

Passing the AZ-204 Azure Developer Certification the hard way



© Tore Nestenius Datakonsult AB. All Rights Reserved.



1

About the Presenter

- Tore Nestenius
- Programming for over 40 years
- **1996, www.programmersheaven.com**
A popular website for programmers with over 750,000 monthly visitors.
- 2010, Cofounded **Edument AB**
Training and consulting company.

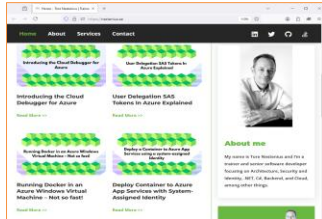


<https://www.tn-data.se>

2

Sharing Knowledge

Blog:



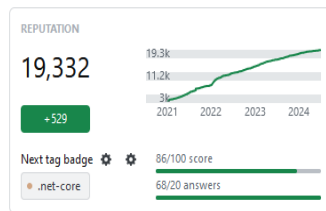
<https://nestenius.se/>

Meetup



<https://meetup.com/net-skane>

Stack Overflow



Speaking

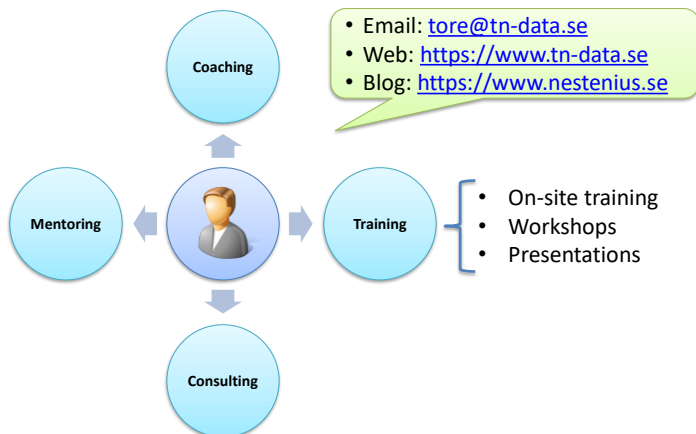


<https://www.tn-data.se>

3

My current occupation

Today, I am self-employed at T.N. Datakonsult AB



What topics do I focus on?

<https://www.tn-data.se>

4

My Courses

Fundamentals

- Containers and **Kubernetes**
- Introduction to **Git** and **GitHub**

Architecture

- Modern Application **Architecture**
- Service Communication - **REST** vs. **GraphQL** vs. **gRPC**

OpenID Connect and OAuth

- Introduction to **OIDC** and **OAuth**
- Securing ASP.NET Using **OIDC** and **IdentityServer**
- **IdentityServer** in Production

Web

- **Web Security** Fundamentals

.NET

- Applied **Domain-Driven Design** in .NET
- **CQRS** and **Event Sourcing** in .NET
- Building **ASP.NET Core** APIs
- **Asynchronous** Programming in C#
- C# Expert
- C# Fundamentals
- TDD.NET

For course details, see
<https://www.tn-data.se>

5

Passing the AZ-204 Azure Developer Certification
the hard way

<https://www.tn-data.se>

6

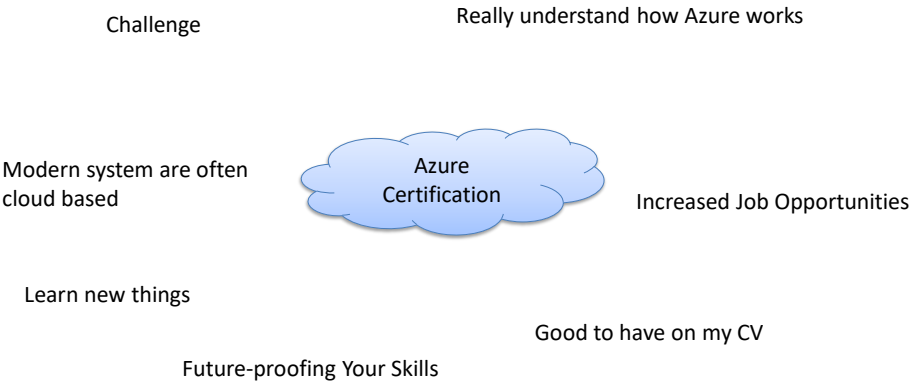


Why did I want to get an Azure Certification?

<https://www.tn-data.se>

8

Why did I want to get an Azure certification?



What certifications are there?

<https://www.tn-data.se>

9

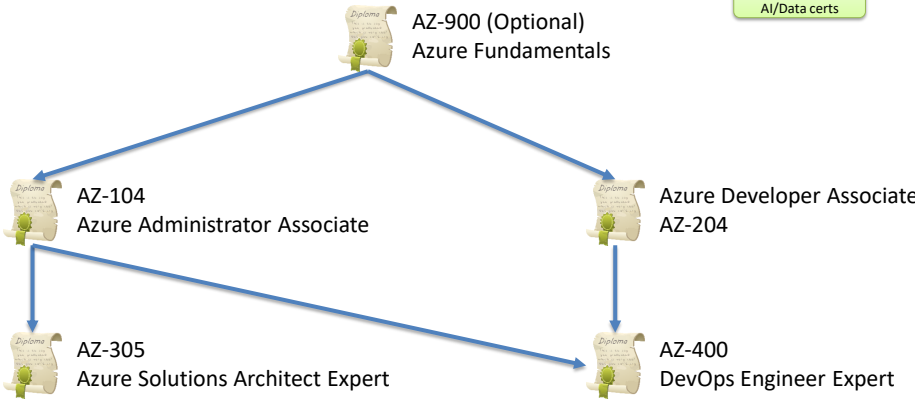
What certifications are there?

	Infrastructure	Data and AI	Digital app and innovation	Modern work	Business applications	Security
Fundamentals Master the basics	<div>Azure Fundamentals</div> <div>AZ-900</div>	<div>Azure AI Fundamentals</div> <div>AI-900</div> <div>Azure Data Fundamentals</div> <div>DP-900</div>		<div>Microsoft 365 Fundamentals</div> <div>MS-900</div>	<div>Dynamics 365 Fundamentals (CRM)</div> <div>MB-900</div> <div>Dynamics 365 Fundamentals (ERP)</div> <div>MB-901</div> <div>Power Platform Fundamentals</div> <div>PL-900</div>	<div>Security, Compliance, and Identity Fundamentals</div> <div>SC-900</div>
Role-based Expand your technical skill set	<div>Azure Administrator Associate</div> <div>AZ-804</div> <div>Azure Solutions Architect Expert</div> <div>AZ-805</div> <div>Azure Network Engineer Associate</div> <div>AZ-806</div> <div>Windows Server Hybrid Administrator Associate</div> <div>AZ-808</div> <div>AZ-809</div> <div>AZ-810</div> <div>AZ-811</div>	<div>Azure AI Engineer Associate</div> <div>AI-901</div> <div>Azure Data Scientist Associate</div> <div>DP-901</div> <div>Azure Data Engineer Associate</div> <div>DP-902</div> <div>Azure Database Administrator Associate</div> <div>DP-903</div> <div>Public Analytics Engineer Associate</div> <div>DA-100</div> <div>Azure Data Engineer Associate</div> <div>DP-904</div>	<div>Azure Developer Associate</div> <div>AZ-204</div> <div>DevOps Engineer Expert</div> <div>AZ-400</div>	<div>Endpoint Administrator Associate</div> <div>MD-101</div> <div>Administrator Expert</div> <div>MD-102</div> <div>Collaboration Communications Systems Engineer Associate</div> <div>MD-103</div> <div>Teams Administrator Associate</div> <div>MD-104</div>	<div>Dynamics 365 Sales Functional Consultant Associate</div> <div>MB-901</div> <div>Dynamics 365 Finance Functional Consultant Associate</div> <div>MB-902</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate</div> <div>MB-903</div> <div>Dynamics 365 Human Resources Functional Consultant Associate</div> <div>MB-904</div> <div>Dynamics 365 Project Service Automation Functional Consultant Associate</div> <div>MB-905</div> <div>Dynamics 365 Customer Engagement Functional Consultant Associate</div> <div>MB-906</div> <div>Dynamics 365 Marketing Functional Consultant Associate</div> <div>MB-907</div> <div>Dynamics 365 Commerce Functional Consultant Associate</div> <div>MB-908</div> <div>Dynamics 365 Field Service Functional Consultant Associate</div> <div>MB-909</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate</div> <div>MB-910</div> <div>Dynamics 365 Finance and Operations Functional Consultant Associate</div> <div>MB-911</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate</div> <div>MB-912</div> <div>Dynamics 365 Finance and Operations Functional Consultant Associate</div> <div>MB-913</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate</div> <div>MB-914</div> <div>Dynamics 365 Finance and Operations Functional Consultant Associate</div> <div>MB-915</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate</div> <div>MB-916</div> <div>Dynamics 365 Finance and Operations Functional Consultant Associate</div> <div>MB-917</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate</div> <div>MB-918</div> <div>Dynamics 365 Finance and Operations Functional Consultant Associate</div> <div>MB-919</div> <div>Dynamics 365 Supply Chain Management Functional Consultant Associate</div> <div>MB-920</div>	<div>Azure Security Engineer Associate</div> <div>AZ-504</div> <div>Cybersecurity Architect Expert</div> <div>SC-901</div> <div>Security Operations Analyst Associate</div> <div>SC-902</div> <div>Identity and Access Administration Associate</div> <div>SC-903</div> <div>Information Protection and Compliance Administration Associate</div> <div>SC-904</div>
Specialty Deepen your technical skills and manage specialty systems	<div>Azure for SAP Workloads Specialty</div> <div>AZ-505</div> <div>Azure Virtual Desktop Specialty</div> <div>AZ-506</div>	<div>Azure Cosmos DB Developer Specialty</div> <div>DP-904</div>			<div>Dynamics 365 Customer Insights (Data) Specialty</div> <div>MB-909</div>	

Which certifications are most relevant for developers like us?

10

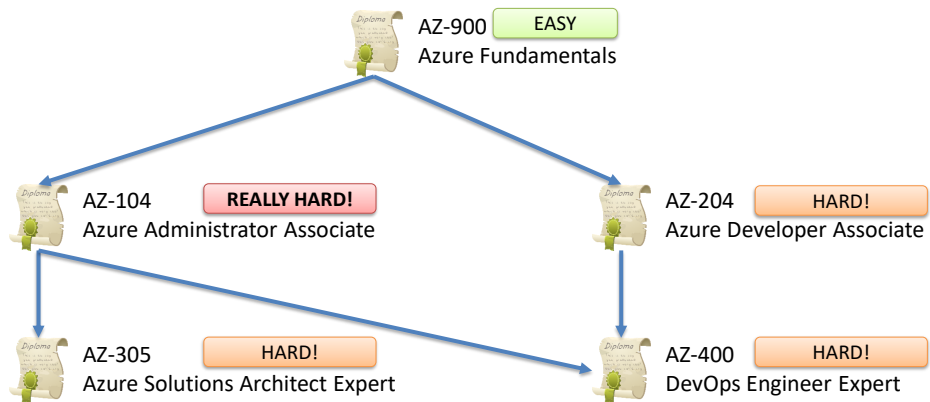
Which certifications are most relevant?




What is the difficulty like?

11

Estimated difficult level



What else is good to know? 

<https://www.tn-data.se>

12

Open-Book Exam

<https://www.tn-data.se>

13

Open-book exam

You can access **MS Learn** during the certification

Question 1 (of 10)

Time remaining 07:52:35

Review later

Leave feedback (after answering all questions)

This question type is known as a multiple choice, select one. This question type contains multiple answer choices and has one correct answer.

There are several varieties of this question type. The number of answer choices may vary, and questions may appear as part of a series of set.

In this question type, you respond to the question by selecting the radio or option button next to your answer.

Here is a sample question:

What is your favorite sound?

☐ A. Bell

☐ B. Bird

☐ C. River

☐ D. Whistle

Help

Calculator

Color Scheme

Reset Answer

Take a Break

Microsoft Learn

Previous

Next

Microsoft Learn

Documentation Training Certifications Q&A Code Samples More

Search JD Sign in

Microsoft Learn. Spark possibility.

Build skills that open doors. See all you can do with documentation, hands-on training, and content from Microsoft products.

Search Microsoft Learn

Search

Learn by doing

Gain the skills you can apply to everyday situations through hands-on training personalized to your needs, at your own pace or with our global network of learning partners.

Take training

Find technical documentation

Get tools and step-by-step guidance to help you get the most from Microsoft products such as Azure, Windows, Office, Dynamics, Power Apps, Teams, and more.

View documentation

Showcase your skills

Advance in your career by completing challenges that demonstrate your expertise. Earn globally recognized and industry-endorsed certifications, and showcase them to your network.

Get certified

Ask questions and get help

Connect with other learners and experts, ask and answer questions, share resources, and learn together.

Try code samples

Test out new capabilities in your own projects faster and easier with code samples that bring Microsoft technology to life.

See new ways to innovate

Discover thousands of fun, authentic, and informative videos by Microsoft and community experts that help you and your team find inventive ways to solve technology.

You can search within MS-Learn

Keep it open during the exam! (Can crash!)

CTRL+F (Find) does not work!

<https://www.tn-data.se>









Microsoft Learn vs. In-Person Training

<https://www.tn-data.se>

Microsoft Learn vs. in-person training

MS-Learn online is the same as the **classroom training**

Training in this course



-  AZ-204: Implement Azure App Service web apps
⌚ 2 hr 3 min • Learning Path • 4 units
-  AZ-204: Implement Azure Functions
⌚ 53 min • Learning Path • 2 units
-  AZ-204: Develop solutions that use Blob storage
⌚ 1 hr 19 min • Learning Path • 3 units
-  AZ-204: Develop solutions that use Azure Cosmos DB
⌚ 1 hr 19 min • Learning Path • 2 units
-  AZ-204: Implement containerized solutions
⌚ 1 hr 42 min • Learning Path • 3 units
-  AZ-204: Implement user authentication and authorization
⌚ 1 hr 25 min • Learning Path • 3 units


Home > Sök efter kurser > AZ-204 Developing Solutions for Microsoft Azure

AZ-204 Developing Solutions for Microsoft Azure [Ladda ned som pdf](https://ladda ned som pdf)

★★★★★☆☆

This course teaches developers how to create end-to-end solutions in Microsoft Azure. Students will learn how to implement Azure compute solutions, create Azure Functions, implement and manage web apps, develop solutions utilizing Azure storage, implement authentication and authorization, and secure their solutions by using KeyVault and Managed Identities. Students will also learn how to connect to and consume Azure services and third-party services, and include event- and message-based models in their solutions. The course also covers monitoring, troubleshooting, and optimizing Azure solutions.

		Kr
Utbildningsformer	Längd	Pris
Classroom	5 dagar	36950 kr
Remote		



<https://www.tn-data.se>

16

Practice Questions

<https://www.tn-data.se>

17

Practice questions

There are plenty of practice questions online

You manage an Azure API Management instance.

You need to limit the maximum number of API calls allowed from a single source for a specific time interval.

What should you configure?

☐ Product

☒ Policy

☐ Subscription

☐ API

✓ This answer is correct.

✗ This answer is incorrect.

This item tests the candidate's knowledge of policies in Azure API Management, which is part of implementing API Management.

API publishers can change API behavior through configuration using policies. Policies are a collection of statements that run sequentially on the request or response of an API. A product has one or more APIs, a usage quota, and the terms of use and cannot be used to restrict the number of API calls. Subscriptions are the most common way for API consumers to access APIs published through an API Management instance. API is a representation of a back-end API and needs to be configured with a policy to implement a rate limit.

How Azure API Management Works - Training | Microsoft Learn

Subscriptions in Azure API Management | Microsoft Learn

- Microsoft Learn
- <https://www.whizlabs.com/>
- <https://tutorialsdjojo.com/>
- <https://www.measureup.com>
- <https://www.examtopics.com/>
- ...

<https://www.tn-data.se>



The Change Log

<https://www.tn-data.se>

The Change Log

The scope of the certifications changes from time to time

Updates to the exam

Our exams are updated periodically to reflect skills that are required to perform a role.

We always update the English language version of the exam first. Some exams are localized into other languages, and those are updated approximately eight weeks after the English version is updated. Other available languages are listed in the **Schedule Exam** section of the **Exam Details** webpage. If the exam isn't available in your preferred language, you can request an additional 30 minutes to complete the exam.

Note

The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. Related topics may be covered in the exam.

Note

Most questions cover features that are general availability (GA). The exam may contain questions on Preview features if those features are commonly used.

<https://www.tn-data.se>

20

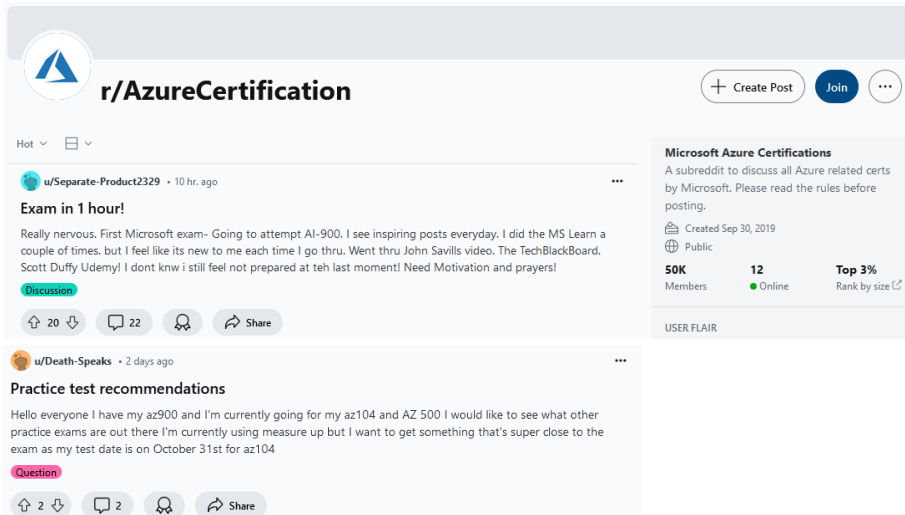
Reddit

<https://www.tn-data.se>

21

Reddit

AzureCertification is a good subreddit to explore



r/AzureCertification [+ Create Post](#) [Join](#) [...](#)

Hot [▼](#) [📅](#) [▼](#)

u/Separate-Product2329 • 10 hr. ago

Exam in 1 hour!

Really nervous. First Microsoft exam- Going to attempt AI-900. I see inspiring posts everyday. I did the MS Learn a couple of times. but I feel like its new to me each time I go thru. Went thru John Savills video. The TechBlackBoard. Scott Duffy Udemy! I dont knw i still feel not prepared at teh last moment! Need Motivation and prayers!

[Discussion](#)

[↑ 20](#) [↓](#) [🗨️ 22](#) [🔔](#) [🔄 Share](#)

u/Death-Speaks • 2 days ago

Practice test recommendations

Hello everyone I have my az900 and I'm currently going for my az104 and AZ 500 I would like to see what other practice exams are out there I'm currently using measure up but I want to get something that's super close to the exam as my test date is on October 31st for az104

[Question](#)

[↑ 2](#) [↓](#) [🗨️ 2](#) [🔔](#) [🔄 Share](#)

Microsoft Azure Certifications
A subreddit to discuss all Azure related certs by Microsoft. Please read the rules before posting.
Created Sep 30, 2019
Public

50K Members **12** Online **Top 3%** Rank by size [🔗](#)

USER FLAIR

<https://www.reddit.com/r/AzureCertification/>

<https://www.tn-data.se>

22




AZ-900 Azure Fundamentals

<https://www.tn-data.se>

23


AZ-900 Azure Fundamentals

Getting this certification is a good starting point



AZ-900
Azure Fundamentals

- Fairly easy
- Get the fundamentals of Azure
- Get familiar with:
 - How to study
 - MS-Learn
 - What is the certification process like?

What good study materials exists? 

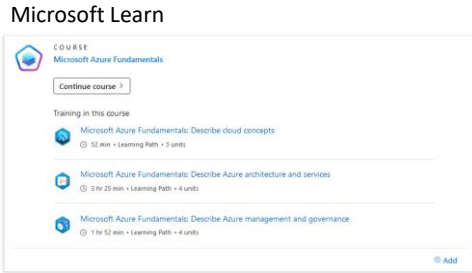
<https://www.tn-data.se>


24


AZ-900 Azure Fundamentals

Two good resources to pass this certification:

Microsoft Learn







This is enough to pass the certification!

<https://www.tn-data.se>

25



AZ-204 Azure Developer Associate

<https://www.tn-data.se>

26

AZ-204 Resources

Two good resources to pass this certification:

AZ-204 Developing Solutions for Microsoft Azure
Udemy – By Scott Duffy

AZ-204 Developing Solutions for Microsoft Azure - SEP 2024

The most complete course available on the Microsoft Azure developer exam AZ-204 with timed practice test.

Bestseller 4.5 ★★★★★ (28,998 ratings) 197,347 students

Created by **Scott Duffy** • 1,000,000+ Students, Software Architect, CA

● Last updated 2024-09-09

🌐 English

📄 English [CC], Bulgarian (Auto) [24 more](#)

• 9 hours long!



Microsoft Learn

COURSE
Developing Solutions for Microsoft Azure

[Continue course >](#)

Training in this course

- AZ-204: Implement Azure App Service web apps
🕒 2 hr 3 min • Learning Path • 4 units
- AZ-204: Implement Azure Functions
🕒 55 min • Learning Path • 2 units
- AZ-204: Develop solutions that use Blob storage
🕒 1 hr 19 min • Learning Path • 3 units
- AZ-204: Develop solutions that use Azure Cosmos DB
🕒 1 hr 19 min • Learning Path • 2 units
- AZ-204: Implement containerized solutions
🕒 1 hr 42 min • Learning Path • 3 units

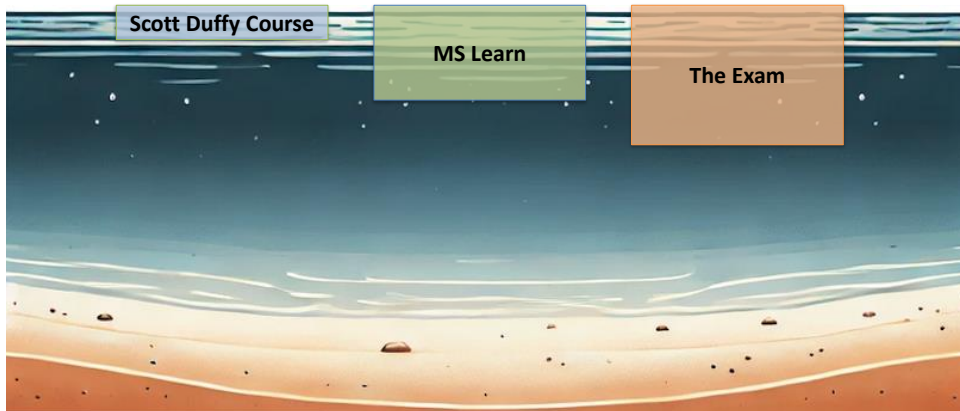
Is this enough to pass?

<https://www.tn-data.se>

27

Is this enough to pass?

No, the test is harder than what's covered in MS-Learn!



28




Studying for AZ-204 the hard way!


<https://www.tn-data.se>

29

Studying for AZ-204 the hard way!

How are we going to learn all of this? 

Azure SDKs API Gateway Content Delivery Network (CDN) Consistency Models (Strong, Eventual) OAuth Authorization Server Deployment Slots (App Service) Quotas and Throttling Azure App Service Application Insights Retry Pattern GitHub Actions IPsec A/B Testing Data Encryption (In-Transit, At-Rest) Infrastructure as a Service (IaaS) Application Gateway Message Brokers Log Analytics Role-Based Access Control (RBAC) Azure Activity Log Network Watcher Azure SQL Database Metrics and Alerts Azure Repos Azure DevOps Pipelines Service Principals Azure Kubernetes Service (AKS) Azure Portal SOAP Caching (Redis Cache) Application Insights Managed Identity Automatic Failover Groups Azure PowerShell Dependency Injection Azure Data Lake Storage Azure Event Grid JWT (JSON Web Token) CQRS (Command Query Responsibility Segregation) Diagnostic Settings Database Sharding Secrets Management Deployment Stages Continuous Deployment (CD) Continuous Integration (CI) Middleware Build Agents Visual Studio Code Serverless Computing Software as a Service (SaaS) Identity and Access Management (IAM) Azure File Storage Dead-letter Queue (DLQ) NoSQL Databases Circuit Breaker Pattern Shared Access Signature (SAS) Queue and Message TTL (Time-to-Live) Azure DevOps Sharding Autoscale Azure Boards Pub/Sub Pattern Distributed Tracing Azure Functions Azure Monitor OpenAPI/Swagger Data Replication (LRS, ZRS, GRS, RA-GRS) Azure Resource Manager (ARM) Azure Functions Core Tools Canary Release Azure Regions and Availability Zones REST API Azure Table Storage Partition Key Azure Blob Storage Azure Storage Explorer Azure Artifacts External Identity Providers Distributed Tracing Rollback Strategy Microservices Architecture Stateless and Stateful Services Azure Database for PostgreSQL Azure Database for MySQL API Versioning WebSockets Resource Throttling Azure Service Health Azure Cosmos DB Azure Relay Platform as a Service (PaaS) HTTP/HTTPS Rate Limiting Azure Key Vault TCP/IP Azure Notification Hubs OData SQL Elastic Pools Azure API Management Azure Queue Storage Durable Functions Geo-replication Multi-Factor Authentication (MFA) Azure SignalR Service Azure Container Instances (ACI) Resource Groups Azure Logic Apps Retry Policies Azure SQL Managed Instance Policies (XML-based policy configuration) Blue-Green Deployment Backend Service Azure Event Hubs Topic and Subscription API Gateway Pattern OAuth 2.0 Azure Monitor Logs Hot, Cool, and Archive Storage Tiers Infrastructure as Code (IaC) Azure Service Bus Serverless Orchestration Managed Identity Authentication App Service Plan Azure Function Triggers and Bindings Connection Strings Continuous Monitoring Access Tokens Service Endpoint Policy-Based Authorization ARM Template Deployment Mode Blob Storage Lifecycle Management Durable Task Framework Function Chaining Event Sourcing Authorization Code Flow Load Testing Static Web Apps....

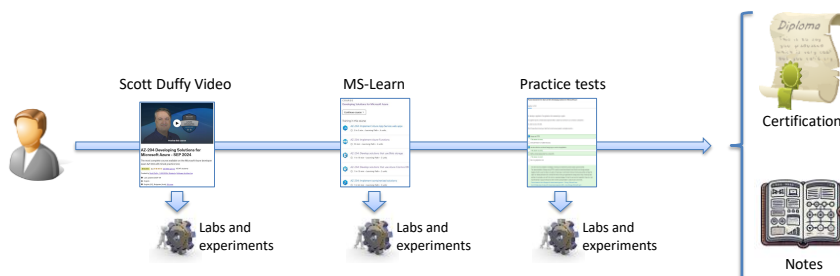
What are our options? 


<https://www.tn-data.se>

30

Studying for AZ-204

We could do it the usual way:



How did I do it? 

<https://www.tn-data.se>

31

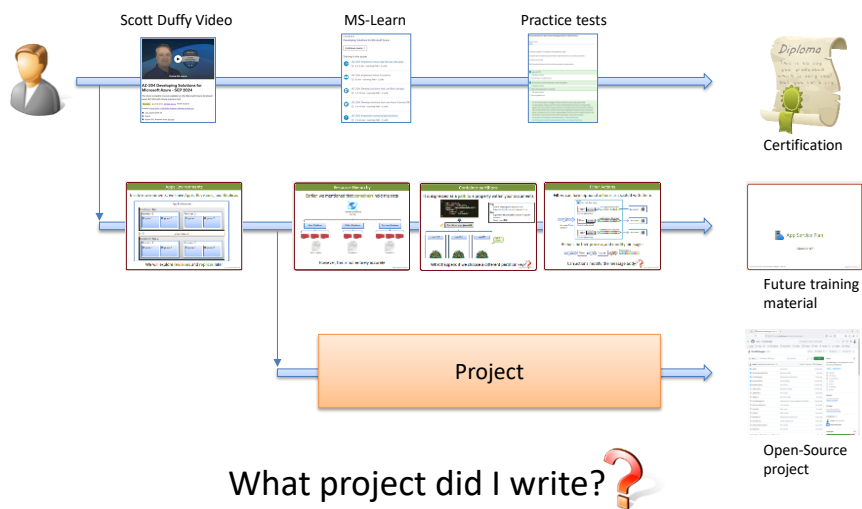
You don't know something until you can explain it to others!




32

Studying for AZ-204 the hard way!

My study process



What project did I write? 

<https://www.tn-data.se>

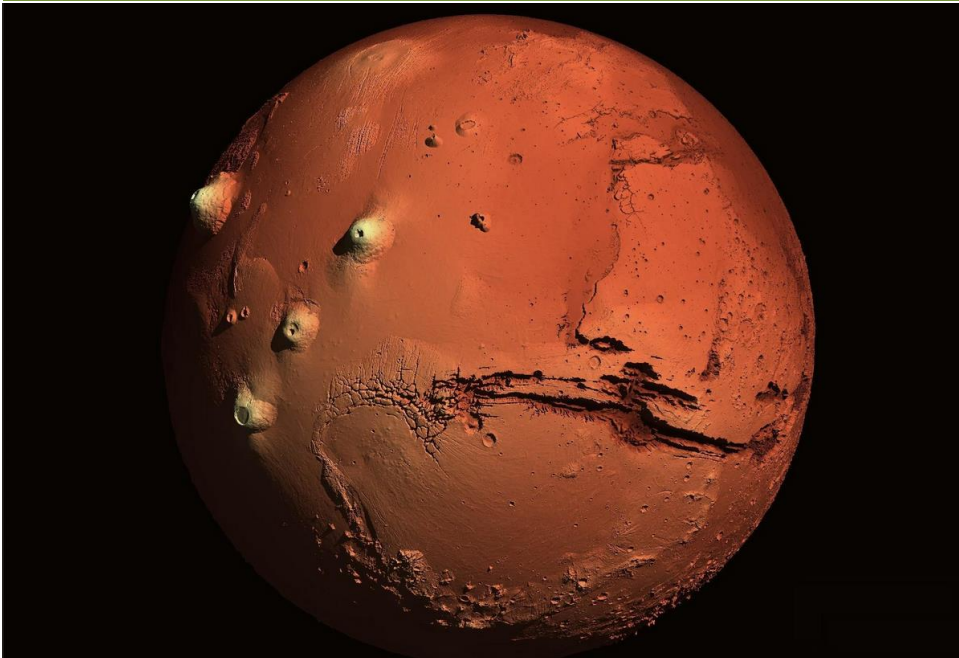
33

The project - Exploring Azure

<https://www.tn-data.se>

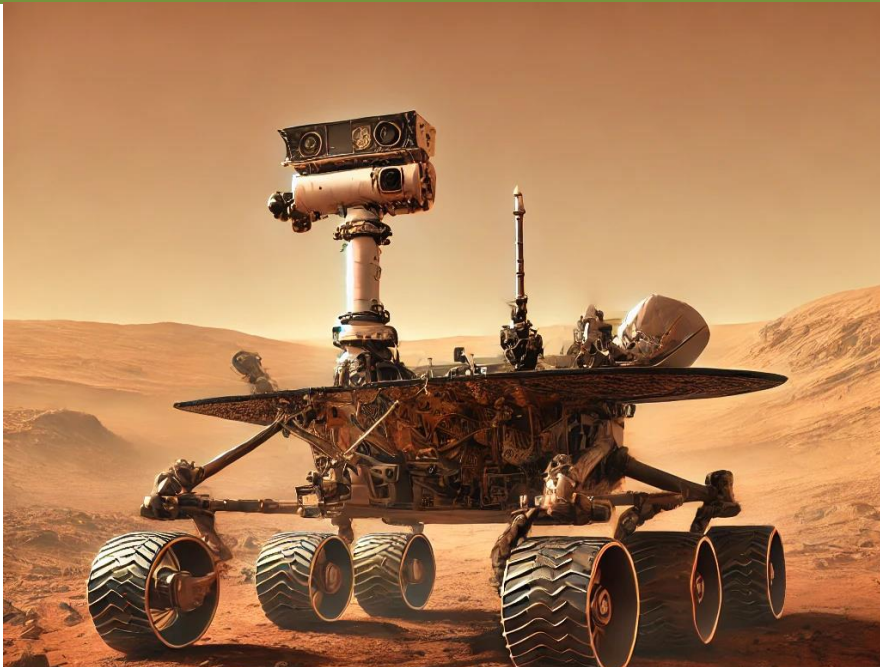
34

Exploring Mars



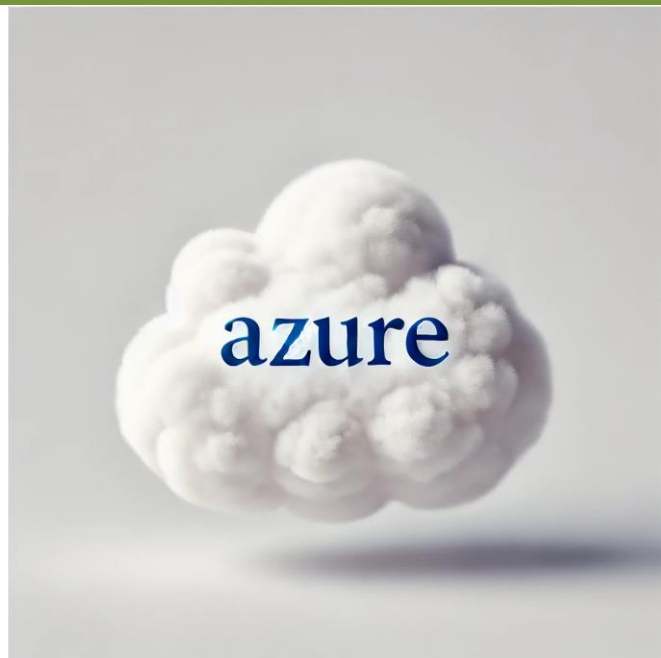
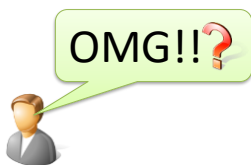
35

Mars Rover



36


How should we explore Azure?



37

Introducing the CloudDebugger



What can it do? 















<https://www.tn-data.se>

38

What can it do?

- Logging
- REST API
- Calling APIs
- File system
- Local cache
- Credentials caching
- DefaultAzureCredentials
- Runtime details
- Environment variables
- Configuration
- Network
- Logging
- Error handling
- Caching
- User Delegation SAS Token
- Web Hooks
- Data Protection API
- Connection Strings
- ...

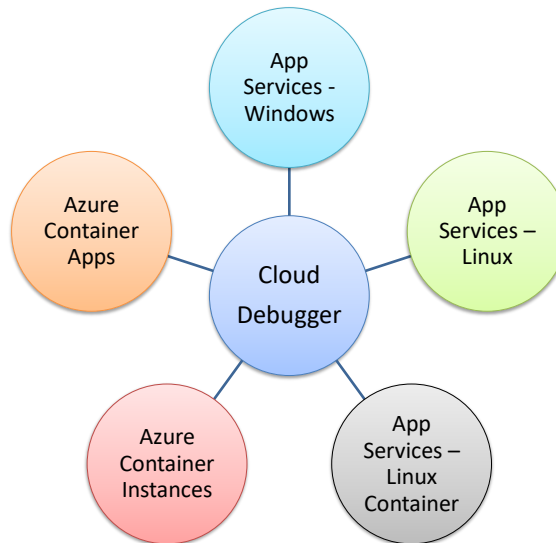



-  App Services
-  Azure Functions
-  Azure Container Instances
-  Container Apps
-  Cosmos DB
-  Azure SQL Server
-  Redis
-  Entra ID
-  API Gateway
-  Blob Storage
-  Azure CDN
-  Event Hub
-  Event Grid
-  Log analytics Workspace
- ...

<https://www.tn-data.se>

39

Deployment Targets



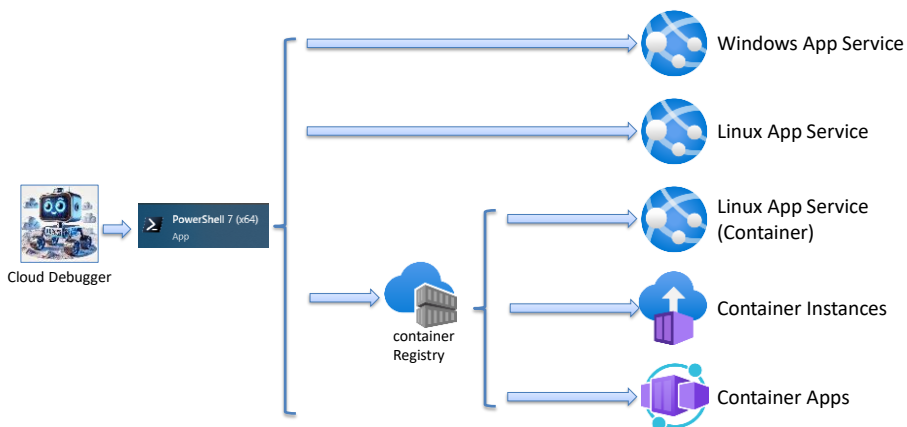
How is this deployed? 

<https://www.tn-data.se>

40

Deployment

The deployment setup



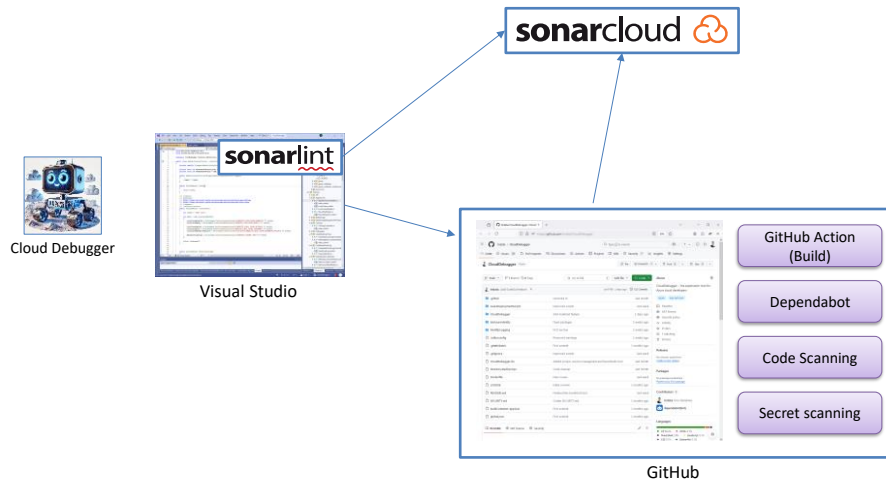
<https://github.com/tndata/CloudDebugger>

<https://www.tn-data.se>

41

Deployment

Secure Development Practices



<https://www.tn-data.se>

42

End result

<https://www.tn-data.se>

43

End result

You've earned your Microsoft Certified: Azure Fundamentals certification

Microsoft certification ID: 7319380

Congratulations! You've earned your Microsoft Certified: Azure Fundamentals certification.

You've earned your Microsoft Certified: Azure Developer Associate certification

Microsoft certification ID: 7319380

Congratulations! You've earned your Microsoft Certified: Azure Developer Associate certification.

<https://www.tn-data.se>

44

QUESTIONS?

Cloud Debugger <https://github.com/tn-data/CloudDebugger>

Blog
<https://nstenius.se>

Work
<https://tn-data.se>

<https://www.tn-data.se>

45