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Cognizant Romania
Summer Practice

About Cognizant Romania:

- **Cognizant Romania is home to 2500+ creative technologists** and is one of Eastern Europe's largest Software Product Engineering delivery networks.

- **We are a top employer in Romania** with collaboration hubs in Bucharest, Cluj-Napoca, Iasi, Timisoara, and Baia Mare, setting the strategic direction, solution, and support for our client businesses.

- **We serve global clients in several industries,** including Banking & Financial Services, Insurance, Healthcare & Life Sciences, Communication Media & Technology, and Retail & MLEU (manufacturing, logistics, energy & utilities).

- **Our strong delivery capability spans through a seamless fusion of technologies and business expertise,** across various practices, to bring added value (Digital Product Development, AI/ML, Modern Apps) and to scale (Support, Testing, Data).

Cognizant Romania has prepared for you a practice plan that will give you a comprehensive overview of developing modern applications using the latest technologies: **NET 8/Java, Web APIs in a Clean Architecture, ReactJs.**

OBJECTIVES:
- Introduction to the art of writing Clean Code
- Understanding SOLID design principles
- Understanding the concepts behind Clean Architecture
- Developing a Web API in ASP.NET Core/Java to serve as a backend for various clients
- Developing a Web application connected to backend services
- Understanding and writing Unit Tests

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You will learn:

Clean Code

Writing Clean Code is an art. Together we will step into the mysteries of it and understand what Code Smells are:

- Poor names
- Bad method signatures
- Long list of parameters
- Variable declaration at the top
- Magic numbers
- Nested conditionals
- Duplicate code
- Comments
- Long methods

Clean Architecture Concepts

Clean architecture has become a standard in terms of architecting an application so we will explore the underlying concepts and implement practically all four layers with the necessary abstraction and isolation between system components.

SOLID design principles

We will take a step forward and look at design principles, programming principles and dependency injection patterns:

- SOLID
- DRY
- KISS
- YAGNI
- DI

Developing a Web API in ASP.NET Core/Java

You will learn the fundamental concepts of Web API development:

- HTTP verbs
- RESTful API
- Domain and Transfer Entities
- Data persistence with Entity Framework
- API controllers
- API routes
- Testing API endpoints with Postman
- Publishing the API

Developing a Web application connected to backend services

We will develop a web application using one of the most popular JavaScript libraries, namely ReactJS. React is considered one of the most modern front-end libraries, developed by Facebook to provide scalability, ease of reuse and modern functionality.

The journey begins with exploring the basics of JavaScript and preparing the environment for development with React. We will see how to install and manage various libraries and packages that will help us develop the application. Basic principles of React will be introduced and then we'll start developing the first components for the web application

Next, we will add interactivity to the developed components and connect them to the Web API to bring data into the interface. We will learn how we can send data from the components to the server and how we can provide a more pleasant user experience in this interaction with the Web API. We will finish with the build and deploy part of a ReactJS application.

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You will learn:

Unit Testing

During application development we will discover what the conventions and best practices are and how we can simulate real production data through specific sets and behavior for each tested scenario.

Tech stack:
- .NET 8/Java
- ASP .NET Core Web API/Java Web API
- Entity Framework
- JavaScript
- ReactJS

How to apply:

Send us an email at alina.coroiu@cognizant.com with the subject: **"Summer Practice 2024 – Cluj-Napoca"**. Please also specify in your email the following information:

- Your name & surname
- The University/Faculty/Specialization
- Your CV (attached)

Deadline:

30th of June 2024

Contact:
Web: **https://www.cognizant.com/ro/en**

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