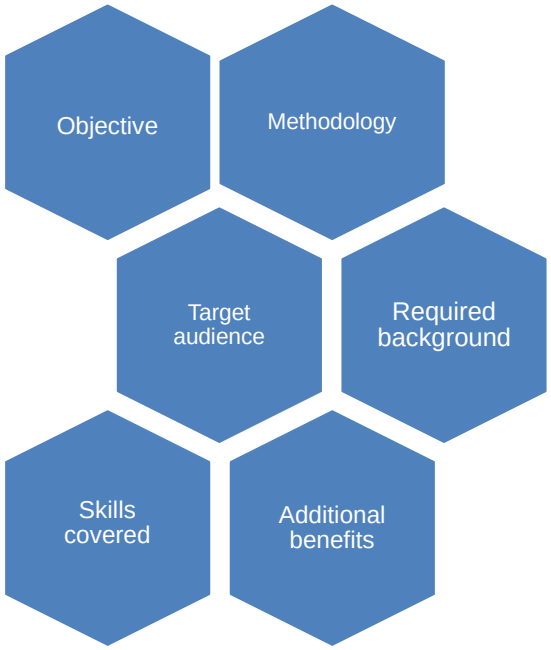
Course Overview

Objective, scope, and methodology

GeneXus™

The following is a quick introduction describing the objective of this course, including its target audience, the skills it will provide, syllabus, and work methodology.

Key aspects



The objective of this course is to learn how to develop a web Angular application with GeneXus.
The teaching methodology will include implementing a web application for the end customers of a travel agency as a guiding theme to learn the essential aspects of Angular development.
The course is intended for those who want to develop an application in Angular taking advantage of the benefits offered by this framework to create high performance web applications.
This course requires basic IT knowledge, general programming skills and an understanding of database management. Learners are expected to be knowledgeable in the topics covered in the GeneXus Core Course (https://training.genexus.com/en/learning/courses).
At the end of the course, the learner will be able to develop end-to-end Angular applications; that is, both the application front end and back end.
In addition, they will know what components and files GeneXus generates in order easily onboard other Angular developers into a team.

Development of an application for a Travel Agency

FRONT END

BACK END

Customer-facing (WEB)

Services & Database Management

Throughout the course, we will create the front end with which users will interact through a web browser and the back end, which will include the server programs and the creation and maintenance of database structures. As we will see, GeneXus allows generating all the parts of an application without worrying about having to complement any part of the project with external developments.

We will focus on implementing the customer-facing part of the application, which will allow end users to view the main tourist attractions offered by each city and related information. The back-office part used by the travel agency staff to enter the data of countries, cities, tourist attractions, and other information handled by the agency will already be developed and will not be part of this course.

Parts of the application and generators to use

FRONT END

BACK END

As we've said, GeneXus is multiplatform; that is, we will be able to generate our application in different programming languages or frameworks, for different platforms, and for different databases.

We will generate the services comprising the back end of the travel agency application in .NET language. Also, we will use a SQL Server database.

For the web front end, we will use the generator based on the Angular framework, so TypeScript and JavaScript code will be generated.

While we have mentioned these generators to get an idea of what GeneXus does automatically, learners don't need to know these languages to take the course.

As for the development platform, GeneXus offers a Full version and a Trial version. The trial version is completely free; it doesn't include all functions and restricts the number of GeneXus objects that can be used in a project. In order for everyone to be able to take this course, we'll always use the Trial version, except to explain some specific topics.

Prototyping the application

LOCAL

GENEXUS CLOUD

Prototyping can be local (with the server and database on the development machine) or in the cloud (the server and database will be in the GeneXus cloud). Cloud prototyping saves us from installing the web server and database software on our computer.

More specifically, with the trial version we can only prototype in the GeneXus cloud (GeneXus uses the Amazon cloud), but this will greatly simplify the installation of the required software. Also, it will provide access from any browser to the data entered in the application, as we will see.

Course syllabus

- Introduction: Architecture and first steps
- Behavior: Data loading logic and event scheme
- UX and UI: Application design and use of on-screen controls
- Integration: Use of APIs and other resources
- Deployment: How to deploy an Angular application in production
- Security: Integration of a security module in an Angular application.

Now, let's take a look at the general content of the course.

The first part will focus on understanding the architecture of an Angular application and the advantages of using this framework to obtain state-of-the-art web applications. In addition, we will see what requirements to consider for running an Angular application. Once the environment is ready, we will develop a panel showing tourist attractions and have our first Angular application running in a few minutes.

Then we will study the behavior of an Angular application in GeneXus, the logic of on-screen data loading and how to determine the base tables in a panel object, which is necessary to know how to retrieve information from the database. We will also see the event scheme in a panel and the grammar we will use to program the client-side application.

To achieve the best user experience and user interface, we will study the design aspects and use of various on-screen controls, as well as how to make searches, apply commands and transition effects. We will also see how to import a design system created by a designer into our application in GeneXus.

Then we will see how to integrate functionalities through various APIs and other available resources.

In addition, we will learn how to deploy an Angular application.

Finally, we will study how to obtain a secure web application generated in Angular by incorporating the GeneXus Access Manager, which adds authentication and authorization mechanisms.

At the end of this course, you will be able to develop Angular front-end applications with high interactivity and high performance, including login process, user permissions, backend services, and database access. You will also be able to use the same objects to build a native mobile application using GeneXus with almost no additional effort.

We hope you enjoy the course. For any additional information, please use the resources provided on the next screen.

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