digatus Guest Lecture

Serverless in Azure

Augsburg, May

digatus

Schedule

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08:00 - 08:30	## Introduction Who is digatus Goals of the exercise Azure in a nutshell
08:30 - 09:30	## Hands-On I Technical setup Resource creation

-- Pause --

09:50 - 11:00	## Hands-On II Intro of the programming part Coding the website and API
Rest	## Interview & Questions
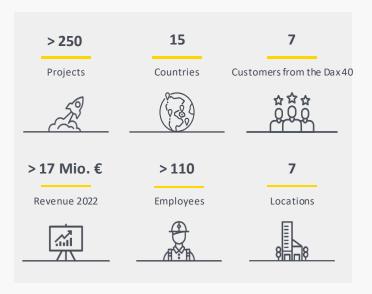
digatus IT group

digatus

Facts

> 250	**15**	**7**
Projects	Countries	Customers from the Dax 40
> 17 Mio. €	**> 110**	**7**
Revenue 2022	Employees	Locations

Standorte

Kapstadt

Köln

Nürnberg

Frankfurt

Rzeszów

Augsburg

München

Organisation

digatus IT group AG		
Stephan Bals CEO	**Felix Kirschner** CFO	**Carl-Friedrich Heintz** CGO
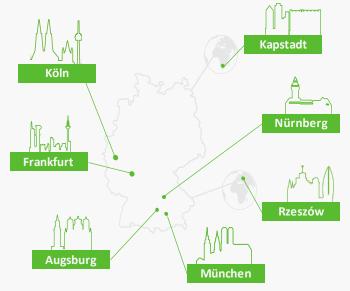
digatus technology GmbH	digatus it consulting GmbH	MAxpertise GmbH
Daniel Bäumler	Patrick Streit	Johannes Ranftl

Portfolio

IT Mergers & Acquisitions (M&A)	Project Excellence	Cloud Strategy & Operations	IT Services & Operations	Software Development
▪ Due diligence ▪ Contract & License management ▪ Carve-Out & Integration	▪ Program & Project lead ▪ Project management office (PMO) ▪ Transition & Change management ▪ Digitalization & Process optimization	▪ Public & Private Cloud ▪ Workplace-as-a-Service ▪ SAP	▪ Service Desk ▪ Network & Security ▪ VIP & Onsite support	▪ (Process-) Digitalization ▪ Agile software developement ▪ Application management ▪ NVIDIA preferred partner

Branchen, die uns bewegen

Private Equity

Lösungen für **Buy out, Restrukturierung** und **Venture Invest**

Corporate IT

Bewältigung von **globalen IT-Herausforderungen** im internationalen Wettbewerb

Mittelstand

Umfassende Expertise in **Digitalisierungs- & Zukunftsprojekten** zur Innovationssteigerung

Öffentlicher Sektor

Konzeption und Umsetzung von **Digitalisierungs- und IT-Projekten** in städtischen Organisationen

Kirche & Sozialwirtschaft

Technologische Antworten auf Fragen des **demographischen Wandels**

Gesundheitswesen

Weiterentwicklung der **Pflege- und Gesundheits-infrastruktur** durch **Patientenzentrierung**

Prerequisites
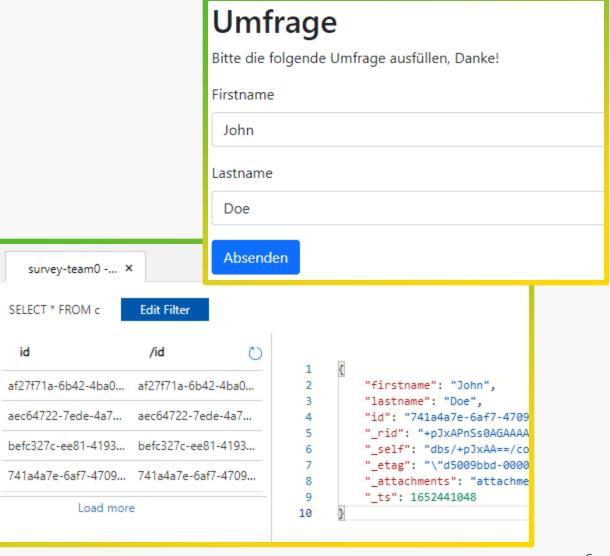
- [Node.js 18.x](#)

- [Visual Studio Code](#)

- [VS Code Azure Functions Extension](#)

- [Azure Functions Core Tools](#)

- [Code](#)

Exercise Goal

digatus
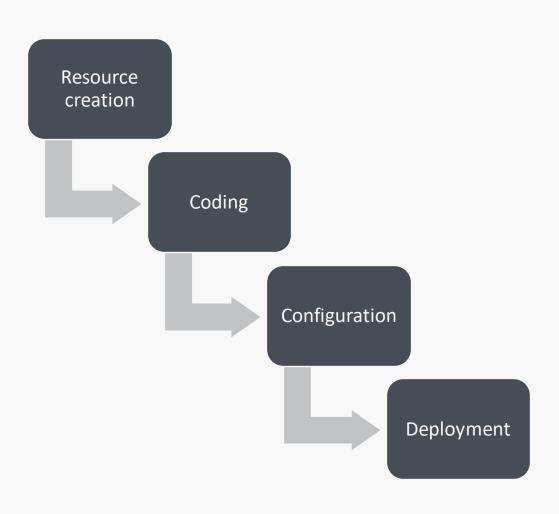
- **Context** Surveys

- **Goal** Conduct surveys and store answers in a database

- **Objectives** Use Public Cloud (Microsoft Azure)
  Support text fields
  Write results to database

- **Optional** Add support for further datatypes
  Add validation

A 4-step process

Resource creation

Coding

Configuration

Deployment

hochschule@digatus.com

Gastvortrag29.05.2024!

APPENDIX

Everything we have done.
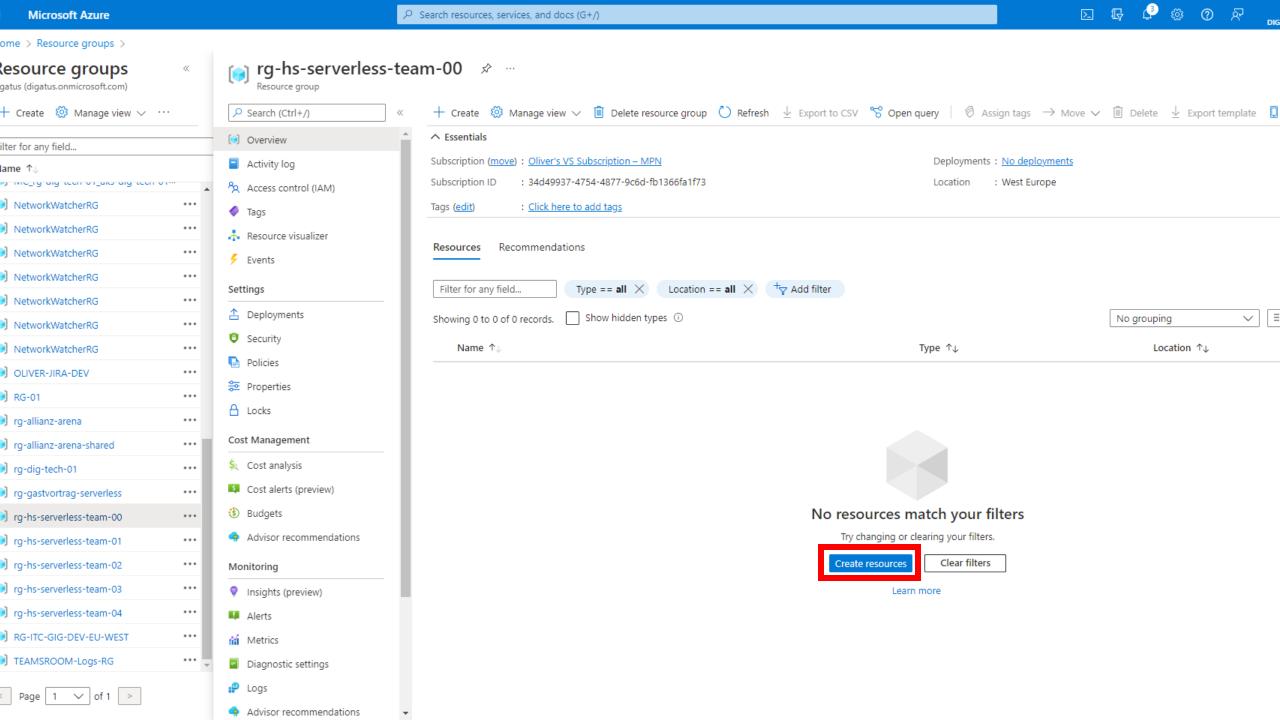
Search resources, services, and docs (G+/)

ome > Resource groups >

Resource groups

gatus (digatus.onmicrosoft.com)

+ Create   Manage view ∨   ⋯

 filter for any field...

Name ↑↓

MC_rg-dig-tech-01_aks-dig-tech-01...

NetworkWatcherRG   ⋯

NetworkWatcherRG   ⋯

NetworkWatcherRG   ⋯

NetworkWatcherRG   ⋯

NetworkWatcherRG   ⋯

NetworkWatcherRG   ⋯

NetworkWatcherRG   ⋯

OLIVER-JIRA-DEV   ⋯

RG-01   ⋯

rg-allianz-arena   ⋯

rg-allianz-arena-shared   ⋯

rg-dig-tech-01   ⋯

rg-gastvortrag-serverless   ⋯

rg-hs-serverless-team-00   ⋯

rg-hs-serverless-team-01   ⋯

rg-hs-serverless-team-02   ⋯

rg-hs-serverless-team-03   ⋯

rg-hs-serverless-team-04   ⋯

RG-ITC-GIG-DEV-EU-WEST   ⋯

TEAMSROOM-Logs-RG   ⋯

Page 1 ∨ of 1 >

rg-hs-serverless-team-00
Resource group

Search (Ctrl+/) «

| 🔷 Overview

| 📋 Activity log

| 🔑 Access control (IAM)

| 🏷 Tags

| 📊 Resource visualizer

| ⚡ Events

Settings

| ☁ Deployments

| 🛡 Security

| 📄 Policies

| ⚙ Properties

| 🔒 Locks

Cost Management

| 💲 Cost analysis

| 💲 Cost alerts (preview)

| 💲 Budgets

| 💲 Advisor recommendations

Monitoring

| 💡 Insights (preview)

| 🔔 Alerts

| 📊 Metrics

| 📊 Diagnostic settings

| 📋 Logs

| 📊 Advisor recommendations

+ Create   ⚙ Manage view ∨   🗑 Delete resource group   ↻ Refresh   ↓ Export to CSV   ◌ Open query   🏷 Assign tags   → Move ∨   🗑 Delete   ↥ Export template

∧ Essentials

Subscription (move) : Oliver's VS Subscription – MPN

Subscription ID : 34d49937-4754-4877-9c6d-fb1366fa1f73

Tags (edit) : Click here to add tags

Deployments : No deployments

Location : West Europe

Resources   **Recommendations**

Filter for any field...   Type == **all** ✕   Location == **all** ✕   ⊞ Add filter

Showing 0 to 0 of 0 records.   ☐ Show hidden types ⓘ

No grouping ∨

Name ↑↓   Type ↑↓   Location ↑↓

No resources match your filters
Try changing or clearing your filters.
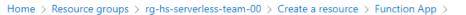
Create resources   Clear filters
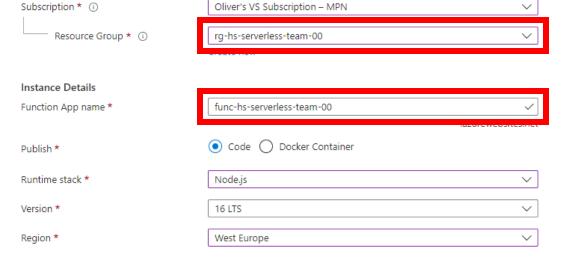
Learn more

Create Function App ...

Basics Hosting Networking Monitoring Tags Review + create

Create a function app, which lets you group functions as a logical unit for easier management, deployment and sharing of resources. Functions lets you execute your code in a serverless environment without having to first create a VM or publish a web application.
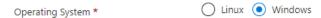
Project Details

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

Subscription * ⓘ | Oliver's VS Subscription – MPN ▾ |

    Resource Group * ⓘ | rg-hs-serverless-team-00 ▾ |

Instance Details

Function App name * | func-hs-serverless-team-00 ✓ |
                                  .azurewebsites.net

Publish *   ● Code   ○ Docker Container

Runtime stack * | Node.js ▾ |

Version * | 16 LTS ▾ |

Region * | West Europe ▾ |

Operating system

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

Operating System *   ○ Linux   ● Windows

Plan

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

Plan type * ⓘ | Consumption (Serverless) ▾ |

| **Review + create** | | < Previous | | Next : Hosting > |

Create Function App ...

Basics   Hosting   Networking   Monitoring   Tags   **Review + create**

Summary

⚡ **Function App**
   by Microsoft

Details

Subscription	34d49937-4754-4877-9c6d-fb1366fa1f73
Resource Group	rg-hs-serverless-team-00
Name	func-hs-serverless-team-00
Runtime stack	Node.js 16 LTS

Hosting

Storage (New)

Storage account	rghsserverlessteam0b1be

Plan (New)

Plan type	Consumption (Serverless)
Name	ASP-rghsserverlessteam00-976e
Operating System	Windows
Region	West Europe
SKU	Dynamic

Monitoring (New)

Application Insights	Enabled
Name	func-hs-serverless-team-00
Region	West Europe

Create   < Previous   Next >   Download a template for automation

Create a storage account ...

Basics   Advanced   Networking   Data protection   Encryption   Tags   Review + create

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 *   [Oliver's VS Subscription – MPN   ⌄]

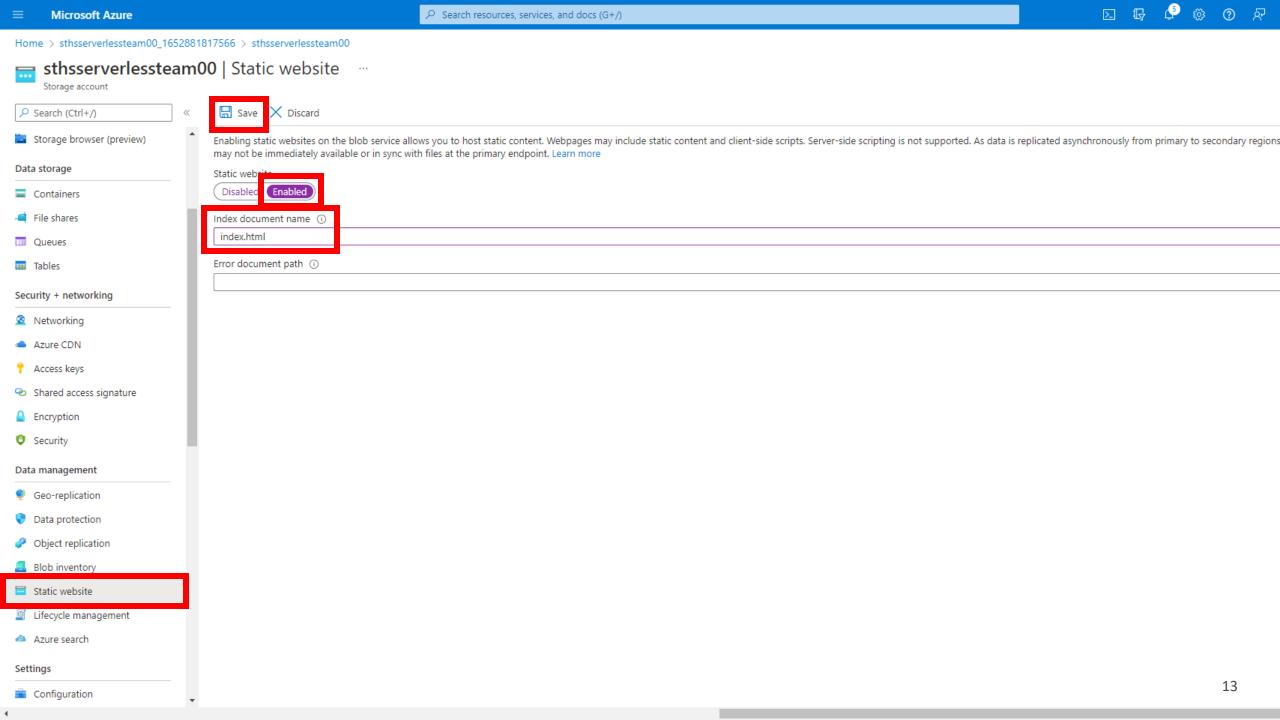   Resource group *   [rg-hs-serverless-team-00   ⌄]
                                  Create new

Instance details

If you need to create a legacy storage account type, please click here.
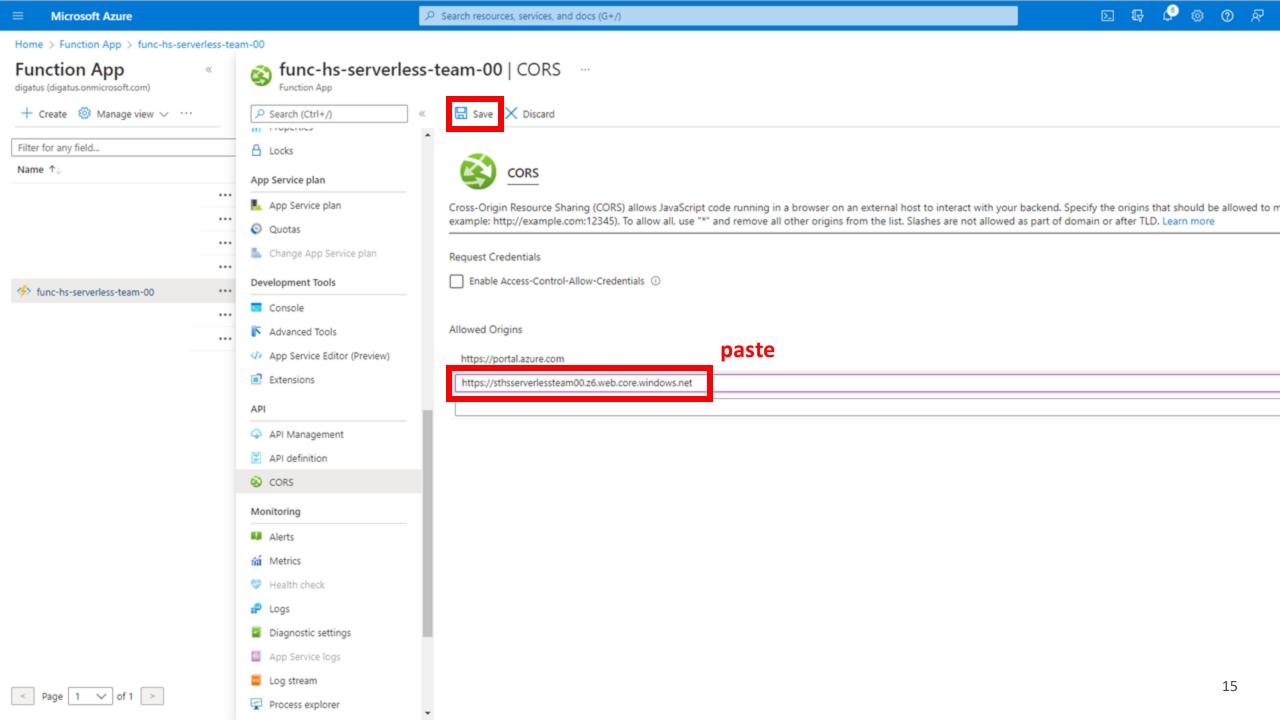
Storage account name ⓘ *   [sthsserverlessteam00   ]

Region ⓘ *   [(Europe) West Europe   ⌄]

Performance ⓘ *   (●) Standard: Recommended for most scenarios (general-purpose v2 account)
                                  (○) Premium: Recommended for scenarios that require low latency.

Redundancy ⓘ *   [Locally-redundant storage (LRS)   ⌄]

[Review + create]   [< Previous]   [Next : Advanced >]

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sthsserverlessteam00 | Static website ...
Storage account

Save ✕ **Discard**

Enabling static websites on the blob service allows you to host static content. Webpages may include static content and client-side scripts. Server-side scripting is not supported. As data is replicated asynchronously from primary to secondary regions, may not be immediately available or in sync with files at the primary endpoint. Learn more

Static website

Disabled **Enabled**

An Azure Storage container has been created to host your static website.
$web

copy

Primary endpoint ⓘ

https://sthsserverlessteam00.z6.web.core.windows.net/

Index document name ⓘ

index.html

Error document path ⓘ

14

Search resources, services, and docs (G+/)

Storage accounts
digatus (digatus.onmicrosoft.com)

+ Create   ⚙ Manage view ∨   ···

Filter for any field...

Name ↑↓	
	···
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sthsserverlessteam00	···
	···
	···
	···

< Page [1] ∨ of 1 >

sthsserverlessteam00 | Containers
Storage account

🔍 Search (Ctrl+/)   «

📦 Storage browser (preview)

Data storage

☰ Containers

📄 File shares

▦ Queues

▦ Tables

Security + networking

🔌 Networking

☁ Azure CDN

🔑 Access keys

🔗 Shared access signature

🔒 Encryption

🛡 Security

Data management

🌐 Geo-replication

🛡 Data protection

🔄 Object replication

▦ Blob inventory

▦ Static website

⏱ Lifecycle management

🔍 Azure search

Settings

▦ Configuration

+ Container   🔒 Change access level   ↺ Restore containers ∨   ↻ Refresh | 🗑 Delete

Search containers by prefix

○ Show deleted container

Name	Last modified	Public access level	Lease state
☐ $logs	5/18/2022, 3:50:44 PM	Private	Available
☐ $web	5/18/2022, 3:56:33 PM	Private	Available

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Search resources, services, and docs (G+/)

🔑 cosmos-gastvortrag-serverless-shared | Keys ⋯
Azure Cosmos DB account

Search (Ctrl+/)

- 🔵 Overview
- 📋 Activity log
- 👥 Access control (IAM)
- 🏷️ Tags
- 🔧 Diagnose and solve problems
- ⭕ Cost Management
- ⚡ Quick start
- 🖼️ Notifications
- 🗄️ Data Explorer

Settings

- 🔴 Features
- 🌐 Replicate data globally
- ☰ Default consistency
- 🗄️ Backup & Restore
- 🔗 Firewall and virtual networks
- ⟨·⟩ Private Endpoint Connections
- ⊗ CORS
- 🔑 Keys
- Advisor Recommendations
- 🛡️ Microsoft Defender for Cloud
- 🔑 Identity
- 🔒 Locks

Integrations

Read-write Keys Read-only Keys

URI

https://cosmos-gastvortrag-serverless-shared.documents.azure.com:443/

PRIMARY KEY

SECONDARY KEY

copy

PRIMARY CONNECTION STRING

AccountEndpoint=https://cosmos-gastvortrag-serverless-shared.documents.azure.com:443/;AccountKey=

SECONDARY CONNECTION STRING

AccountEndpoint=https://cosmos-gastvortrag-serverless-shared.documents.azure.com:443/;AccountKey=

Topics

IT Security?

CoPilot in Azure?

Public / Private Cloud?

Privacy?

Pricing, is Serverless too expensive?

Just a Hype?

Best Practices?

Use Cases?

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