

How to Integrate ChatGPT with Excel Using VBA Code

Slug: how-to-integrate-chatgpt-with-excel-using-vba-code

Paste the Full VBA Macro

```
' =====
' OfficeSkillset — ChatGPT + Excel VBA Integration
' Compatible: Microsoft 365, Excel 2021, Excel 2019 (Windows)
' Mac users: see note in the Mac Compatibility section below
' =====

Option Explicit

' -----
' CONFIGURATION — Replace with your actual OpenAI API key
' -----

Private Const OPENAI_API_KEY As String = "YOUR_API_KEY_HERE"
Private Const OPENAI_MODEL As String = "gpt-4o-mini"
Private Const OPENAI_URL As String = "https://api.openai.com/v1/chat/completions"
Private Const MAX_TOKENS As Long = 500
Private Const TEMPERATURE As Double = 0.3

' -----
' UDF: Use in any Excel cell like =AskChatGPT("Your prompt here")
' -----

Public Function AskChatGPT(prompt As String) As String
On Error GoTo ErrHandler

Dim http As Object
Dim jsonBody As String
Dim response As String
Dim parsed As String

' Escape special characters in prompt for valid JSON
Dim safePrompt As String
safePrompt = Replace(prompt, "\", "\\")
safePrompt = Replace(safePrompt, """", "\"\"")
safePrompt = Replace(safePrompt, Chr(10), "\n")
safePrompt = Replace(safePrompt, Chr(13), "\r")

' Build JSON request body
jsonBody = "{" & "model": " & OPENAI_MODEL & ", " & _
"messages": [{"role": "user", "content": " & safePrompt & "}], " & _
"max_tokens": " & MAX_TOKENS & ", " & _
"temperature": " & TEMPERATURE & " & "}"
```

```
' Create HTTP object (Windows — MSXML2)
Set http = CreateObject("MSXML2.XMLHTTP")
http.Open "POST", OPENAI_URL, False
http.setRequestHeader "Content-Type", "application/json"
http.setRequestHeader "Authorization", "Bearer " & OPENAI_API_KEY
http.Send jsonBody
```

```
' Get raw response text
response = http.responseText
```

```
' Parse the "content" field from JSON response
parsed = ExtractJsonValue(response, ""content"":""", ""{}")
```

```
' Clean up escape sequences from the response
parsed = Replace(parsed, "\n", Chr(10))
parsed = Replace(parsed, "\r", "")
parsed = Replace(parsed, "\"", Chr(34))
```

```
AskChatGPT = parsed
Exit Function
```

```
ErrorHandler:
AskChatGPT = "ERROR: " & Err.Description
End Function
```

```
' -----
' BATCH SUB: Run ChatGPT on a column of prompts (Column A → Column B)
' Usage: Select any cell, then run this Sub from Macros menu
' -----
```

```
Public Sub BatchAskChatGPT()
Dim ws As Worksheet
Dim lastRow As Long
Dim i As Long
Dim promptText As String
Dim result As String

Set ws = ActiveSheet
lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
```

```
Application.ScreenUpdating = False
Application.Calculation = xlCalculationManual
```

```
For i = 2 To lastRow ' Assumes Row 1 = Headers
promptText = ws.Cells(i, 1).Value
If Len(Trim(promptText)) > 0 Then
result = AskChatGPT(promptText)
ws.Cells(i, 2).Value = result
End If
DoEvents ' Allow Excel to breathe during long loops
Next i
```

```
Application.ScreenUpdating = True
Application.Calculation = xlCalculationAutomatic
```

```
MsgBox "Batch complete! " & (lastRow - 1) & " rows processed.", vbInformation
End Sub
```

```
' -----
' HELPER: Minimal JSON string value extractor
' Extracts text between a known key marker and end quote
' -----
Private Function ExtractJsonValue(jsonStr As String, _
startMarker As String, _
endMarker As String) As String
Dim startPos As Long
Dim endPos As Long
Dim extracted As String

startPos = InStr(jsonStr, startMarker)
If startPos = 0 Then
ExtractJsonValue = "PARSE_ERROR: key not found"
Exit Function
End If

startPos = startPos + Len(startMarker)
endPos = InStr(startPos, jsonStr, endMarker)

If endPos = 0 Then
ExtractJsonValue = "PARSE_ERROR: end marker not found"
Exit Function
End If

extracted = Mid(jsonStr, startPos, endPos - startPos)
ExtractJsonValue = extracted
End Function
```

AI Prompt Section

These prompts are designed to be used directly inside the AskChatGPT() function. Copy, paste into a cell, and adjust the cell references to match your data.

Prompt 1 — Data Classification

=AskChatGPT("Classify this customer feedback as Positive, Negative, or Neutral. Only reply with one word. Feedback: "&A2)

Prompt 2 — Summary Generation

=AskChatGPT("Summarize the following in exactly 2 sentences: "&A2)

Prompt 3 — Email Draft from Data Row

=AskChatGPT("Write a professional follow-up email to "&A2&" about their order #"&B2&". Keep it under 80 words.")

Prompt 4 — Formula Explanation

=AskChatGPT("Explain this Excel formula to a non-technical person in 1 sentence: "&A2)

Prompt 5 — Product Description Generator

=AskChatGPT("Write a 30-word product description for an e-commerce listing. Product: "&A2&".
Key features: "&B2)

Prompt 6 — Language Translation

=AskChatGPT("Translate the following text to Spanish. Return only the translation: "&A2)

Prompt 7 — Data Cleaning Instruction

=AskChatGPT("Fix the spelling and grammar in this text. Return only the corrected version:
"&A2)

Prompt 8 — Tone Rewrite

=AskChatGPT("Rewrite the following in a friendly, casual tone suitable for social media: "&A2)