



PB INSTITUTE OF RESEARCH AND TECHNOLOGY

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Nairobi - Kenya

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Workplace Automation with Coding: From Fundamentals to Productivity

Duration: 10 days

On-Site

01 Who Should Attend

- Project and programme professionals
- Operations professionals
- Data and reporting staff
- Business analysts
- Finance and accounting professionals
- Human resources professionals
- IT support and junior technology professionals
- Professionals interested in workplace automation
- Beginners with little or no programming experience



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02 About the Course

Coding Fundamentals for Workplace Automation is a practical, beginner-friendly training course designed to introduce professionals to programming concepts and show how simple coding techniques can automate repetitive workplace tasks. The course focuses on practical applications such as data processing, file management, report generation, spreadsheet automation, document handling, and workflow improvement.

Participants will develop foundational coding skills while learning how to identify automation opportunities, write simple programs, work with data, troubleshoot common errors, and build small automation solutions that improve efficiency and reduce manual work.



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03 Workshop Objectives

- Understand the basics of coding and programming logic.
- Choose between Python and VBA for office automation based on their needs.
- Write simple Python scripts to automate tasks like file manipulation and data processing.
- Create VBA macros in Microsoft Office applications to automate repetitive actions.
- Automate tasks like data entry, report generation, and email management.
- Understand variables, loops, and conditional statements in coding.
- Read and write data from files (e.g., CSV, Excel) using code.
- Troubleshoot basic coding errors and debug scripts.
- Implement basic error handling in their automation scripts.
- Understand the importance of code documentation and maintainability.
- Enhance their ability to automate repetitive tasks and improve efficiency.
- Improve their data accuracy and consistency through automation.
- Contribute to improved productivity and streamlined workflows within their organization.
- Stay up-to-date with basic automation techniques and coding concepts.
- Become a more efficient and tech-savvy office professional.
- Understand ethical considerations in data automation and security.
- Learn how to use coding tools and resources effectively for office automation.

04 Module Topics

Module 1: Introduction to Coding and Automation

- Understanding the benefits of office automation.
- Introduction to programming logic and concepts.
- Choosing between Python and VBA for office tasks.
- Setting up the development environment (Python IDE or VBA editor).
- Understanding the basic structure of a script or macro.



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Module 2: Python Fundamentals for Office Automation

- Understanding variables, data types, and operators in Python.
- Using control flow statements (if-else, loops) for automation.
- Working with strings and lists for data manipulation.
- Reading and writing data from files (CSV, TXT).
- Introduction to Python libraries for office automation (e.g., openpyxl, pandas).

Module 3: VBA Fundamentals for Office Automation

- Understanding the VBA editor and its components.
- Recording and editing macros in Microsoft Office applications.
- Understanding variables, data types, and operators in VBA.
- Using control flow statements (if-then-else, loops) in VBA.
- Working with object models in Excel, Word, and Outlook.

Module 4: Automating Excel Tasks with Python or VBA

- Reading and writing data to Excel spreadsheets.
- Formatting and manipulating Excel data using code.
- Creating charts and graphs automatically.
- Automating data analysis and reporting.
- Using Python's openpyxl or VBA's Excel object model.

Module 5: Automating Word and Document Tasks with Python or VBA

- Creating and modifying Word documents programmatically.
- Automating mail merge and document generation.
- Extracting text and data from Word documents.
- Formatting and manipulating document content.
- Using Python's python-docx or VBA's Word object model.

Module 6: Automating Email and Outlook Tasks with Python or VBA



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- ▶ Sending and receiving emails automatically.
- ▶ Managing email attachments and folders.
- ▶ Automating calendar tasks and reminders.
- ▶ Extracting data from emails and attachments.
- ▶ Using Python's smtplib and imaplib or VBA's Outlook object model.

Module 7: File and Folder Automation with Python or VBA

- ▶ Automating file and folder management tasks.
- ▶ Renaming, moving, and copying files.
- ▶ Creating and deleting folders automatically.
- ▶ Searching for files and folders using code.
- ▶ Using Python's os and shutil modules or VBA's FileSystemObject.

Module 8: Error Handling and Debugging

- ▶ Understanding common coding errors and exceptions.
- ▶ Implementing error handling techniques (try-except blocks, error checks).
- ▶ Debugging scripts and macros using debugging tools.
- ▶ Writing robust and reliable automation scripts.
- ▶ Understanding and creating log files.

Module 9: Best Practices and Advanced Automation Techniques

- ▶ Writing clean, readable, and maintainable code.
- ▶ Implementing code documentation and version control.
- ▶ Exploring advanced automation techniques (e.g., scheduled tasks, web scraping).
- ▶ Integrating automation scripts with other applications.
- ▶ Continuous learning and development in office automation.