Wifi: Allheads IT
Heslo: allheads

Introduction

- ESET
    - Leading cybersecurity company
    - Ongoing effort to cloudify existing systems

- ESET Protect platform
    - .NET, Azure, Kubernetes

What is this workshop about?

Introduction to serverless cloud development in Azure. You will explore basic capabilities of modern managed Azure services by building simple data processing application. You will gain hands on experience with services such as: Azure functions, Azure Blob storage, Azure AI Services.

Prerequisites:

- Your own laptop

- Azure account (free trial or student)

- Latest version of Visual Studio Code - With Azure Functions extension

- Basic familiarity with a high-level OOP programming language (C# will be used in workshop)

- .NET SDK 8.0 installed

Workshop

We will need some
Azure services

- ✅ **Resource group**

- ✅ **Function App**

- ✅ **Storage account**

- ✅ **Computer vision**

What are we going to build?

✅ **Image analyser**

- Image object detection triggered by upload to file storage
- Processing will be done by Azure Functions and Azure Computer Vision
- Tagged images as output

Azure functions

- ✅ Serverless solution

- ✅ Focus on code

- ✅ Less infrastructure

- ✅ Triggered by various events
  - ▪ File upload
  - ▪ HTTP trigger
  - ▪ Database changes

Azure functions use cases

- ✅ Process file uploads

- ✅ Real time event processing

- ✅ Scheduled tasks

- ✅ Web API

- ✅ Respond to database changes

Resource group

Create a resource group ⋯

Basics   Tags   Review + create

Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. Learn more ⧉

Project details

Subscription * ⓘ
[ERATEST   ⌄]

  └── Resource group * ⓘ
[AllHeadsWorkshop   ✓]

Resource details

Region * ⓘ
[(Europe) West Europe   ⌄]

Function app

Create Function App ⋯

of resources. Functions lets you execute your code in a serverless environment without having to first create a VM or publish a web application.

Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

| ERATEST | ⌄ |

Resource Group * ⓘ

| AllHeadsWorkshop | ⌄ |

Create new

Instance Details

Function App name *

| AllHeadsImageProcessor | ✓ |

.azurewebsites.net

Do you want to deploy code or container image? *

● Code ○ Container Image

Runtime stack *

| .NET | ⌄ |

Version *

| 8 (LTS), isolated worker model | ⌄ |

Region *

| West Europe | ⌄ |

Operating system

The Operating System has been recommended for you based on your selection of runtime stack.

Operating System *

○ Linux ● Windows

Hosting

The plan you choose dictates how your app scales, what features are enabled, and how it is priced. Learn more ⧉

Hosting options and plans * ⓘ

● **Consumption (Serverless)**
Optimized for serverless and event-driven workloads.

○ **Functions Premium**
Event based scaling and network isolation, ideal for workloads running continuously.

○ **App service plan**
Fully isolated and dedicated environment suitable for workloads that need large SKUs or need to co-locate Web Apps and Functions.

Storage account

Create a storage account ···

Basics   Advanced   Networking   Data protection   Encryption   Tags   Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. Learn more about Azure storage accounts

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *

| Azure subscription 1 | ⌄ |

    Resource group *

| AllHeads | ⌄ |

Create new

Instance details

Storage account name * ⓘ

| allheadsimagestorage |

Region * ⓘ

| (Europe) West Europe | ⌄ |

Deploy to an edge zone

Performance * ⓘ

🔘 **Standard:** Recommended for most scenarios (general-purpose v2 account)

⚪ **Premium:** Recommended for scenarios that require low latency.

Redundancy * ⓘ

| Locally-redundant storage (LRS) | ⌄ |

Computer vision

Create Computer Vision ...

Basics   Network   Identity   Tags   Review + create

Boost content discoverability, accelerate text extraction, and create products that more people can use by embedding vision capabilities in your apps. Use visual data processing to label content (from objects to concepts), extract printed and handwritten text, recognize familiar subjects like brands and landmarks, and moderate content. No machine learning expertise is required.

Learn more

Project Details

Subscription * ⓘ | ERATEST   ▾ |

   Resource group * ⓘ | AllHeadsWorkshop   ▾ |

   Create new

Instance Details

Region ⓘ | West Europe   ▾ |

Name * ⓘ | AllHeadsComputerVision   ✓ |

ⓘ The free tier (F0) for this resource type is already being used by your subscription, therefore it will not appear in the dropdown below. ⧉

Pricing tier * ⓘ | Standard S1 (10 Calls per second)   ▾ |

View full pricing details

Responsible AI Notice

Microsoft provides technical documentation regarding the appropriate operation applicable to this Azure AI service that is made available by Microsoft. Customer acknowledges and agrees that they have reviewed this documentation and will use this service in accordance with it. This Azure AI services is intended to process Customer Data that includes Biometric Data (as may be further described in product documentation) that Customer may incorporate into its own systems used for personal identification or other purposes. Customer acknowledges and agrees that it is responsible for complying with the Biometric Data obligations contained in the Online Services DPA.
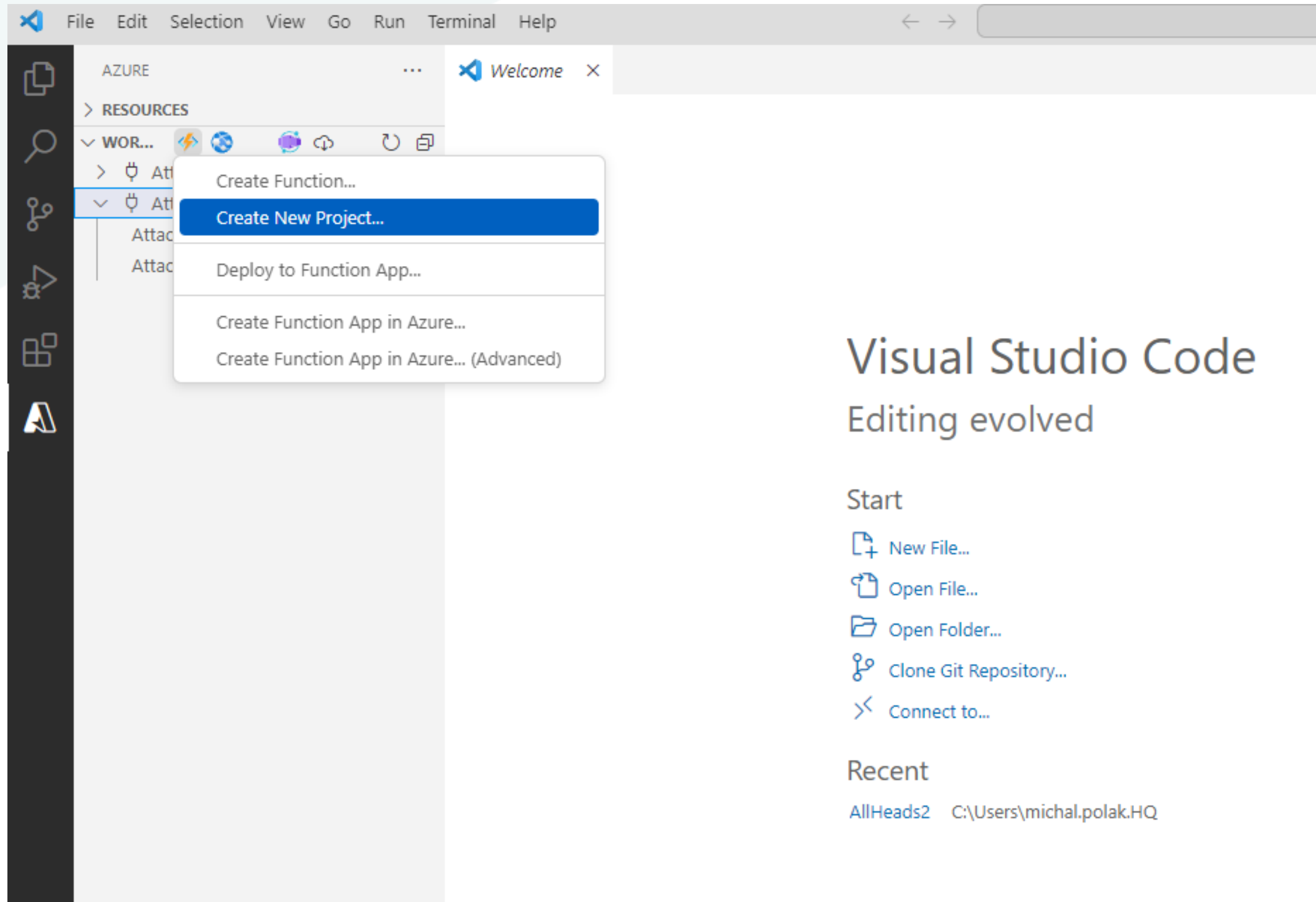
Online Services DPA

Responsible Use of AI documentation for Spatial Analysis

By checking this box I certify that I have   ☑
reviewed and acknowledge the all the
terms above. *

Azure function

Azure function

Source code

✓ https://github.com/FabHub/AllHeads/tree/master/ImageAnalyser

What is Next?

- ✅ Generate ID for your image and store it in Blob Storage

- ✅ Create a free Cosmos account in your resource group

- ✅ Store the generated ID with image annotations in Cosmos

- ✅ You have a free cloud backed-up image browser for all your photos

Questions?

ESET® Digital Security
Progress. Protected.

Thank you.