Bootcamp: Java & DevOps

Test dans Angular

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Définitions

Définitions des tests – phase de développement

- **Test de validation**
  - Valide les développements en local en démarrant le serveur sur son poste et en étant relié à un environnement de développement.
  - Qui réalise ? Développeur(se)
  - Automatisé : Non
- **Test de composant**
  - Contrôle le comportement d'un service exposé en passant dans toutes les couches de l'application sans dépendance avec un environnement
  - Qui réalise ? Développeur(se)
  - Automatisé : Oui
- **Test unitaire :**
  - Tester le code de manière isolée
  - Qui réalise ? Développeur(se)
  - Automatisé : Oui

Définitions

Définitions des tests – post livraison

- **Test d’intégration**
  - Vérifier que la fonctionnalité s’interface correctement avec les composants externes
  - Qui réalise ? Equipe d'intégration (développeur(se) et/ou testeur(se) et/ou intégrateur(trice))
  - Automatisable : Non
- **Test fonctionnel**
  - Tester une fonctionnalité
  - Qui réalise ? Equipe de recette
  - Automatisable : Non
- **Test de non-régression (TNR)**
  - Valider que les nouvelles fonctionnalités n’ont pas altéré celles existantes.
  - Qui réalise ? Equipe de recette
  - Automatisable : Oui

TESTS UNITAIRES

Jasmine est un framework qui permet d'écrire des tests unitaires.

Karma est un serveur qui permet de lancer des tests avec un rendu de tout ce qui se passe sur un navigateur.

```
describe('RegistryComponent', () => {
  let component: RegistryComponent;
  let fixture: ComponentFixture<RegistryComponent>;

  beforeEach(async () => {
    await TestBed.configureTestingModule({
      imports: [RegistryComponent]
    })
    .compileComponents();

    fixture = TestBed.createComponent(RegistryComponent);
    component = fixture.componentInstance;
    fixture.detectChanges();
  });

  it('should create', () => {
    expect(component).toBeTruthy();
  });
});
```

describe('ApiService', () => {
let service: ApiService;
beforeEach(() => {
TestBed.configureTestingModule({
providers: [ApiService, HttpClient, HttpHandler]
});
service = TestBed.inject(ApiService);
});
it('should be created', () => {
expect(service).toBeTruthy();
});
});

```
PS C:\Users\Ngor.SECK\SECK\AKKODIS\app-perso\IdeaProjects\angular\httpclient-project> ng test
√ Browser application bundle generation complete.
01 10 2024 19:19:51.269:WARN [karma]: No captured browser, open http://localhost:9876/
01 10 2024 19:19:51.398:INFO [karma-server]: Karma v6.4.4 server started at http://localhost:9876/
01 10 2024 19:19:51.398:INFO [launcher]: Launching browsers Chrome with concurrency unlimited
01 10 2024 19:19:51.415:INFO [launcher]: Starting browser Chrome
01 10 2024 19:19:52.507:INFO [Chrome 128.0.0.0 (Windows 10)]: Connected on socket bcjbn3EaIyI3ycRbAAAB with id 63184605
```

```
    at project (http://localhost:9876/_karma_webpack_/webpack:/node_modules/@angular/common/fesm2022/http.mjs:1309:70)
    at doInnerSub (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/operators/mergeInternals.js:19:19)
    at onNext (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/operators/mergeInternals.js:14:57)
    at OperatorSubscriber._next (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/operators/OperatorSubscriber.js:
13:21)
    at OperatorSubscriber.next (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/Subscriber.js:31:18)
    at Observable._subscribe (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/observable/innerFrom.js:51:24)
    at Observable._trySubscribe (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/Observable.js:37:25)
    at cb (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/Observable.js:31:30)
    at errorContext (http://localhost:9876/_karma_webpack_/webpack:/node_modules/rxjs/dist/esm/internal/util/errorContext.js:19:9)
Chrome 128.0.0.0 (Windows 10): Executed 7 of 7 SUCCESS (0.109 secs / 0.034 secs)
TOTAL: 7 SUCCESS
```

```
PS C:\Users\Ngor.SECK\SECK\AKKODIS\app-perso\IdeaProjects\angular\httpclient-project> ng test
√ Browser application bundle generation complete.
01 10 2024 19:19:51.269:WARN [karma]: No captured browser, open http://localhost:9876/
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```
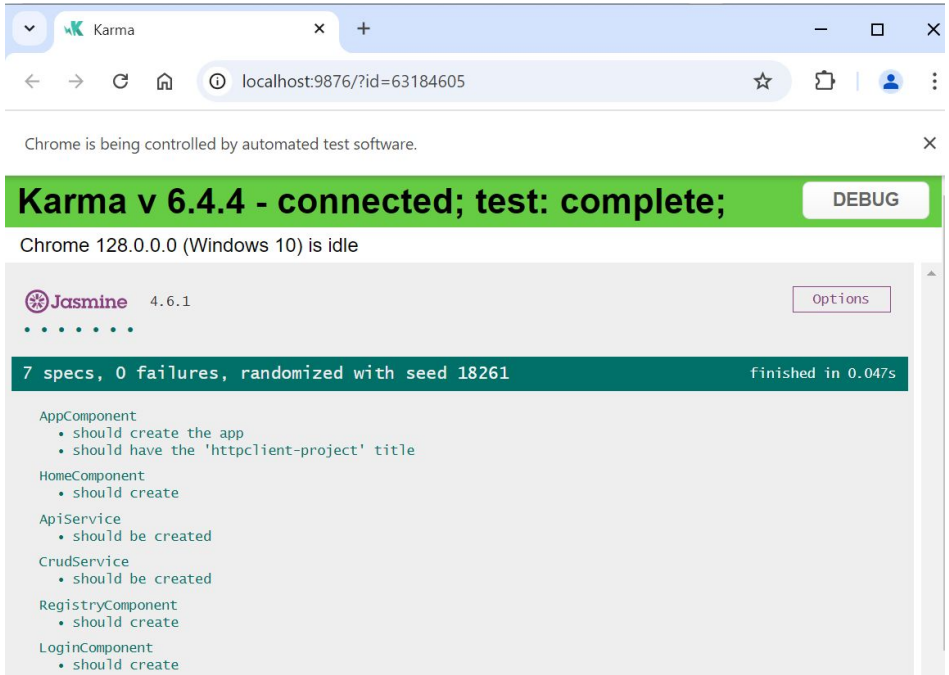
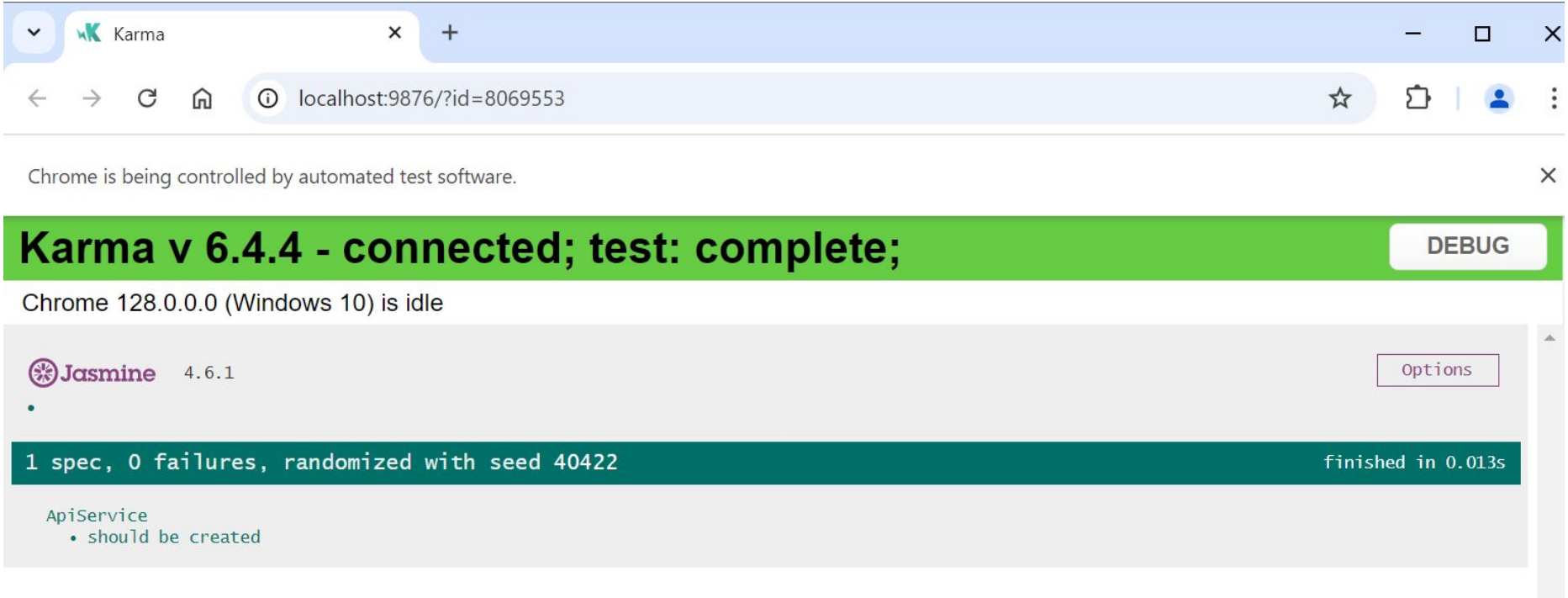



Test d’un seul fichier

```
PS C:\Users\Ngor.SECK\SECK\AKKODIS\app-perso\IdeaProjects\angular\httpclient-project> ng test --include='src/app/service/http/open-rest-api/api.service.spec.ts'
√ Browser application bundle generation complete.
01 10 2024 19:40:02.938:WARN [karma]: No captured browser, open http://localhost:9876/
01 10 2024 19:40:03.079:INFO [karma-server]: Karma v6.4.4 server started at http://localhost:9876/
01 10 2024 19:40:03.080:INFO [launcher]: Launching browsers Chrome with concurrency unlimited
01 10 2024 19:40:03.098:INFO [launcher]: Starting browser Chrome
01 10 2024 19:40:05.029:INFO [Chrome 128.0.0.0 (Windows 10)]: Connected on socket zTli0AFfe3rNOyaeAAAB with id 8069553
01 10 2024 19:40:06.096:WARN [Chrome 128.0.0.0 (Windows 10)]: Disconnected (0 times) Client disconnected from CONNECTED state (transport close)
Chrome 128.0.0.0 (Windows 10) ERROR
  Disconnected Client disconnected from CONNECTED state (transport close)

Chrome 128.0.0.0 (Windows 10) ERROR
  Disconnected Client disconnected from CONNECTED state (transport close)
01 10 2024 19:40:06.794:INFO [Chrome 128.0.0.0 (Windows 10)]: Connected on socket -1kYsmjsyTm9aKgTAAAD with id 8069553
Chrome 128.0.0.0 (Windows 10): Executed 1 of 1 SUCCESS (0.107 secs / 0.004 secs)
TOTAL: 1 SUCCESS
```

Test d’un seul fichier

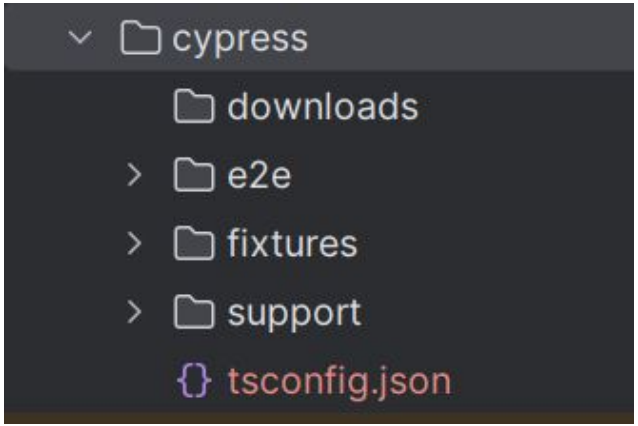


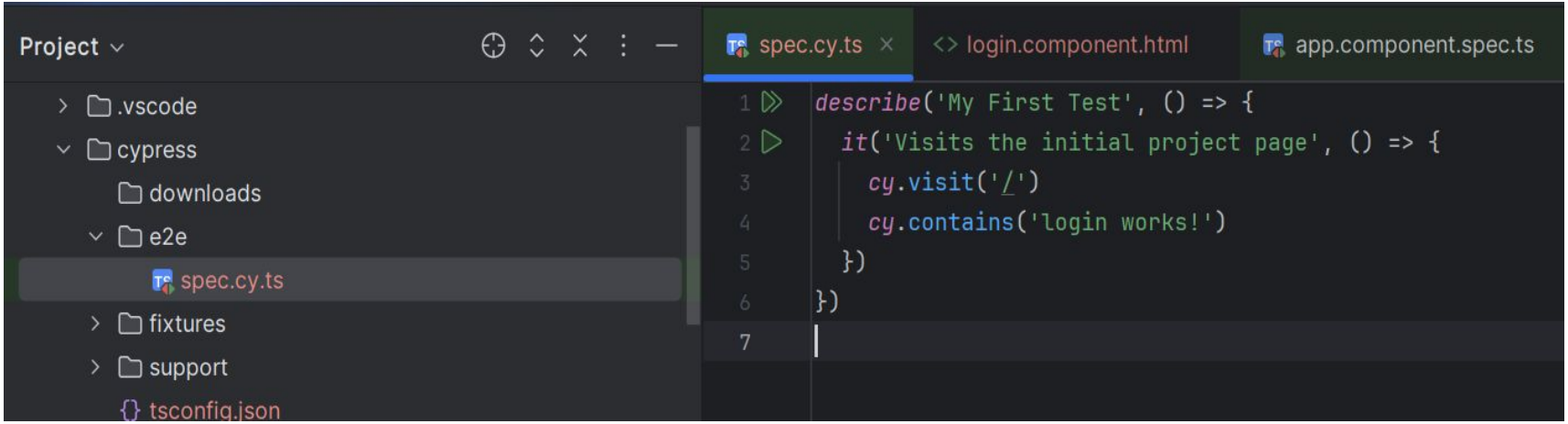
TESTS D’INTEGRATION

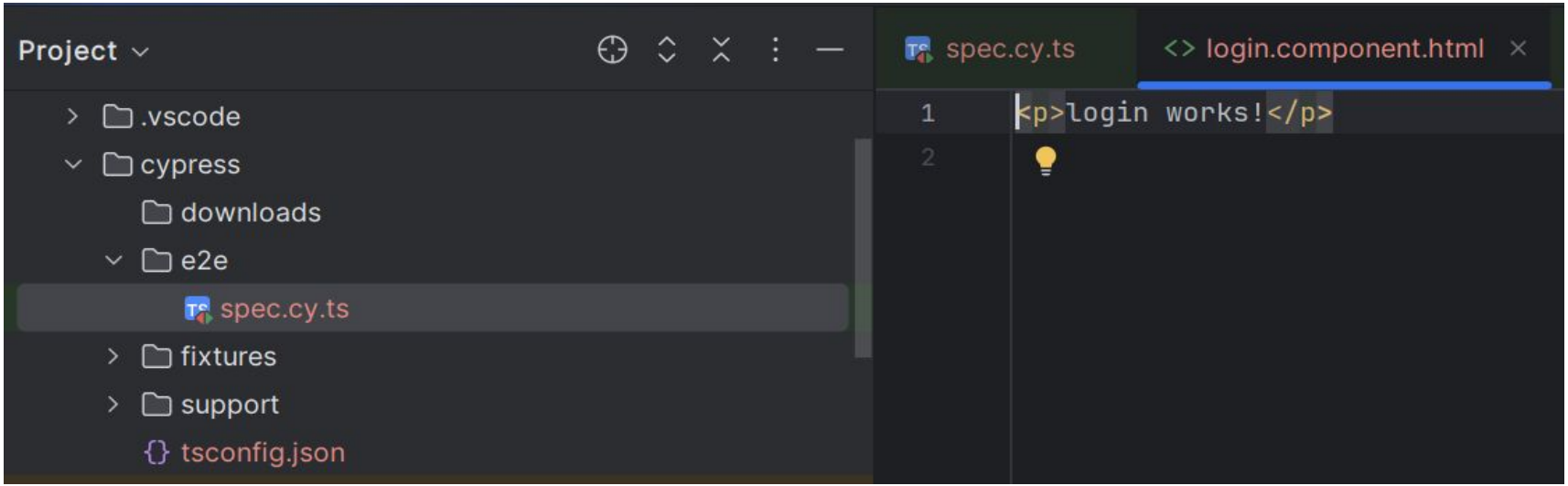
```
PS C:\Users\Ngor.SECK\SECK\AKKODIS\app-perso\IdeaProjects\angular\httpclient-project> ng e2e
Cannot find "e2e" target for the specified project.
You can add a package that implements these capabilities.

For example:
  Playwright: ng add playwright-ng-schematics
  Cypress: ng add @cypress/schematic
  Nightwatch: ng add @nightwatch/schematics
  WebdriverIO: ng add @wdio/schematics
  Puppeteer: ng add @puppeteer/ng-schematics

Would you like to add a package with "e2e" capabilities now?
  No
  Playwright
❯ Cypress
  Nightwatch
  WebdriverIO
  Puppeteer
```

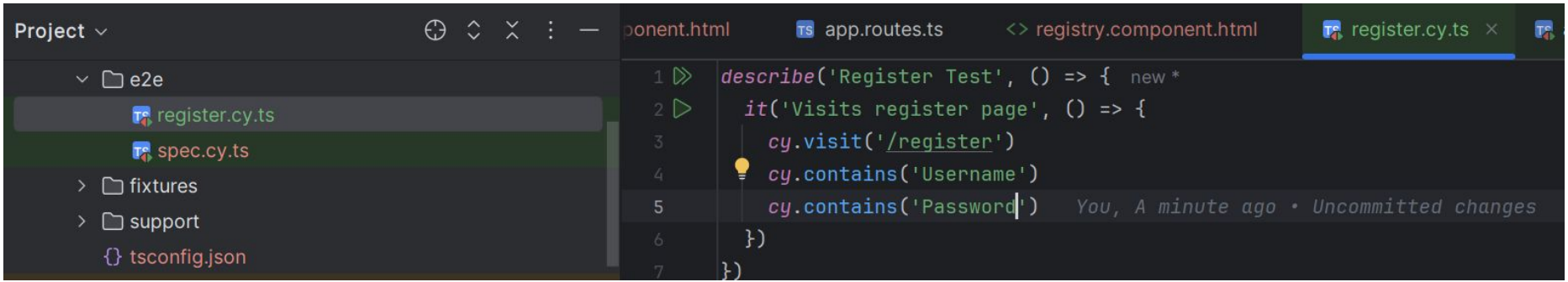
```
 Would you like to add a package with "e2e" capabilities now? Cypress
√ Determining Package Manager
  › Using package manager: npm
√ Searching for compatible package version
  › Found compatible package version: @cypress/schematic@2.5.2.
√ Loading package information from registry
- Confirming installation

The package @cypress/schematic@2.5.2 will be installed and executed.
Would you like to proceed? (Y/n)
```

```
 Would you like to add a package with "e2e" capabilities now? Cypress
√ Determining Package Manager
  › Using package manager: npm
√ Searching for compatible package version
  › Found compatible package version: @cypress/schematic@2.5.2.
√ Loading package information from registry
√ Confirming installation
√ Installing package
? Would you like the default `ng e2e` command to use Cypress? [ Protractor to Cypress Migration Guide:
https://on.cypress.io/protractor-to-cypress?cli=true ] (Y/n)
```

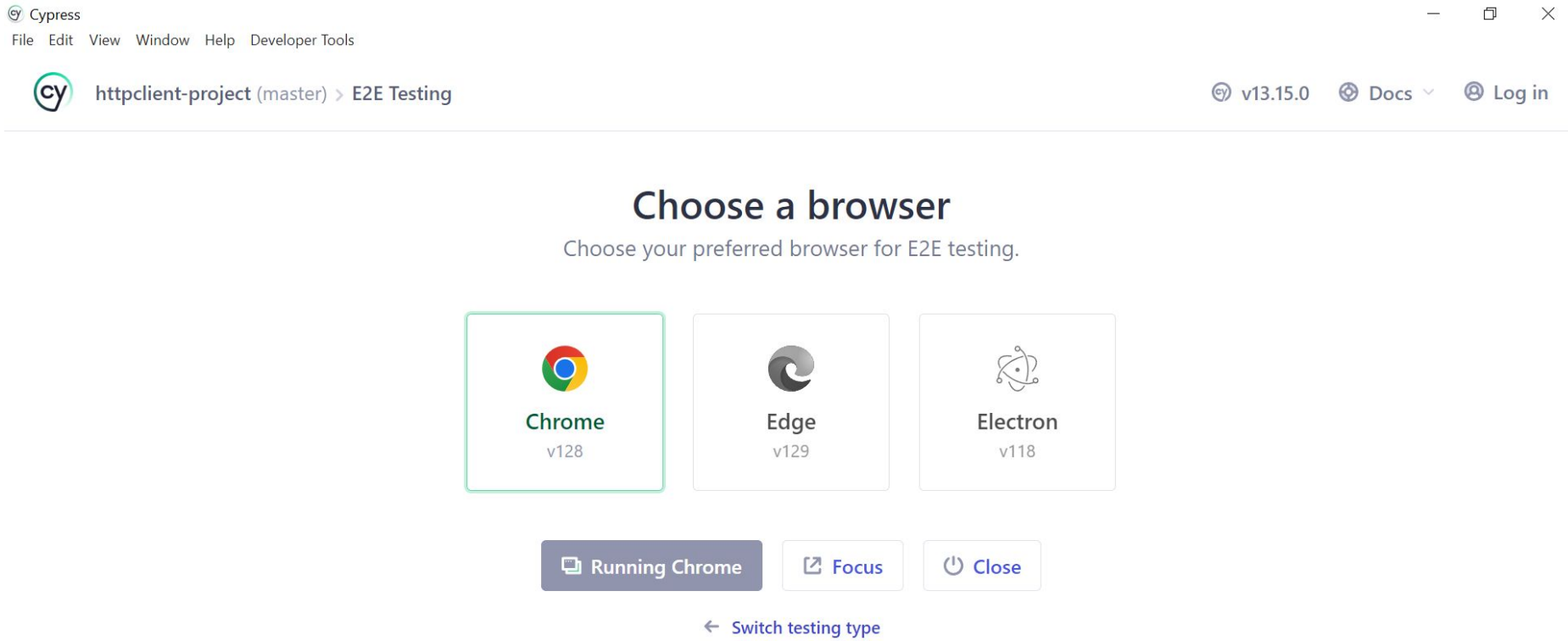


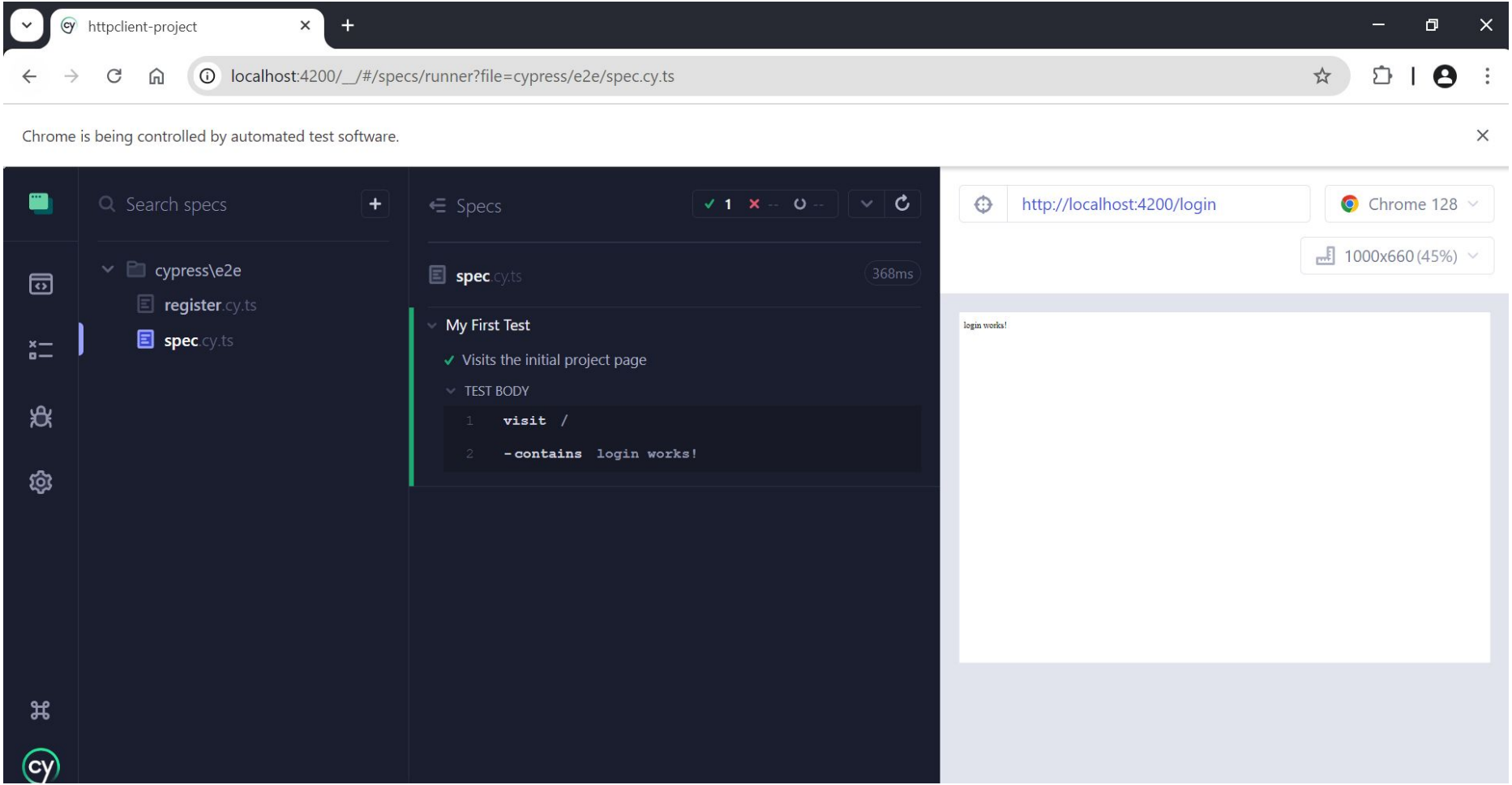

Project
.vscode
cypress
downloads
e2e
spec.cy.ts
fixtures
support
tsconfig.json
spec.cy.ts
login.component.html
app.component.spec.ts
describe('My First Test', () => {
it('Visits the initial project page', () => {
cy.visit('/')
cy.contains('login works!')
})
})

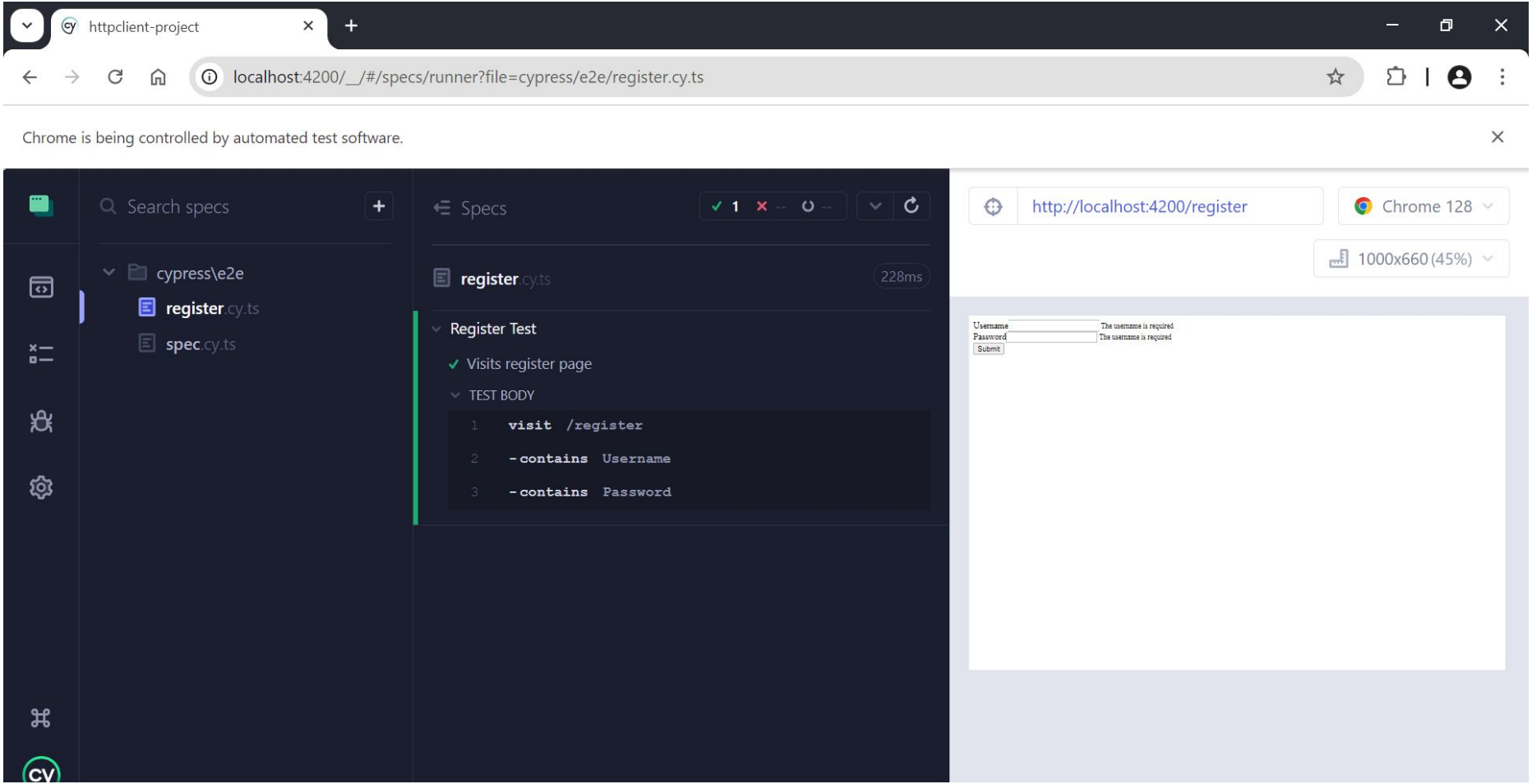

Project
.vscode
cypress
downloads
e2e
spec.cy.ts
fixtures
support
tsconfig.json
spec.cy.ts
login.component.html
login works!


Project
e2e
register.cy.ts
spec.cy.ts
fixtures
support
tsconfig.json
onent.html
app.routes.ts
registry.component.html
register.cy.ts
describe('Register Test', () => { new *
it('Visits register page', () => {
cy.visit('/register')
cy.contains('Username')
cy.contains('Password')
You, A minute ago • Uncommitted changes
})
})

```
PS C:\Users\Ngor.SECK\SECK\AKKODIS\app-perso\IdeaProjects\angular\httpclient-project> ng e2e
Passing watch mode to DevServer - watch mode is true
Browser bundles
Initial chunk files     | Names               |  Raw size
polyfills.js            | polyfills           |  90.23 kB |
main.js                 | main                |  14.71 kB |
styles.css              | styles              |  96 bytes |

                        | Initial total       | 105.03 kB
```


Cypress
File Edit View Window Help Developer Tools
httpclient-project (master) > E2E Testing
v13.15.0
Docs
Log in
Choose a browser
Choose your preferred browser for E2E testing.
Chrome
v128
Edge
v129
Electron
v118
Running Chrome
Focus
Close
Switch testing type


httpclient-project
localhost:4200/__/#/specs/runner?file=cypress/e2e/spec.cy.ts
Chrome is being controlled by automated test software.
Search specs
cypress\e2e
register.cy.ts
spec.cy.ts
Specs
1
spec.cy.ts
368ms
My First Test
Visits the initial project page
TEST BODY
1 visit /
2 -contains login works!
http://localhost:4200/login
Chrome 128
1000x660 (45%)
login works!


httpclient-project
localhost:4200/__/#/specs/runner?file=cypress/e2e/register.cy.ts
Chrome is being controlled by automated test software.
Search specs
cypress\e2e
register.cy.ts
spec.cy.ts
Specs
1
register.cy.ts
228ms
Register Test
Visits register page
TEST BODY
1 visit /register
2 -contains Username
3 -contains Password
http://localhost:4200/register
Chrome 128
1000x660 (45%)
Username
The username is required
Password
The username is required
Submit

Merci de votre attention