock

    // spy on the "/todos" network request
    await page.goto('/')
    // confirm the application fetches the "/todos" endpoint

    // spy on the "/todos" network request again
    // advance the fake timers by 61 seconds
    // using clock.runFor
    // and confirm the application fetches the "/todos" endpoint again
  })
})
```

Can you confirm the app is making GET /todos calls every minute?

```
const { test } = require('@playwright/test')

test.describe('App', () => {
  test('fetches todos every 60 seconds', async ({ page }) => {
    // https://playwright.dev/docs/clock
    await page.clock.install()

    const loadTodos1 = page.waitForRequest('/todos')
    await page.goto('/')
    await loadTodos1

    const loadTodos2 = page.waitForRequest('/todos')
    await page.clock.runFor(61_000)
    await loadTodos2

    const loadTodos3 = page.waitForRequest('/todos')
```

We instantly "run" the clock using `await page.clock.runFor(61_000)`

CYPRESS

```
// cypress/e2e/clock.cy.js
describe('App', () => {
  it('fetches todos every 60 seconds', () => {
    // spy on the "GET /todos" requests and
    // give them an alias "loadTodos"
    // https://on.cypress.io/intercept
    cy.intercept('GET', '/todos').as('loadTodos')
    // control the application's clock
    // https://on.cypress.io/clock
    cy.visit('/')
    // confirm the application called the "loadTodos" endpoint
    // Tip: you can even use a short 100ms timeout
    cy.wait('@loadTodos', { timeout: 100 })
    // advance the application's clock by 61 seconds
    // https://on.cypress.io/tick
    // confirm the application called the "loadTodos" endpoint
  })
})
```

```
describe('App', () => {
  it('fetches todos every 60 seconds', () => {
    cy.intercept('GET', '/todos').as('loadTodos')
    cy.clock()
    cy.visit('/')
    cy.wait('@loadTodos', { timeout: 100 })

    cy.tick(61_000)
    cy.wait('@loadTodos', { timeout: 100 })

    cy.tick(61_000)
    cy.wait('@loadTodos', { timeout: 100 })
  })
})
```

Cypress solution

BONUS: SET SPECIFIC DATE AND TIME

Test the current date shown in the footer

```
<p>cy-vs-pw-example-todomvc <span id="date"></span></p>
<script>
  document.getElementById('date').innerText = new Date().toLocaleString()
</script>
```

```
Cypress: cy.clock(new Date(2021, 3, 14))
```

```
Playwright: page.clock.setFixedTime(new Date(2021, 3,  
14))
```



CONTROL APPLICATION CLOCK

- set any date
- pause / fast-forward timers



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