

Excel 365 - Transition to Scripting for VBA Developers

Course code: GOC3102

This course is designed for developers, analysts, and advanced users who are proficient in VBA programming and need to transition to Office Scripts (TypeScript). In this course, you will learn how to migrate existing macros to the new ExcelScript API object model and leverage the capabilities of both web and desktop Excel. We will explain the differences in the architecture of both environments, the basics of TypeScript syntax, working with data types, fields, and error conditions. We will also show you how to optimize bulk data operations and use AI assistants to quickly rewrite and refactor older VBA code. This course assumes you have a working knowledge of VBA programming at the MSVBA1 or MSEX5 level.

What we will teach you

- Transfer concepts from VBA (Range, Sheet, Workbook) to the ExcelScript API object model
- Basics of TypeScript and its type system adapted for VBA developers
- Use AI (LLM) assistants for automatic rewriting and refactoring of old VBA code
- Efficient work with data matrices (Arrays) and bulk operations without slow cycles
- Manipulation of tables, pivot tables and charts via the ExcelScript interface
- Error management, code debugging and best practices
- Comparison of VBA vs. Office Scripts limits (security, asynchronous behavior, running in the cloud)

Required entry knowledge

- Microsoft Excel - programming in VBA.

Course outline

Office Scripts vs. VBA architecture

- Reasons to switch from VBA to Office Scripts (Cloud, web-based Excel, security)
- Differences in architecture: Client-side VBA vs. Cloud-first JavaScript/TypeScript execution
- Object model comparison: Excel Object Model (VBA) vs. ExcelScript API

TypeScript Basics for VBA Programmers

- Transition from VBA syntax to JavaScript/TypeScript (variable declaration, typing, functions)
- Working with arrays, objects and collections instead of VBA Collections and Dictionaries
- Benefits of type checking and intellisense when writing scripts

Code migration from VBA using AI (LLM)

- Strategy for rewriting large VBA projects into a modern form
- Advanced prompting of AI assistants for automatic conversion of VBA syntactic constructs
- Identification of incompatible VBA functions and their adequate replacement

Advanced work with ExcelScript API

- Bulk operations over ranges (getValues, setValues) and performance optimization
- Manipulation with Excel tables, filtering, pivot tables and charts
- Error handling (try-catch), data type validation and console logging

Solution integration and architecture

- Permission management, script sharing within the organization and code versioning

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