Azure IaaS - the IT-Pro approach to Hybrid Cloud

Carsten Rachfahl

Microsoft Cloud & Datacenter Management MVP

Veeam Vanguard

Rachfahl IT-Solutions GmbH & Co. KG

@hypervserver

Carsten Rachfahl

Microsoft Cloud & Datacenter Management MVP

Organizer of the Cloud & Datacenter Conference Germany http://cdc-gemany.de

Co-Founder of the Hyper-V Community & Hybrid Cloud Community

Twitter @hypervserver

One of the Hyper-V Amigos http://hyper-v-amigos.net

CEO of Rachfahl IT-Solutions GmbH & Co. KG

https://www.hyper-v-server.de

Many thanks to our sponsors & partners!

PLATINUM

Steelcase · thomsons ONLINE BENEFITS · Alight. · SIEMENS Ingenuity for life

evozon · accenture · yonder APPLICATION INNOVATION

GOLD

EY Building a better working world · cloudbase solutions · EMERSON · Microsoft

SILVER

netmatch TRAVEL TECHNOLOGY SOLUTIONS · iSS IT Smart Systems · TSM TODAY SOFTWARE MAGAZINE · THE GUILD HALL BOARDGAMES · COWORK · EVENTS

POWERED BY

ITCAMP COMMUNITY

PARTNERS

MOBZINE.RO · CLUJ.COM Ghid·Local · x86 generation · ARIES Transilvania

Avælgo

Why this talk?

- Doing Microsoft IT Camps in Germany ;-)
- To help on-premises IT-Pros to get in touch with Azure IaaS

PREPWORK

Demo:
Deploy VM
with
Powershell

WORK WITH VMS

Completely different concepts

- Hyper-V is Virtualization (not Private Cloud)

- Azure IaaS follows the self-service Cloud Model

Hyper-V VMs

- Flexible Configurable
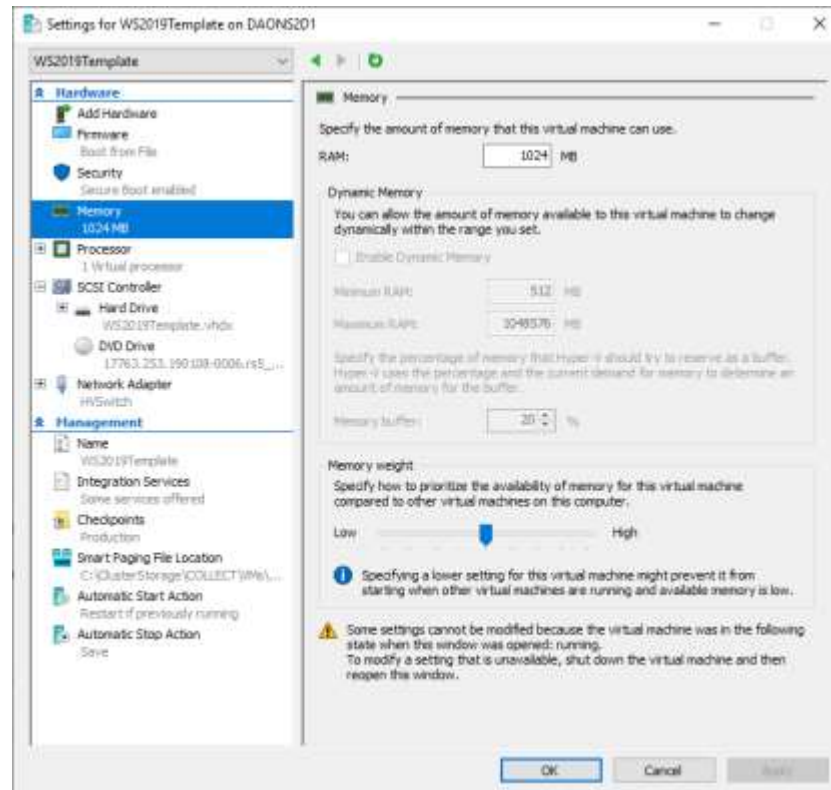
Azure VM Sizes

- T-Shirt sizes (with fixed Memory – vCPU – IOPs)
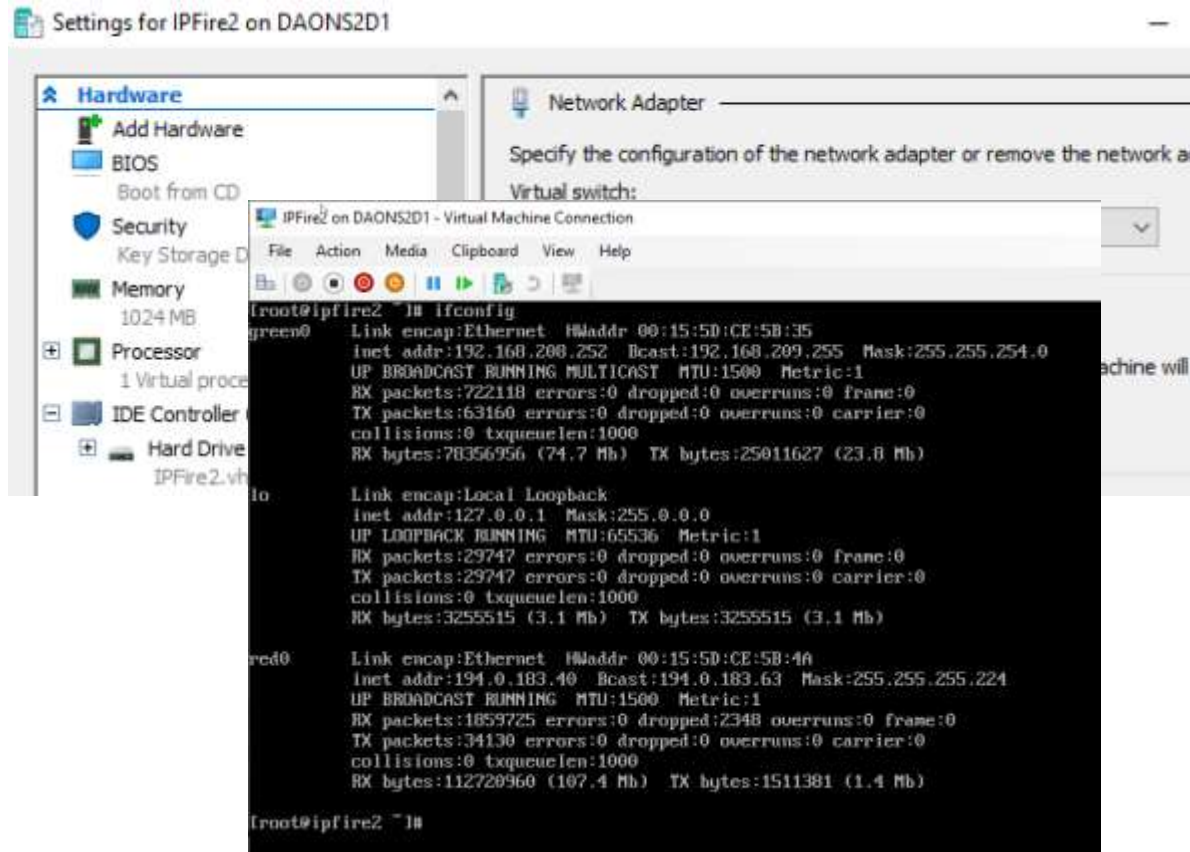
Networking

Hyper-V Networking
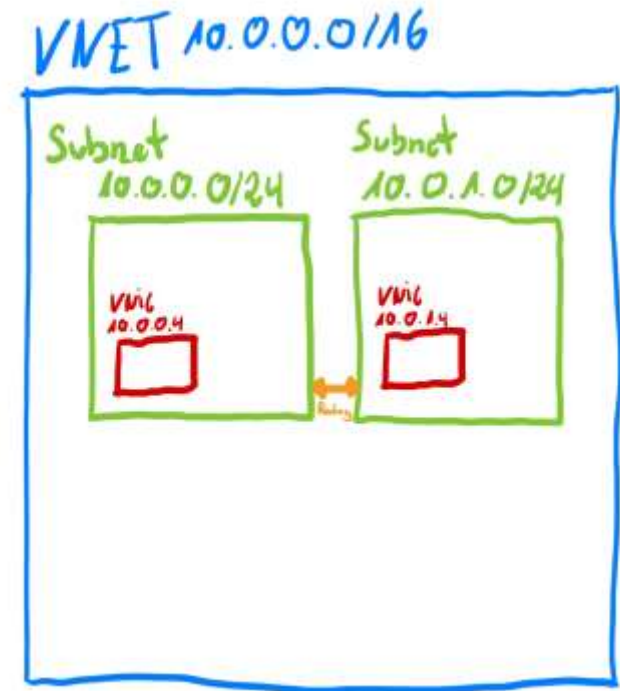- No isolation by default
  - VLAN
  - SDN

Azure Networking
- Always isolated
- No VLANs used
- Always SDN

Hyper-V Networking

Azure Networking

Azure Networking

Azure Network specialties

- Network Cards use DHCP no static IPs

- NSG (Network Security Group) is a external Firewall „light"

- Gateway, DNS and DHCP Server are deployed by Azure

- DDOS Protection

IIS1-NIC
Network interface

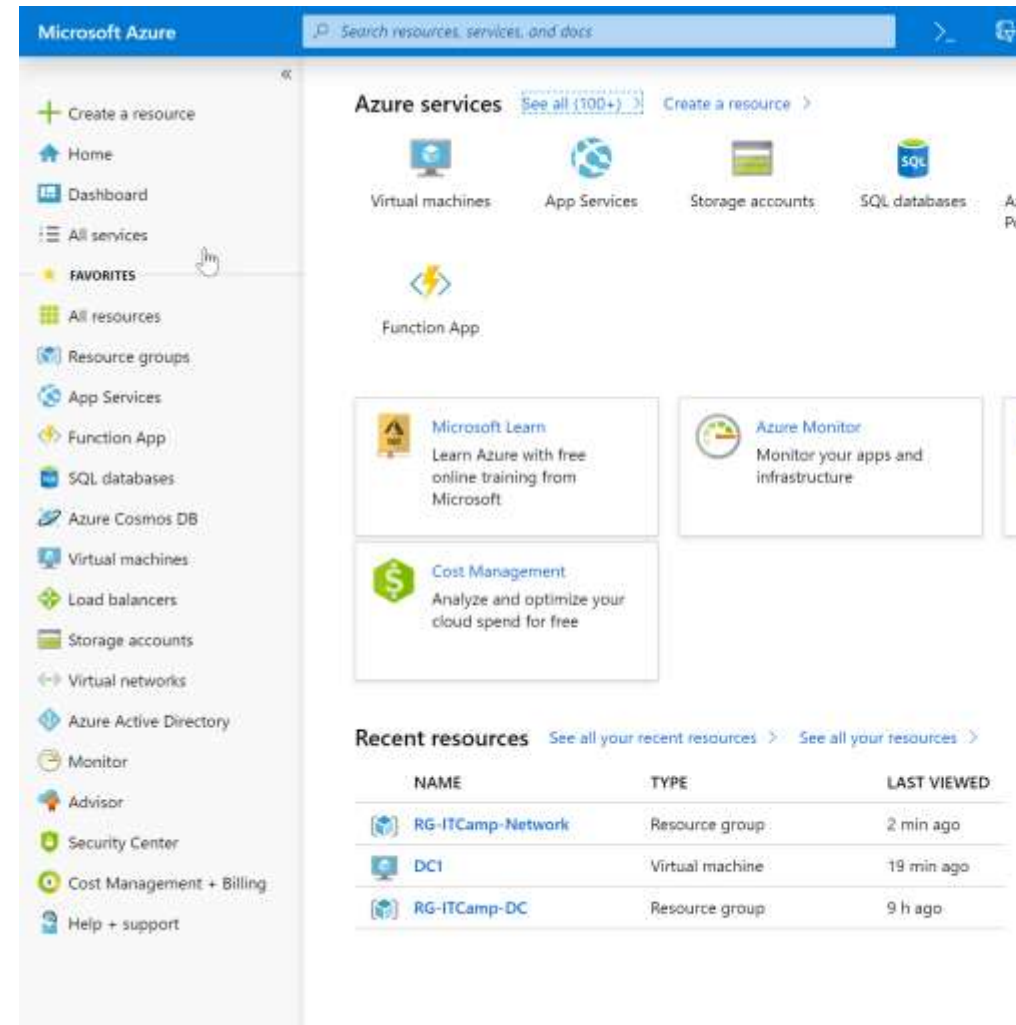**IIS1-NSG**
Network security group

DNS servers

DDoS protection
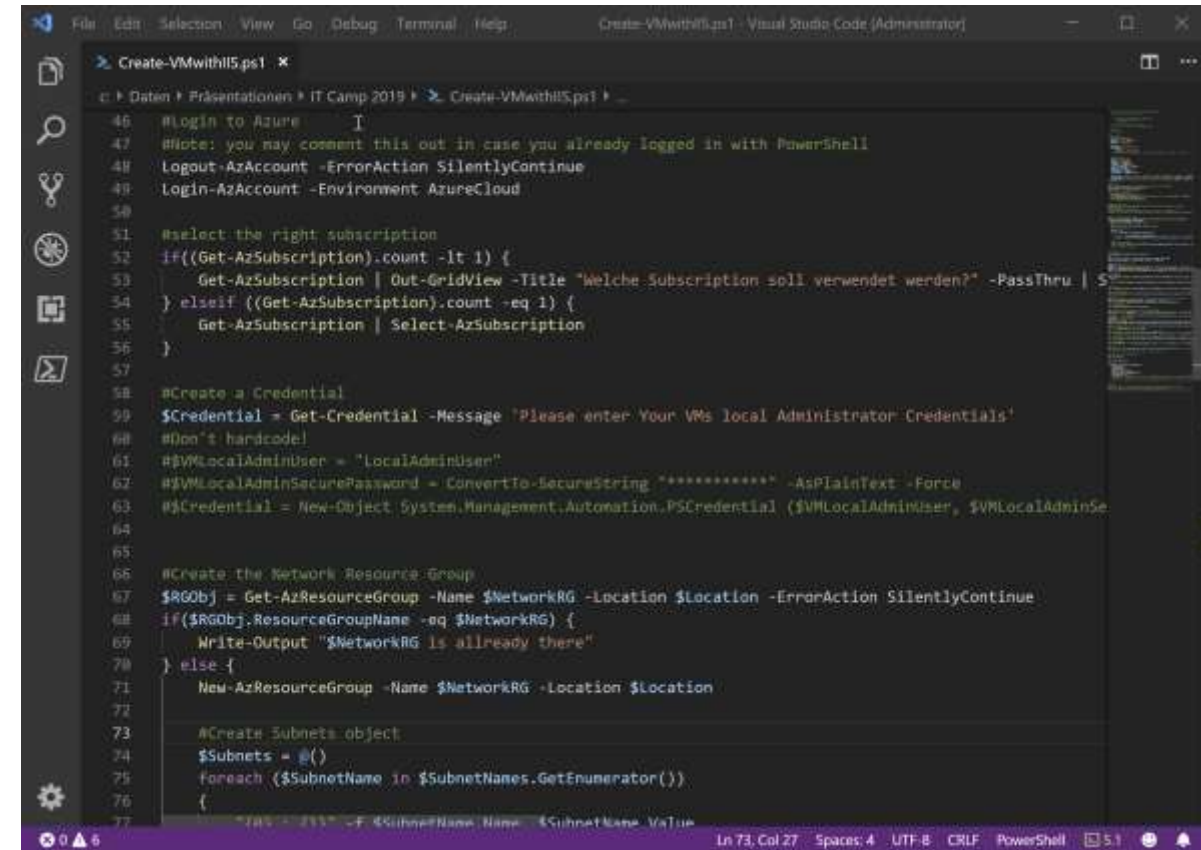
CREATING AZURE VMS...

Portal

- Azure Portal
  - Beautiful fast Portal
  - Hyper-V has nothing like it
  - Use it for task you do rather once
  - Helps with Wizard (f.e. VM creation)
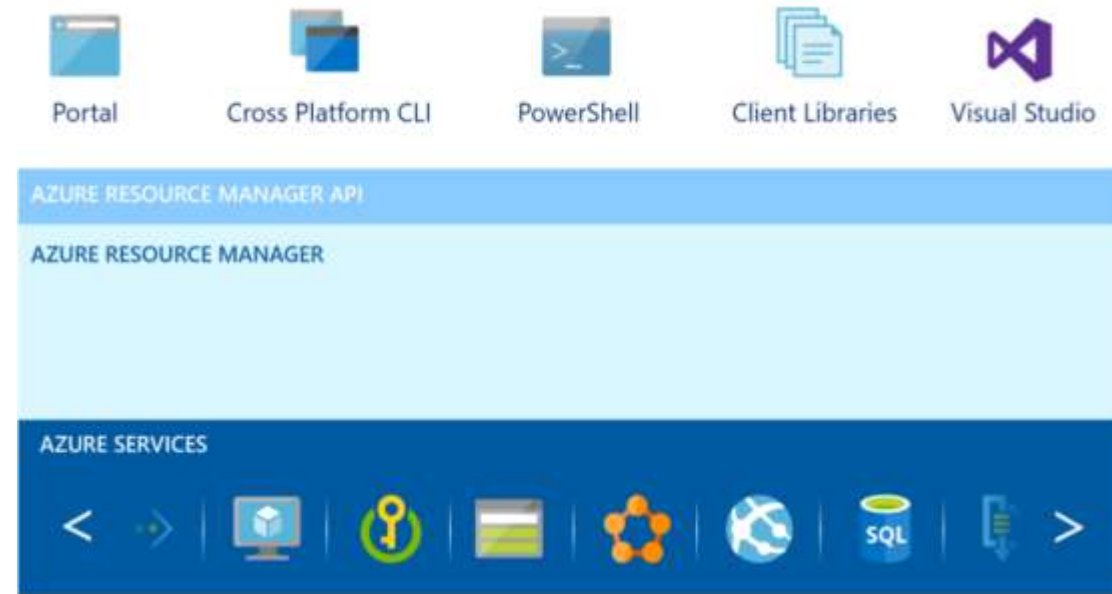 - For everyone who is not a Shell Wizard

- PowerShell
  - Use Powershell if you have repeating tasks
  - Much faster than clicking through the portal
- Hyper-V Powershell is not Azure IaaS Powershell

ARM Templates

- ARM Templates
  - ARM is the Azure Engine
    - Azure Resource Manager works with it
    - I can't jet ;-)
  - If you are familiar with JSON it is your thing
  - One Resource to start: [Getting started with Azure Resource Manager](#)

Demo:
Azure Portal
and ARM

CONNECTING ON-PREMISE WITH AZURE

How to Connect

Internet Connectivity
- Internet facing with public IP addresses in Azure
- DNS, load balancing, DDoS protection, WAF

Remote access point-to-site connectivity
- Remote Access to VNet/On-prem
- Connect from anywhere
- Mac, Linux, Windows
- Radius/AD authentication

Site-to-site VPN connectivity
- High throughput, secure cross-premises connectivity
- BGP, active-active for high availability & transit routing

ExpressRoute private connectivity
- Private connectivity to Microsoft services (O365, Azure PaaS services)
- Mission critical workloads

- Through the Internet
  - Always possible (only need a public IP)
  - But unsecure
    - open Port needed
    - Data flows unprotected through the Internet
    - VM has bigger Attack Surface

Internet

How to Connect

- Using a VPN
  - Complex even with VPN Gateway
    - IPSec is not IPSec is not IPSec
    - Separate VPN Gateway need on-premises
  - Extra Cost in Azure (Basic Gateway ~30 €/month)
  - Alternative use Linux VPN in Azure

S2S tunnels

- ExpressRoute
  - Direct connection to an Azure Edge Site
  - Need Carrier who offers ExpressRoute
  - Very expensive
    - Carrier (mainly MPLS)
    - ExpressRoute in Azure
      - Depending on Bandwidth and Traffic

ExpressRoute

Azure

P2S tunnels

Internet

S2S tunnels

Private WAN

ExpressRoute

Virtual Network

Backend   Mid-tier   Frontend

Demo:
VPN
Gateway

ITCAMP   Community Conference for IT Professionals   @ITCAMPRO   #ITCAMP19
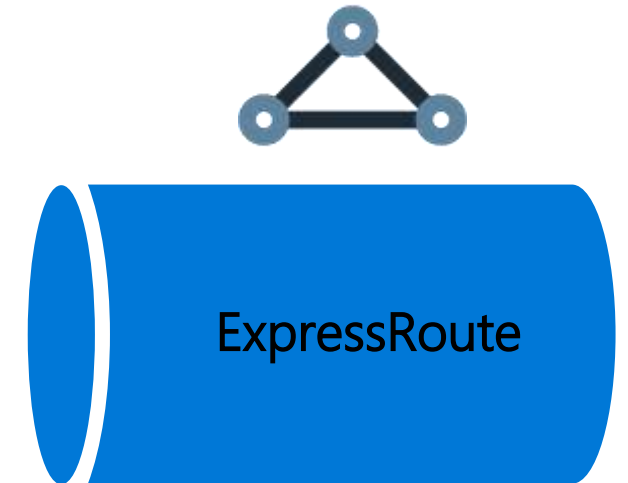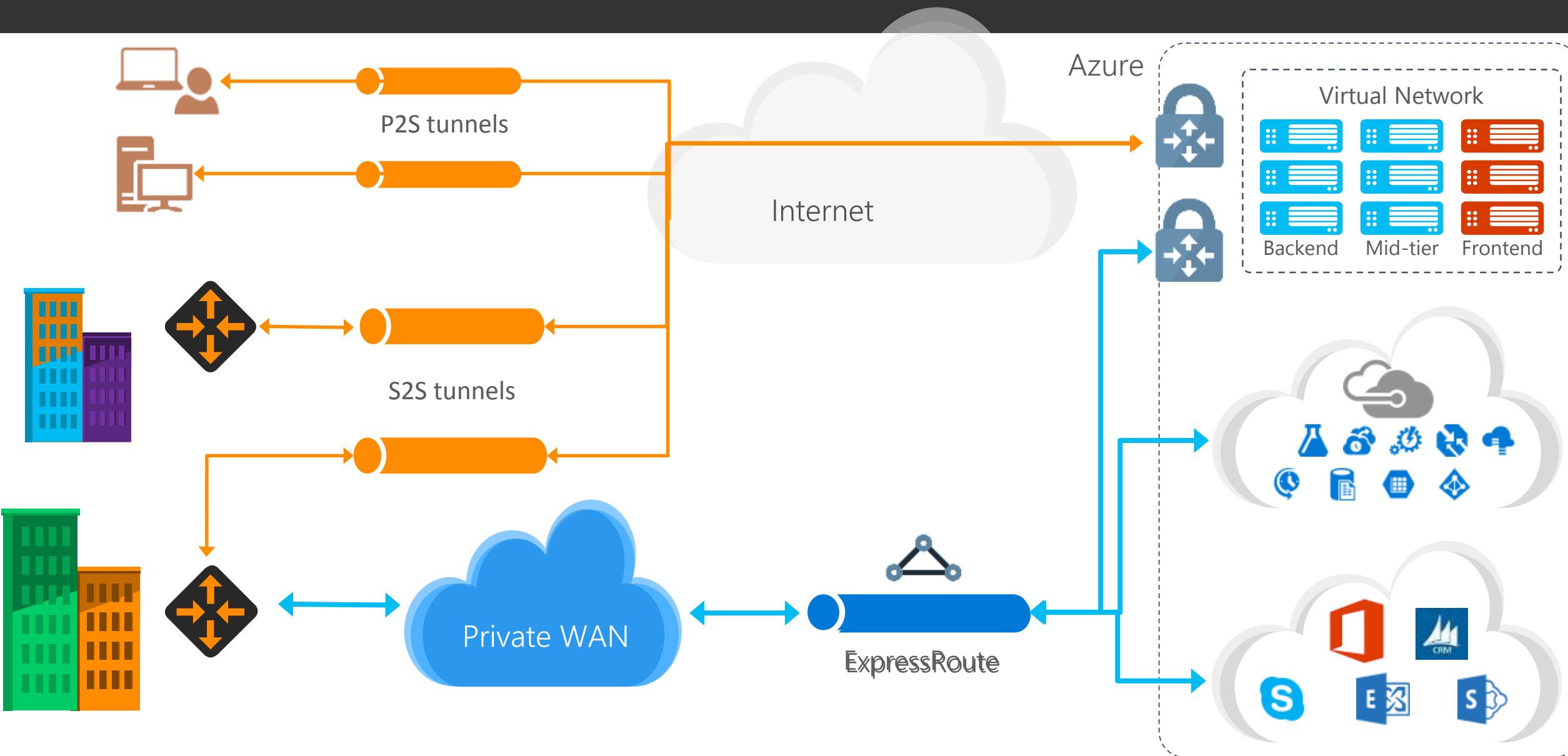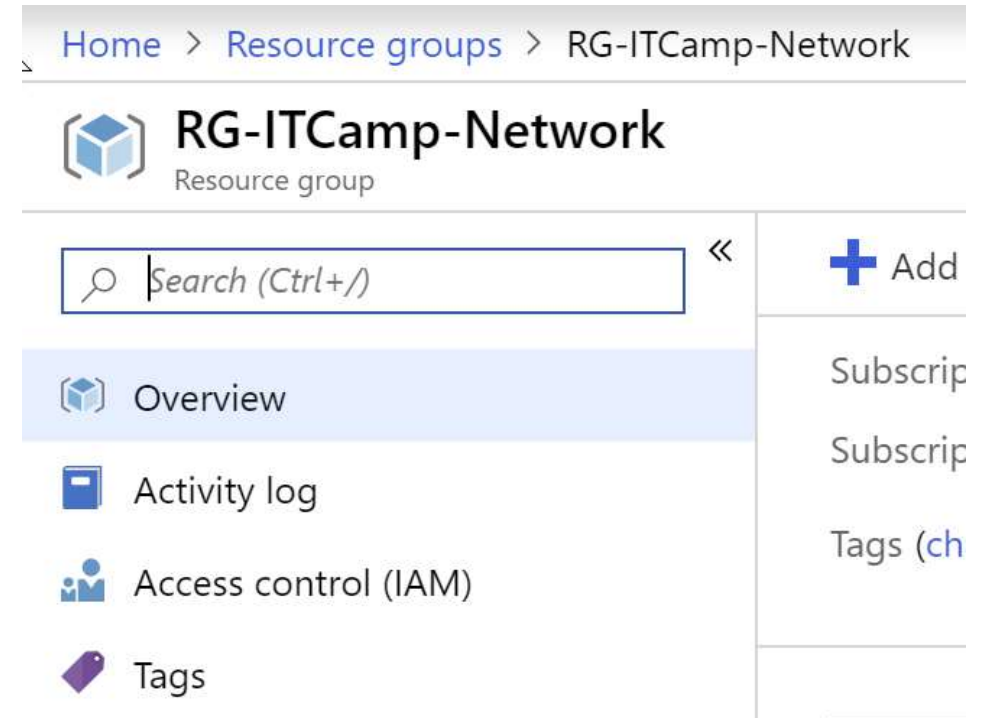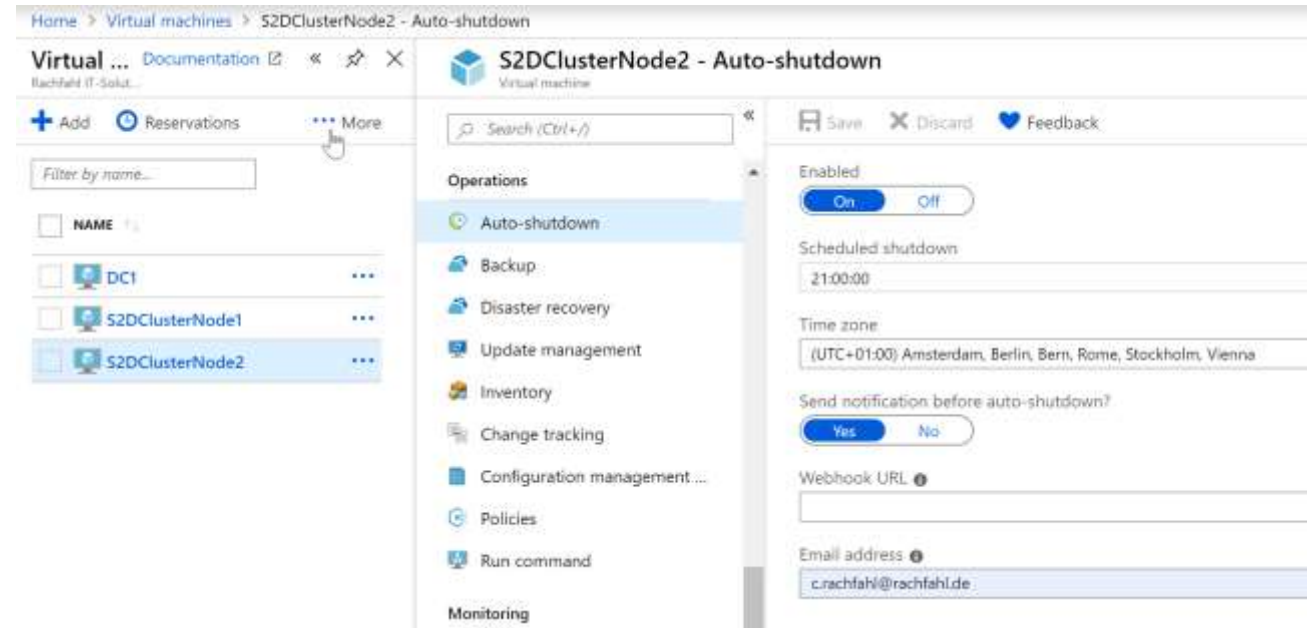
TIPPS

Resource Groups

- Resource Groups
  - Container for Objects
  - When deleted all content is deleted too
  - Chouse a naming convention (e.g. RG-....) and follow it

Auto Shutdown

- ## Configure Auto Shutdown
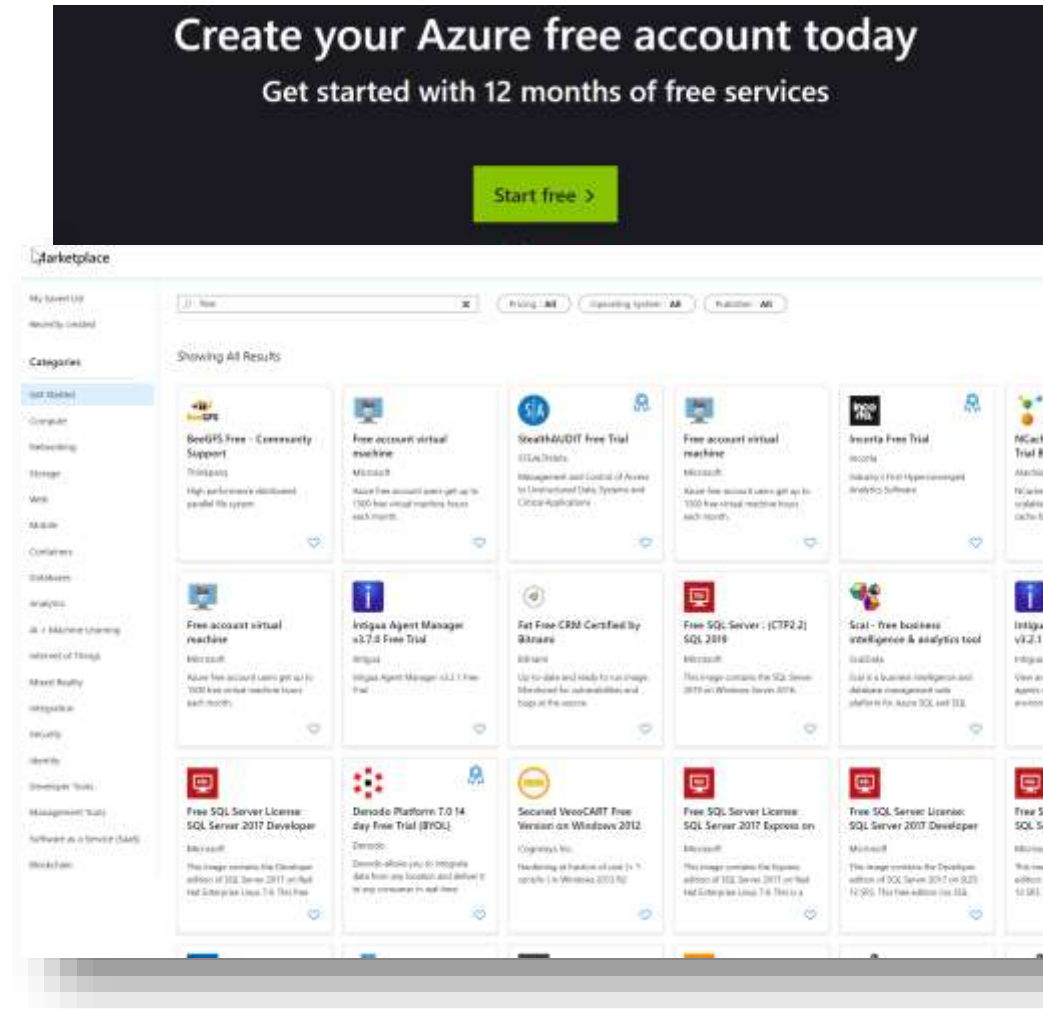 - If your testing or developing a solution
  - Configure Autoshutdown

Azure Free Offerings

Start with free resources
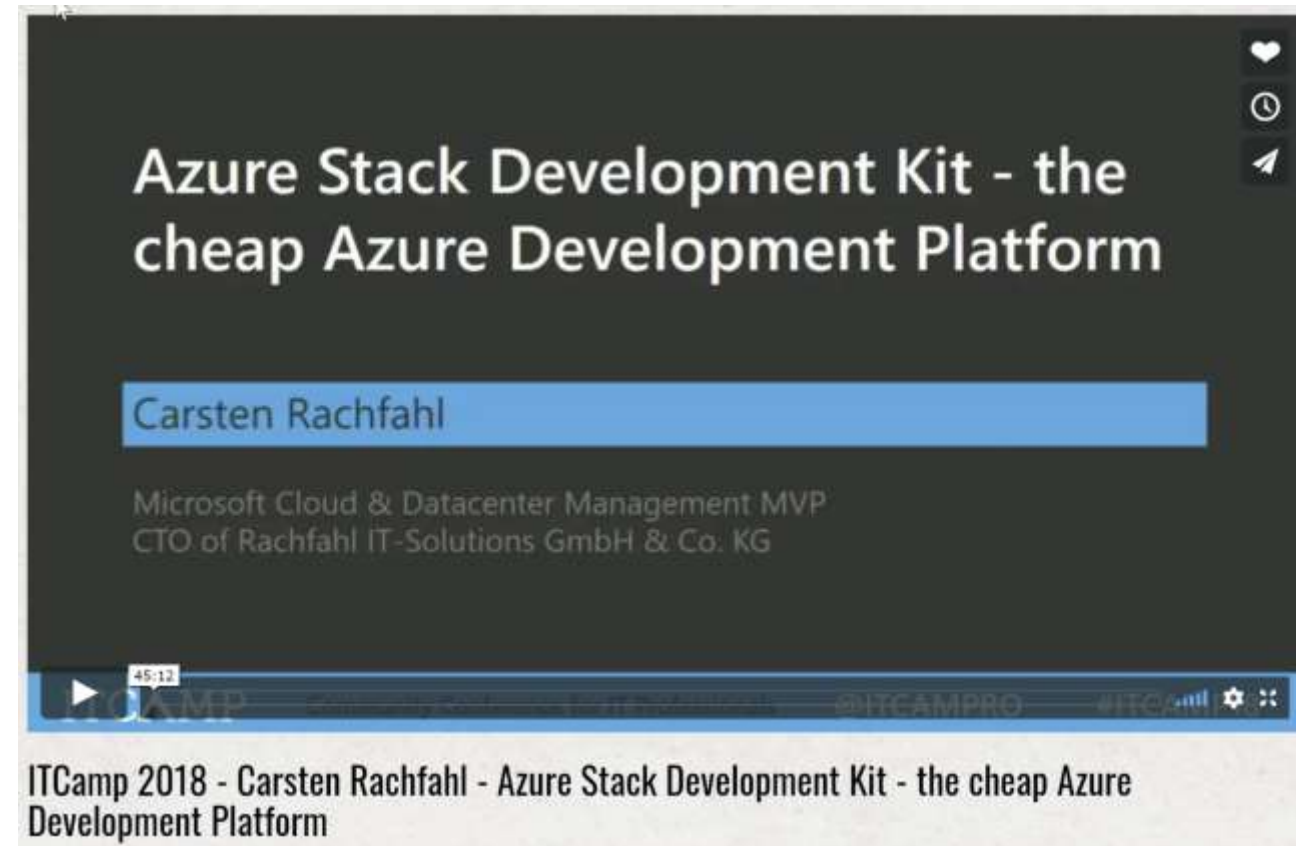
- Get a 30 day free testaccount
https://azure.microsoft.com/en-us/free/

- Enter "free" in the Marketplace search

Use Azure Stack ASDK

- If you have a server left or a big Hyper-V VM
- Use Azure Stack Development Kit
- https://video.itcamp.ro/video/280054815

Azure Stack Development Kit - the cheap Azure Development Platform

Carsten Rachfahl

Microsoft Cloud & Datacenter Management MVP
CTO of Rachfahl IT-Solutions GmbH & Co. KG

ITCamp 2018 - Carsten Rachfahl - Azure Stack Development Kit - the cheap Azure Development Platform

Our Webinar Archive

https://hyper-v-server.de/lp-webinar-archiv-english/

Q & A