

Erfahrungsbericht: SharePoint-Entwicklung in der Azure Cloud

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- Einrichtung
- Nutzung
- Fazit

Ziel: SharePoint 2013 Entwicklung in der Cloud

- Ein Monat im Selbstversuch
- Kennenlernen der Handhabung von Azure
- Einrichtung der VM
- Entwickeln eines (Teil-)Projekts
- Skalierbarkeit auf Entwickler-Teams
 - Campus Management
 - eLearning
 - eScience






Einrichtung

Share Point 2013 Template verfügbar!

Compute Basics

Filter

Search: SharePoint

NAME	PUBLISHER	CATEGORY
 SharePoint 2013 HA Farm	Microsoft	Solution Templates
 SharePoint Server 2016 Trial	Microsoft	Recommended
 contentCrawler for SharePoint	DocsCorp	Virtual Machine Images
 SharePoint Server 2013 Trial	Microsoft	Application infrastruct...
 SharePoint 2013 non-HA Farm	Microsoft	Solution Templates

Results

* Name: SharePointDev2 ✓

VM disk type: SSD

* User name: XXXXXXX ✓

* Password: ✓


* Confirm password: ✓

Subscription: Visual Studio Enterprise (politze@itc.rwth-a. ✓)

* Resource group: Create new Use existing

test






Location: West Europe

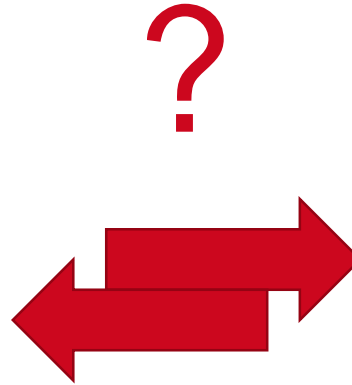







VM Sizing?

A0 Standard	A1 Standard	A2 Standard	F8S Standard	F1 Standard	F2 Standard	DS1_V2 Standard ★	DS2_V2 Standard ★	DS3_V2 Standard
1 Core	1 Core	2 Cores	8 Cores	1 Core	2 Cores	1 Core	2 Cores	4 Cores
0.75 GB	1.75 GB	3.5 GB	16 GB	2 GB	4 GB	3.5 GB	7 GB	14 GB
1 Data disks	2 Data disks	4 Data disks	16 Data disks	2 Data disks	4 Data disks	2 Data disks	4 Data disks	8 Data disks
1x500 Max IOPS	2x500 Max IOPS	4x500 Max IOPS	25600 Max IOPS	2x500 Max IOPS	4x500 Max IOPS	3200 Max IOPS	6400 Max IOPS	12800 Max IOPS
Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing
			Premium disk support			7 GB Local SSD	14 GB Local SSD	28 GB Local SSD
						Premium disk support	Premium disk support	Premium disk support
12,55 EUR/MONTH (ESTIMATED)	37,64 EUR/MONTH (ESTIMATED)	75,29 EUR/MONTH (ESTIMATED)	284,85 EUR/MONTH (ESTIMATED)	35,76 EUR/MONTH (ESTIMATED)	71,53 EUR/MONTH (ESTIMATED)	42,66 EUR/MONTH (ESTIMATED)	85,33 EUR/MONTH (ESTIMATED)	170,66 EUR/MONTH (ESTIMATED)
A3 Standard	A4 Standard	A5 Standard	F4 Standard	F8 Standard	A1_V2 Standard	DS4_V2 Standard	DS11_V2 Standard ★	DS12_V2 Standard
4 Cores	8 Cores	2 Cores	4 Cores	8 Cores	1 Core	8 Cores	2 Cores	4 Cores
7 GB	14 GB	14 GB	8 GB	16 GB	2 GB	28 GB	14 GB	28 GB
8 Data disks	16 Data disks	4 Data disks	8 Data disks	16 Data disks	2 Data disks	16 Data disks	4 Data disks	8 Data disks
8x500 Max IOPS	16x500 Max IOPS	4x500 Max IOPS	8x500 Max IOPS	16x500 Max IOPS	2x500 Max IOPS	25600 Max IOPS	6400 Max IOPS	12800 Max IOPS
Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing	Load balancing
						56 GB Local SSD	28 GB Local SSD	56 GB Local SSD
						Premium disk support	Premium disk support	Premium disk support
150,58 EUR/MONTH (ESTIMATED)	301,16 EUR/MONTH (ESTIMATED)	169,40 EUR/MONTH (ESTIMATED)	142,42 EUR/MONTH (ESTIMATED)	284,85 EUR/MONTH (ESTIMATED)	25,72 EUR/MONTH (ESTIMATED)	341,31 EUR/MONTH (ESTIMATED)	119,21 EUR/MONTH (ESTIMATED)	237,79 EUR/MONTH (ESTIMATED)

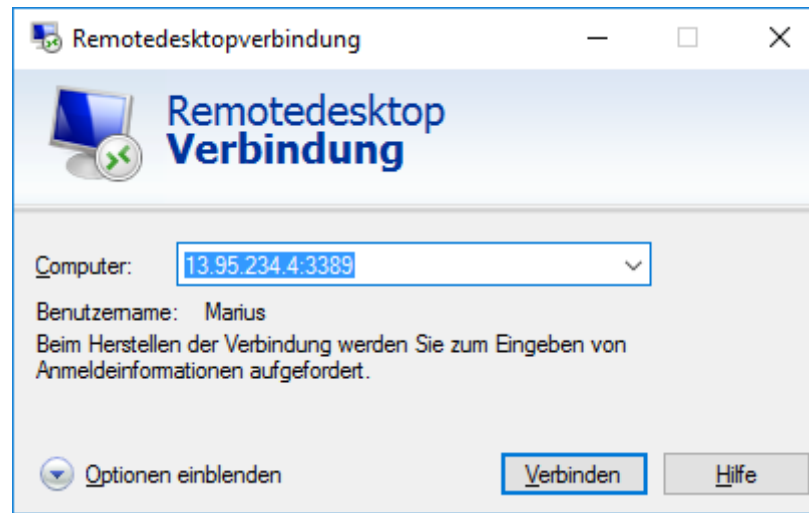
VM Sizing?

DS11_V2 Standard	
2	Cores
14	GB
 4	Data disks
 6400	Max IOPS
 28 GB	Local SSD
	Load balancing
	Premium disk support
119,21 EUR/MONTH (ESTIMATED)	



DS2_V2 Standard	
2	Cores
7	GB
 4	Data disks
 6400	Max IOPS
 14 GB	Local SSD
	Load balancing
	Premium disk support
85,33 EUR/MONTH (ESTIMATED)	

Connect mit RDP



... dann noch per Hand ...

- VM zum Domain Controller machen
- MSSQL Express 2012 installieren
- SP 2013 Configuration Wizard

Zugriff von Außen erlauben

+ Add  Default rules

PRIORITY	NAME	SOURCE	DESTINATION	SERVICE	ACTION	
1000	default-allow-rdp	Any	Any	RDP (TCP/3389)	Allow	...
1010	HTTP	Any	Any	HTTP (TCP/80)	Allow	...
1020	HTTPS	Any	Any	HTTPS (TCP/443)	Allow	...

DNS Namen vergeben


 Save  Discard

Assignment


Dynamic Static


IP address 

13.69.30.231

Idle timeout (minutes) 



DNS name label (optional) 

sp2013dev-mp 

.westeurope.cloudapp.azure.com

Prefer to use your own domain name? [Try Azure DNS now](#)

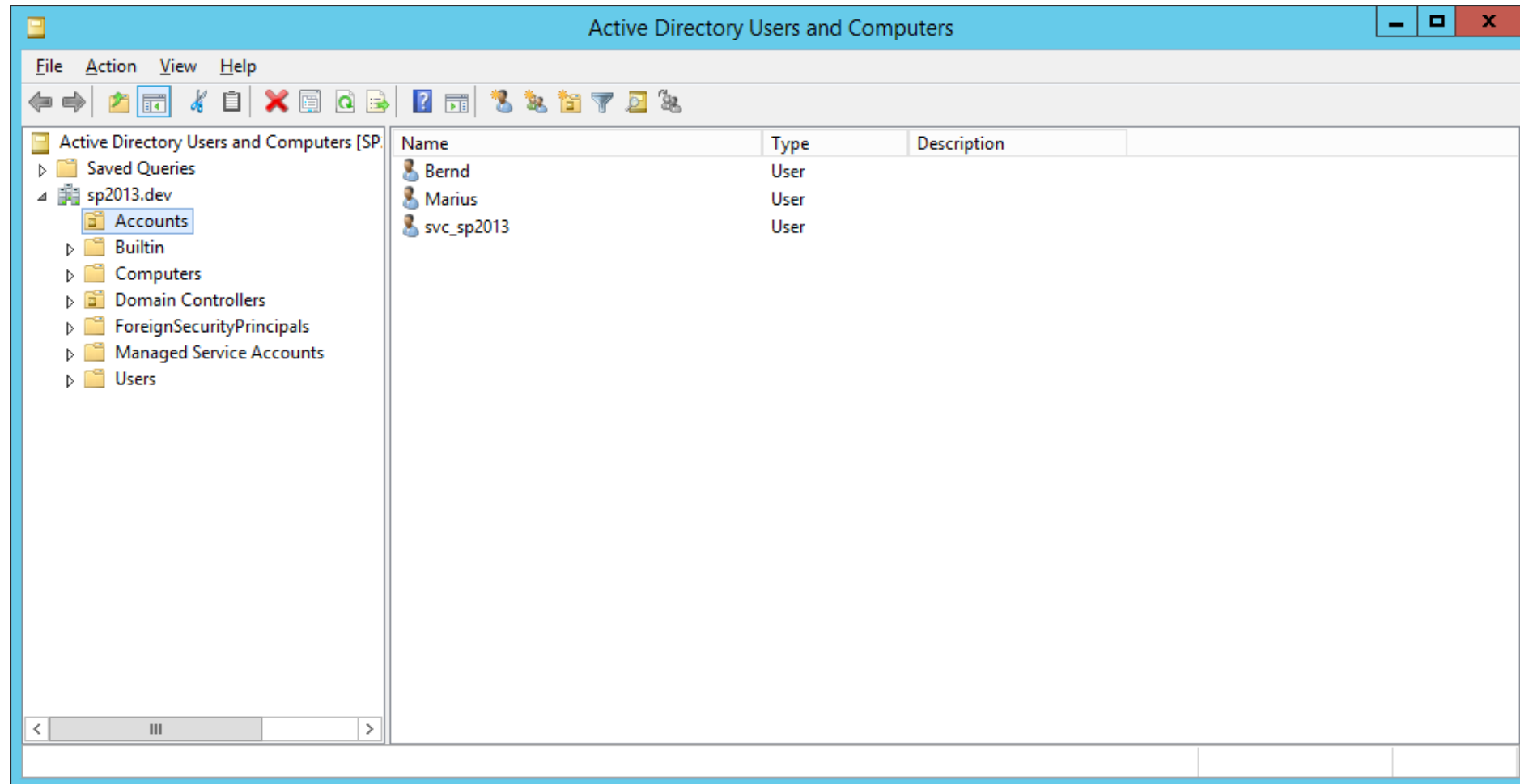
Auto Shutdown

The screenshot shows the 'Auto-shutdown' settings for a virtual machine named 'SP2013Dev'. The interface includes a left-hand navigation pane with categories 'SETTINGS' and 'SCHEDULES'. The 'Auto-shutdown' option is selected under 'SCHEDULES'. The main content area displays the following settings:

- Enabled:** A toggle switch is currently set to 'On'.
- Scheduled shutdown:** A text input field contains the time '19:00:00'.
- Time zone:** A dropdown menu is set to '(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna'.
- Send notification 15 minutes before auto-shutdown?:** A toggle switch is currently set to 'No'.
- * Webhook URL:** An empty text input field.

At the top of the main content area, there is a notification banner that reads: 'Like auto-shutdown? DevTest Labs has more features to control costs and streamline your development workflows. [Learn more.](#)'

AD Nutzer anlegen



Alternate Access Mapping für DNS

SharePoint

Newsfeed OneDrive Sites SP2013\developer

Edit Public Zone URLs

Central Administration

- Application Management
- System Settings
- Monitoring
- Backup and Restore
- Security
- Upgrade and Migration
- General Application Settings
- Apps
- Office 365
- Configuration Wizards

Alternate Access Mapping Collection

Select an Alternate Access Mapping Collection.

Alternate Access Mapping Collection: **SharePoint - 80**

Public URLs

Enter the public URL protocol, host, and port to use for this resource in any or all of the zones listed. The Default Zone URL must be defined. It will be used if needed where the public URL for the zone is blank and for administrative actions such as the URLs in Quota e-mail. <http://go.microsoft.com/fwlink/?LinkId=114854>

Default:

Intranet:

Internet:

Custom:

Extranet:

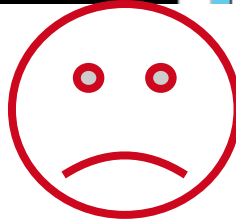
Save Delete Cancel

Letsencrypt SSL Certificate

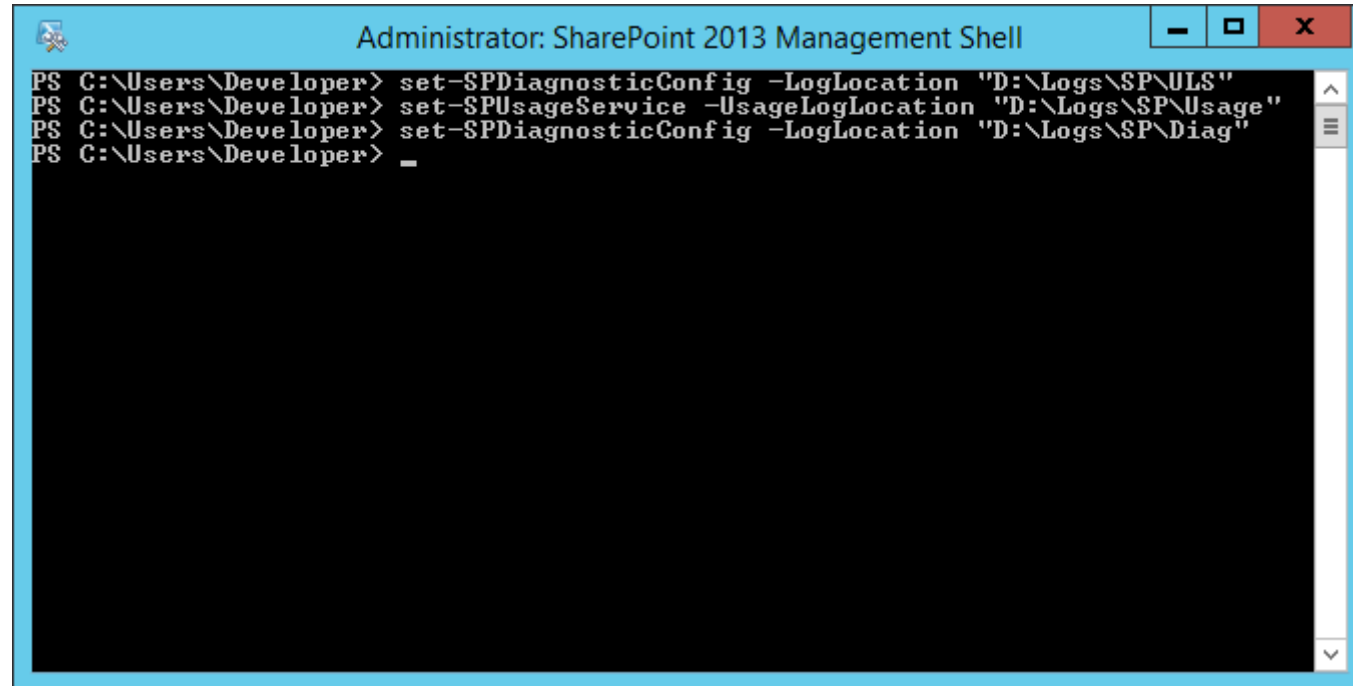
The image shows a screenshot of a web browser displaying the GitHub releases page for 'letsencrypt-win-simple'. The browser window is titled 'Releases · Lone-Coder/lets...' and shows the latest release, 'letsencrypt-win-simple v1.9.3', released on Mar 19. The release notes state: 'This release is the same as 1.9.2 which was erroneously built in debug mode.' and lists a bullet point: 'v1.9.2 was built in debug mode, should be release mode #392'. Below the release notes, there is a 'Downloads' section with a link to 'letsencrypt-win-simple.V1.9.3.zip' (4 MB) and a link to 'Source code (zip)'. A terminal window is overlaid on the page, showing a JSON error response:

```
{ "OriginalContent": "{", "type": "urn:acme:error:rateLimited", "detail": "Error creating new cert :: too many certificates already issued for: azure.com", "status": 429 } }", "Data": [ { "Key": "ProblemDetail", "Value": "{
```

In the background, a 'Site Bindings' window is visible, showing a table with columns: Type, Host Name, Port, IP Address, Bindings, and Add. The table contains one entry: http, sp2013dev-mp.westeurope.c, and an empty Add button.



Logs auf temporäres Laufwerk



```
Administrator: SharePoint 2013 Management Shell
PS C:\Users\Developer> set-SPDiagnosticConfig -LogLocation "D:\Logs\SP\ULS"
PS C:\Users\Developer> set-SPUsageService -UsageLogLocation "D:\Logs\SP\Usage"
PS C:\Users\Developer> set-SPDiagnosticConfig -LogLocation "D:\Logs\SP\Diag"
PS C:\Users\Developer> _
```




Nutzung

Entwicklung

The screenshot displays the development environment for a SharePoint Visual Web Part. The main window shows the code for `VisualWebPart1.aspx.cs` with a breakpoint at line 36. The code includes a `protected override void OnInit` method, an `InitializeControl` method, and a `Page_Load` method that fetches a syndication feed and displays its items as labels. The browser window shows the rendered page at `http://sp2013dev/SitePages/Home.aspx`, which is currently blank with a 'Waiting for sp2013dev' message. The Autos window shows the state of variables: `feed` (a `SyndicationFeed` with 7 items), `item` (a `SyndicationItem`), `this` (the `VisualWebPart` instance), and `this.Controls` (a `ControlCollection`).

Entwicklungsinfrastruktur

- RWTH TFS
 - RWTH Installation weltweit erreichbar
 - Auch Buildserver in der Cloud
- RWTH GitLab
 - RWTH Installation weltweit erreichbar
 - Auch Buildserver in der Cloud
- Visual Studio Online
 - Private Repos als Teil des MSDN Abos
 - Schneller Einstieg, gute Integration in Azure
- GitHub
 - Free Organization Account
 - Unlimited private Repositories
- ...




Billing overview

Plan Unlimited private repositories and users (coupon)

Git LFS Data **\$0** per month for **0 data packs** – [Learn more about Git LFS](#)

[Purchase more](#)

Marketplace Apps You have not purchased any apps from the [Marketplace](#).

Payment  No payment method on file.

[Add payment method](#)

Coupon You have an active coupon for **100% off forever**.

Abrechnung nach einer Woche

Start date: 2017-07-02 End date: 2017-07-08

Apply **Download**

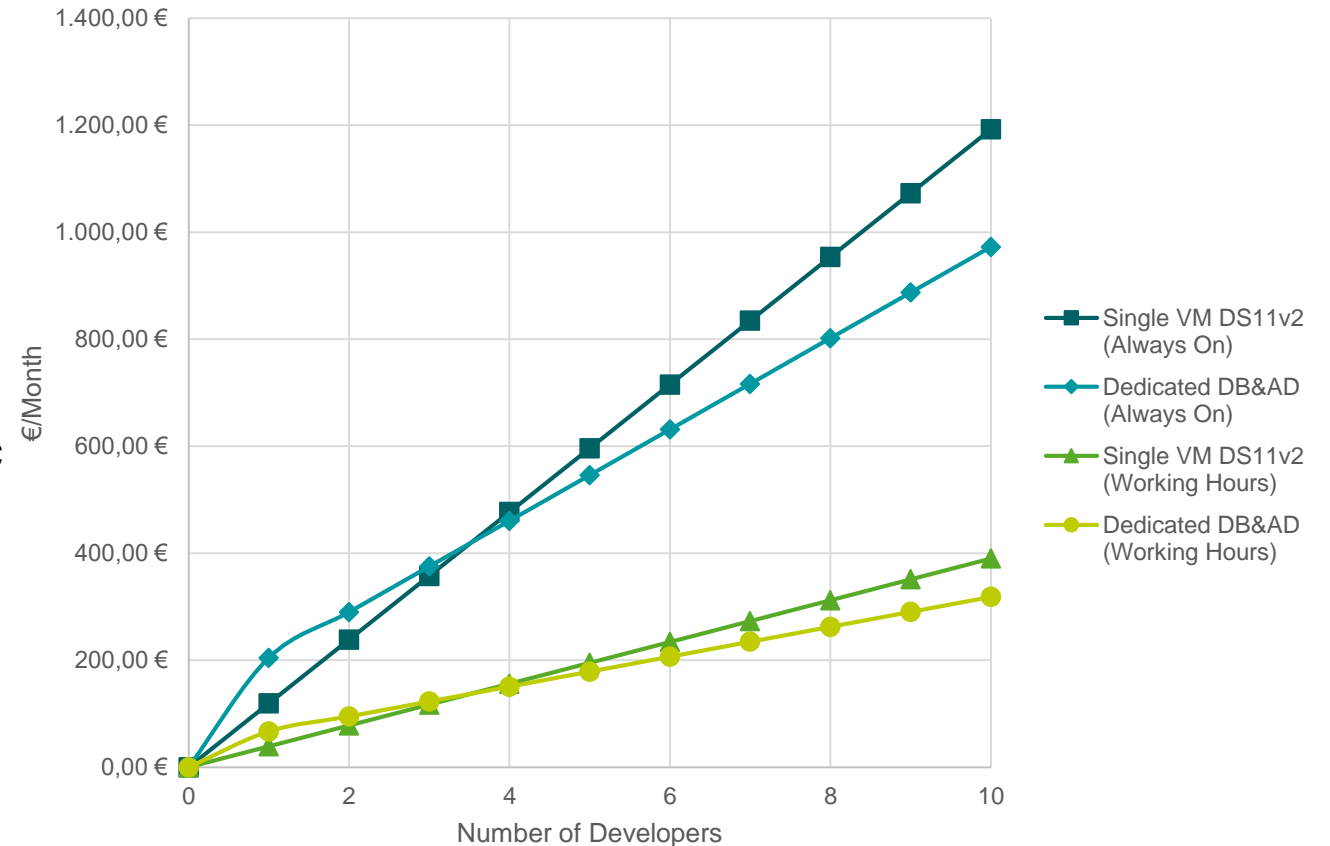
Total cost: **9.43** EUR

NAME	TYPE	RESOURCE GROUP	COST (EUR)
▼ SP2013DevTest	Virtual machine	devlab1106143923000	8,98
32c3ebec-1646-49e3-8127-2cafb3a04d8	Datenübertragungen eingehend (GB)	--	0,00
9995d93a-7d35-4d3f-9c69-7a7fea447ef4	Datenübertragungen ausgehend (GB)	--	0,00
2423b132-5a85-4143-a023-3841f808ba15	Computestunden - VM Standard_D11_v2 (Windows)	--	8,98
▼ SP2013DevTest	Disk	DEVLAB1106143923000	0,45
c01a1eed-b19a-4aad-bb83-8d62cdc29778	Standard-E/A – Seitenblob-Schreibvorgangseinheiten (in 10.000)	--	0,01
d3824379-dc7e-472b-9e67-3f4a7eadc05b	Standard-E/A – Seitenblob-Lesevorgangseinheiten (in 10.000)	--	0,01
e7ee9909-19a9-49e9-855c-c5226617df19	Verwalteter Datenträger/S10 Standard (Einheiten) - Lokal red...	--	0,43
211e620c-ebcf-4db5-a7fd-996abebe9546	Standard-E/A – Blockblob-Schreibvorgangseinheiten (in 10.000)	--	0,00
40551b4c-e8be-48ed-b70b-f8d25c7de724	Standard-E/A – Blockblob-Lesevorgangseinheiten (in 10.000)	--	0,00
f14382b0-1838-48e9-9314-c7b6eababc81	Standard-E/A – Seitenblob-Löschvorgangseinheiten (in 10.000)	--	0,00
▶ adevlab2224	Storage account	DevLabRG876770	0,00

Talking Numbers

- SharePoint Single Server Template
- Always On DS11v2 ~120€/Month
 - Covered by 130€/Month included in VS Ent. MSDN
- Working Hours DS11v2 ~40€/Month
 - Covered by 45€/Month included in VS Pro. MSDN
- Microsoft Lizenzprogramm Select Plus Academic
 - VS Ent. MSDN: 1568,37€ (1st y) + 729,61€/y(after)
 - VS Pro. MSDN: 238,70 (1st y) + 209,17€/y (after)
- Save some resources by
 - Using a dedicated DB / AD VM
 - And scale dev VM smaller (DS2_v2)

Projected Costs for Development VMs in Azure by Team Size



Working Hours: 7:30 – 18:30, 5 Days / Week

Fazit

- Mock Ups für Exporte / Schnittstellen nötig
 - Wegen GDPR sowieso
 - IP Bereich kann recht genau abgesteckt werden
 - Mindestens Integrationsstests “zu Hause”
- Andere Entwicklungsszenarien:
 - Auch Linux VMs: Ubuntu, CentOs, ...
 - Nach bedarf können ganze Serverfarmen getestet werden
- Laufende Kosten durch MSDN Abo gedeckt
 - Für kleine und mittlere Projekte
 - Für gelegentliche / spontane SP Entwicklung

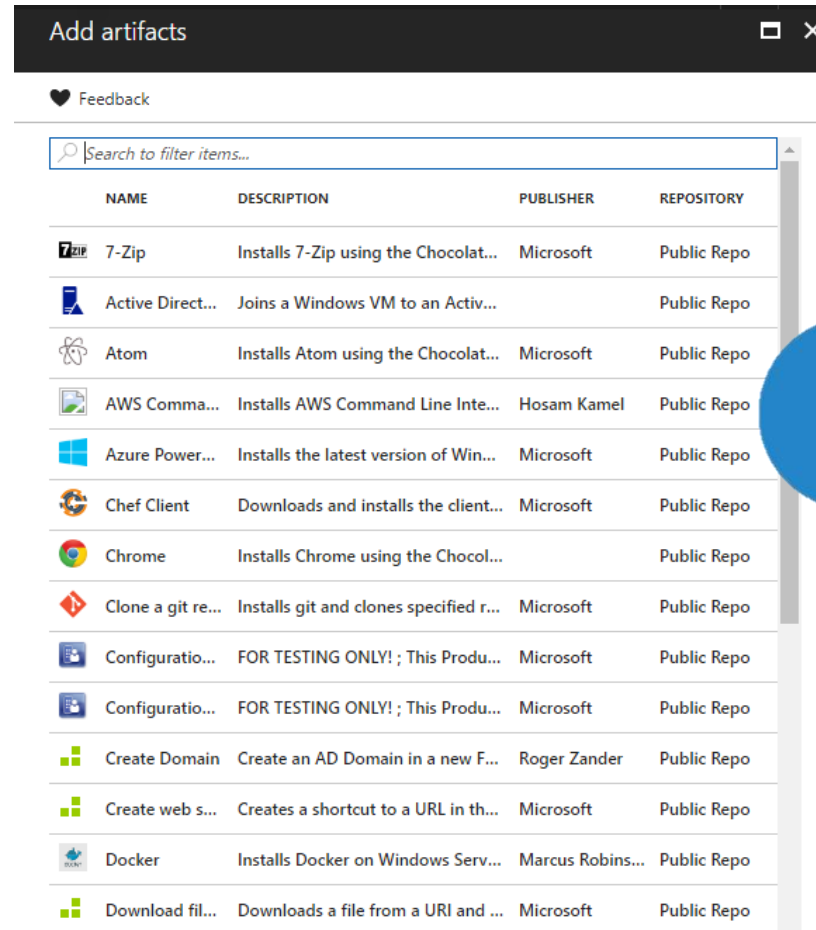
Wie geht es weiter?

- Ohne weiteres kein SSL mit LetsEncrypt
 - DNS Zone für SSL Zertifikate schafft evtl. Abhilfe
- Ersteinrichtung recht kompliziert
 - Bisher durch Betriebsabteilung
 - Erweitertes Template schafft abhilfe
- Weitere Projekte in der Azure Cloud geplant

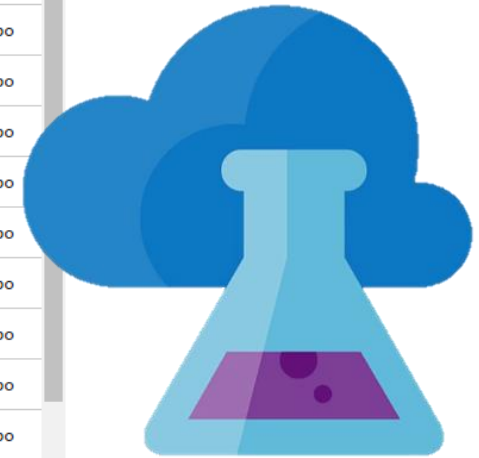
But Wait There is More...

Azure DevTest Labs

- Automated Shutdown und Startup
- Shared Settings, Templates and Secrets
- Shared private Network
- Automated Artefact installation
- Only one Subscription for all VMs :-)



NAME	DESCRIPTION	PUBLISHER	REPOSITORY
7-Zip	Installs 7-Zip using the Chocolat...	Microsoft	Public Repo
Active Direct...	Joins a Windows VM to an Activ...		Public Repo
Atom	Installs Atom using the Chocolat...	Microsoft	Public Repo
AWS Comma...	Installs AWS Command Line Inte...	Hosam Kamel	Public Repo
Azure Power...	Installs the latest version of Win...	Microsoft	Public Repo
Chef Client	Downloads and installs the client...	Microsoft	Public Repo
Chrome	Installs Chrome using the Chocol...		Public Repo
Clone a git re...	Installs git and clones specified r...	Microsoft	Public Repo
Configuratio...	FOR TESTING ONLY! ; This Produ...	Microsoft	Public Repo
Configuratio...	FOR TESTING ONLY! ; This Produ...	Microsoft	Public Repo
Create Domain	Create an AD Domain in a new F...	Roger Zander	Public Repo
Create web s...	Creates a shortcut to a URL in th...	Microsoft	Public Repo
Docker	Installs Docker on Windows Serv...	Marcus Robins...	Public Repo
Download fil...	Downloads a file from a URI and ...	Microsoft	Public Repo



Thank you for your attention

Vielen Dank für Ihre Aufmerksamkeit