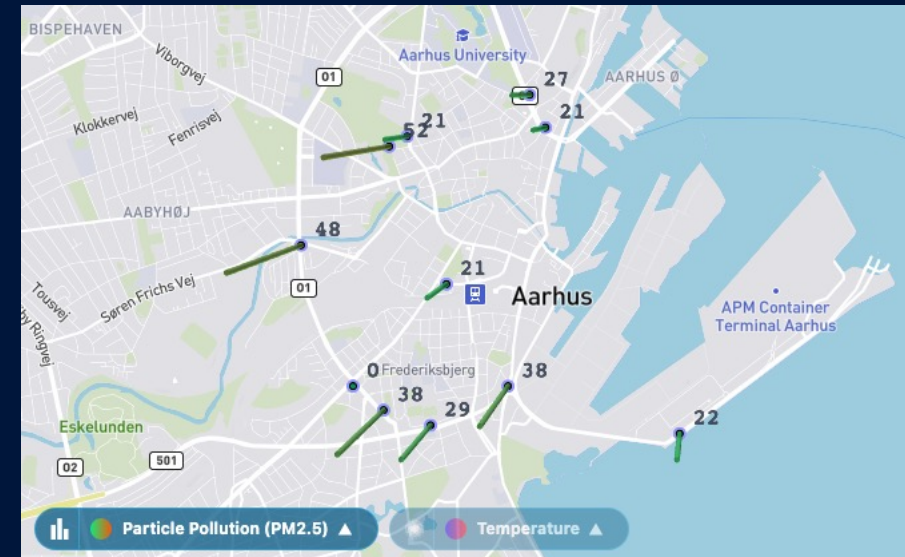
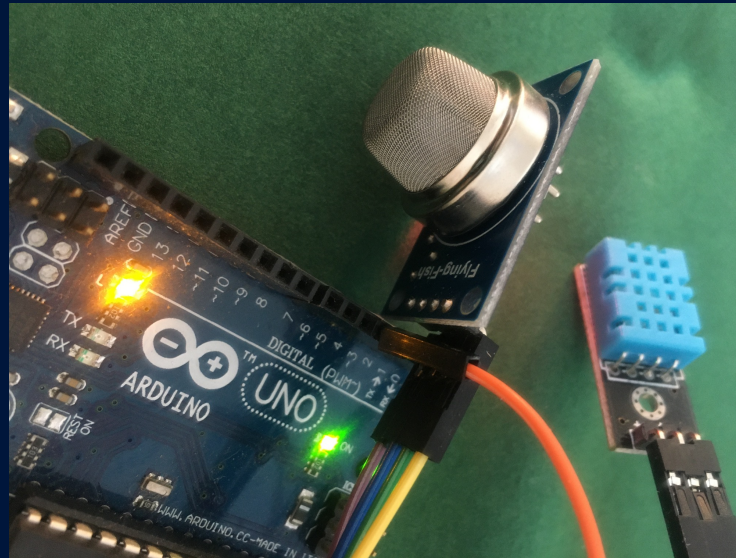


COPENHAGEN BUSINESS ACADEMY



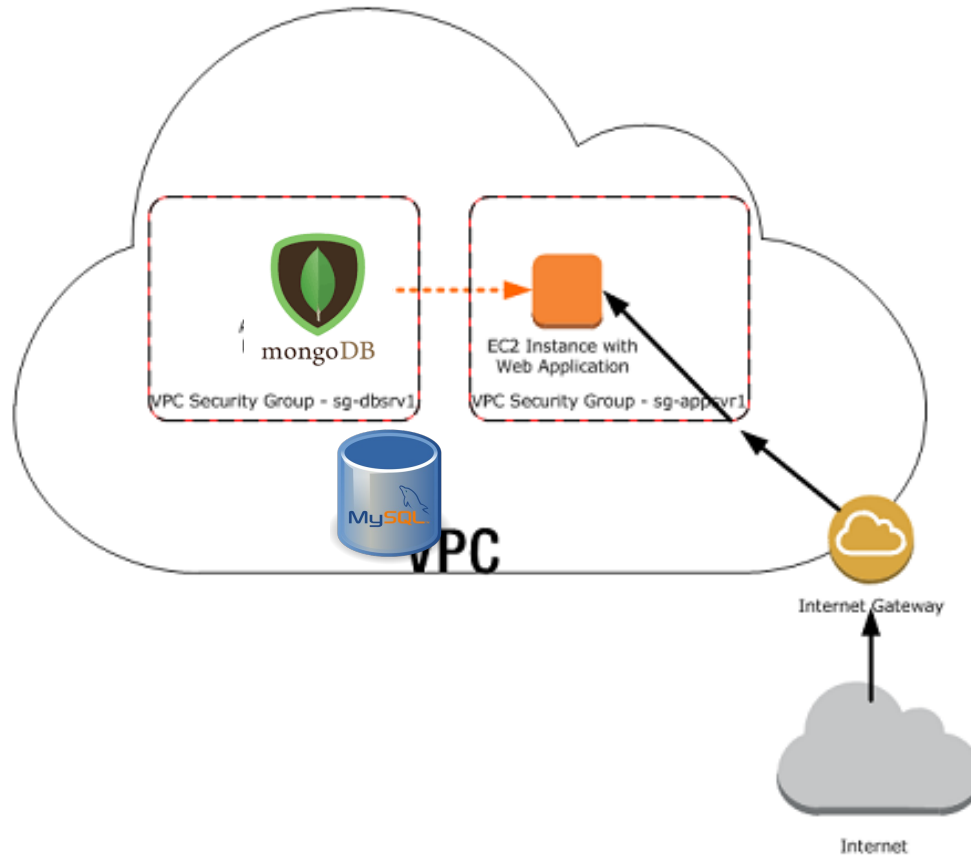
DATA ENGINEERING



Agenda – I gang igen med AWS

- AWS status og intro
 - sikkerhed og instances
- Windows server
 - recap
 - scheduler-øvelse
 - øvelser fra ppt
- Linux server
 - recap til OS
 - terminalen
 - intro med crontab
 - øvelser fra ppt
- SQL og R på Windows / Linux
 - scateboard med kode fra git
- Den tyske bilbase

Bilbasen – slutmålet



- **MongoDB**
 - Create AWS EC2 instance
 - Get rdp-access
 - Client access
 - mongosh
 - Dev access
 - mongolite
- **SQL**
 - Create AWS RDS
 - Client access
 - MySQL-Workbench
 - Dev access
 - RMariaDB
- **Files**
 - Create AWS S3 bucket
 - Dev access
 - aws.s3

Linux vs Windows


 @devppratik

Bash Command	Powershell Equivalent (alias)	Description
echo	Write-host (echo)	Outputs the strings that is passed as arguments
pwd	Get-Location (pwd)	Prints the current working directory
ls	Get-ChildItem (ls)	Lists the names of files in a particular directory
cd	Set-Location (chdir)	Change the current working directory to the argument passed
cp	Copy-Item	Copies the file or directory
rm	Remove-Item (rm)	Remove objects such as files, directories from file systems
touch	New-Item	Create, change and modify timestamps of a file
cat	Get-Content	Reads files sequentially and write them to standard output.
man	Get-Help	Displays the user manual of any command
cat	Get-Content	Reads files sequentially and write them to standard output.
man	Get-Help	Displays the user manual of any command

mkdir

Laver en folder

Windows

Powershell Equivalent (alias)	Description	 ~@devppratik
Write-host (echo)	Outputs the strings that is passed as arguments	
Get-Location (pwd)	Prints the current working directory	
Get-ChildItem (ls)	Lists the names of files in a particular directory	
Set-Location (chdir)	Change the current working directory to the argument passed	
Copy-Item	Copies the file or directory	
Remove-Item (rm)	Remove objects such as files, directories from file systems	
New-Item	Create, change and modify timestamps of a file	
Get-Content	Reads files sequentially and write them to standard output.	
Get-Help	Displays the user manual of any command	

Øvelser

- Opret foldere DAL og temp?
- Cd til temp og hent flg vha wget
 - <https://raw.githubusercontent.com/cphstud/DALE23W48/master/scrape.csv>
 - <https://raw.githubusercontent.com/cphstud/20m9596V2-uge5/master/test.ps1>
- Hvor stor er filen test.ps1?
- Hvordan vil du eksekvere scriptet?
- Modificer scriptet så det udskriver dit navn
- Lav en folder i temp der hedder test og få vha chatgpt et script der kan lave 20 tomme filer i test-folderen
- Installér notepad++ og sørg for at notepad++ er føjet til stien i dit environment
- Lokaliser mongodb's logfil og find den sidst tilføjede linje

Linux

Bash Command

echo

pwd

ls

cd

cp

rm

touch

cat

man

Description



Outputs the strings that is passed as arguments

Prints the current working directory

Lists the names of files in a particular directory

Change the current working directory to the argument passed

Copies the file or directory

Remove objects such as files, directories from file systems

Create, change and modify timestamps of a file

Reads files sequentially and write them to standard output.

Displays the user manual of any command

Lav **filer med indhold** med cat-kommandoen og redirection (slut med <ENTER> og derpå <ctrl+d>).

```
Administrator@DESKTOP-7QA27BH MINGW64 ~/test/filer/store  
$ cat > test2.sh  
#!/bin/bash  
echo "hello world"
```

Øvelser

- Opret foldere DAL og tmp
- Cd til tmp og hent flg vha wget (eller curl)
 - <https://raw.githubusercontent.com/cphstud/DALE23W48/master/scrape.csv>
 - <https://raw.githubusercontent.com/cphstud/20m9596V2-uge5/master/test2.sh>
- Hvor stor er filen test2.sh?
- Hvordan vil du eksekvere scriptet?
- Modificer scriptet så det udskriver dit navn
- Lav en folder i tmp der hedder test og få vha chatgpt et script der kan lave 20 tomme filer i test-folderen
- Lokaliser mongodbs logfil og find den sidst tilføjede linje
- Hent cmd.sh fra <https://github.com/cphstud/20m9596V2-uge5>, læg det i tmp-folderen og undersøg hvordan det skal eksekveres

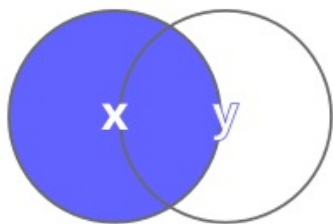
SQL og R

- Hello World med R
- Install packages
- command-lines arguments
- Read csv via commandline
- Init car-script
 - MySQL from commandline
 - create database
- RunScrape-Script
 - newscrape.csv
 - newnewscrape.csv

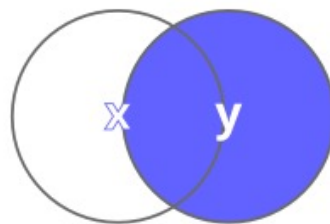
```
| => cat get.sql
CREATE OR REPLACE view getlatest as
SELECT c.mpg,c.milage,c.maketype,c.region,c.year,c.type,c.make,c.car_id,ph.price, ph.scrapedate, ph.sold
FROM cars c
INNER JOIN (
    SELECT car_id, MAX(scrapedate) AS max_date
    FROM pricehistory
    GROUP BY car_id
) latest_ph ON c.car_id = latest_ph.car_id
INNER JOIN pricehistory ph ON latest_ph.car_id = ph.car_id AND latest_ph.max_date = ph.scrapedate
WHERE ph.sold=0
```

dplyr *joins*

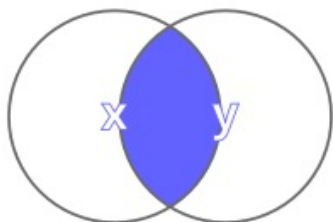
left_join(x, y)



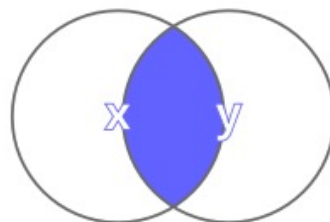
right_join(x, y)



inner_join(x, y)

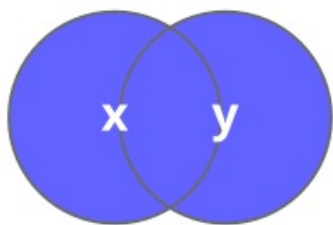


semi_join(x, y)

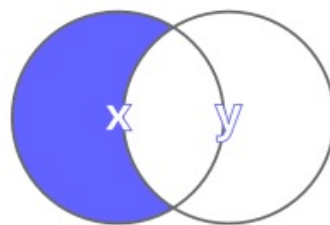


(never duplicate rows of x)

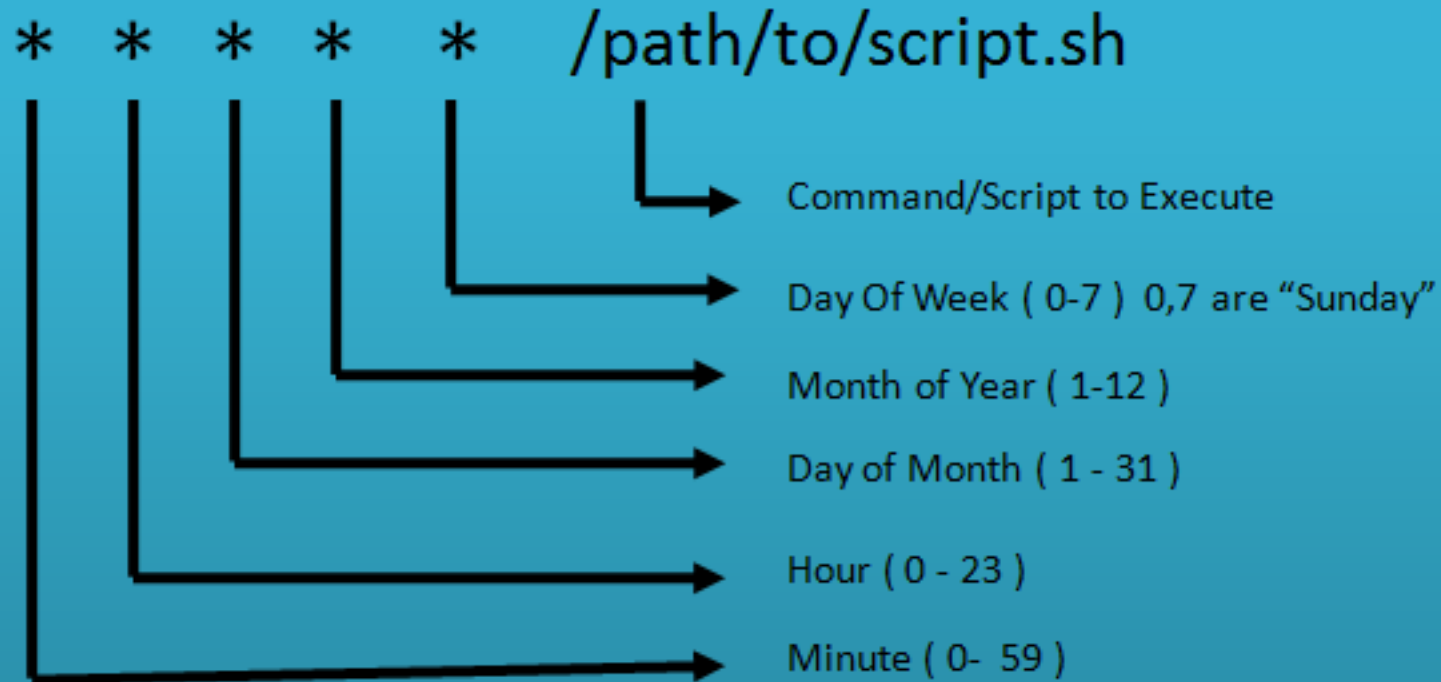
full_join(x, y)



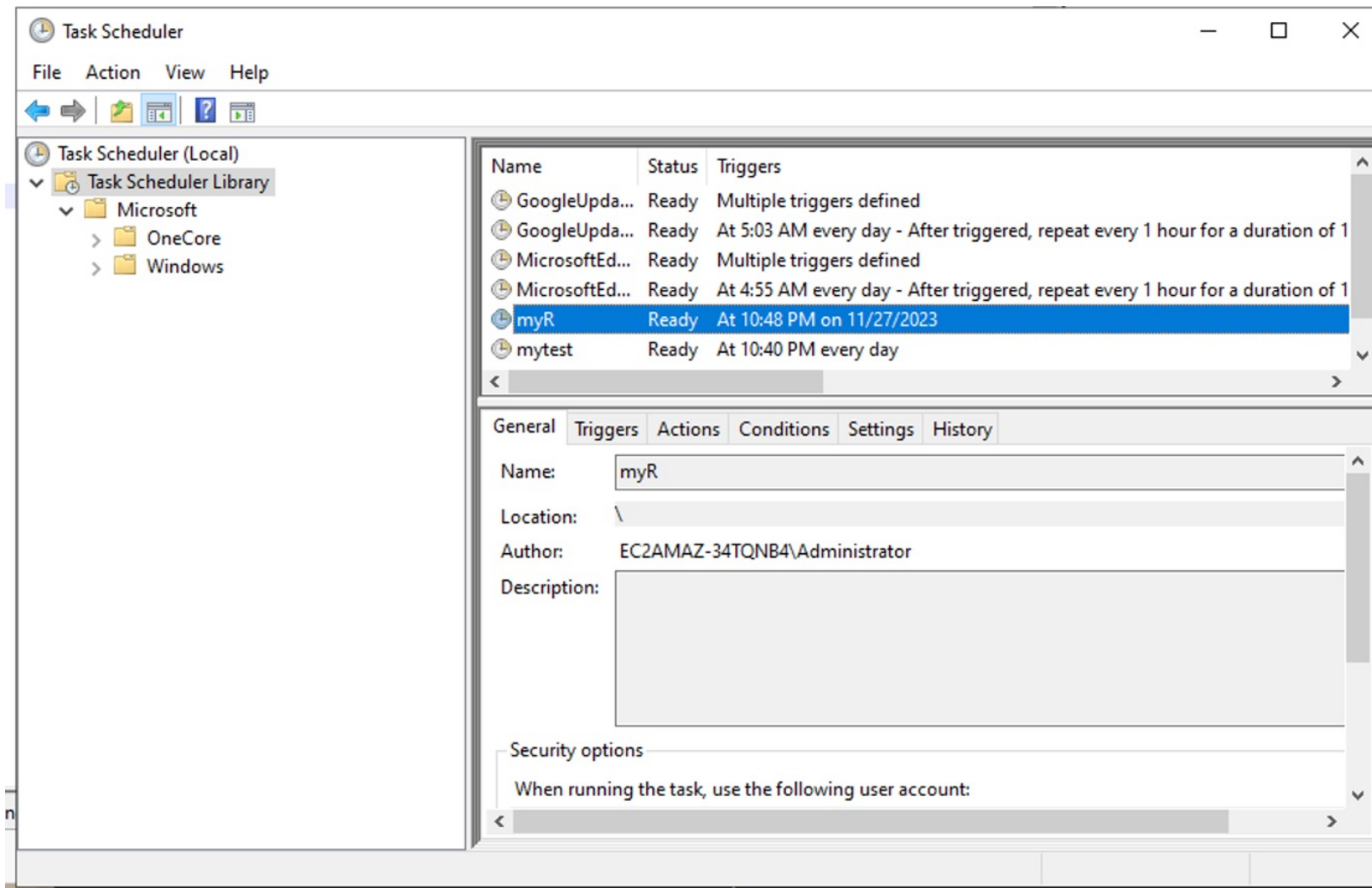
anti_join(x, y)



SQL og R på linux




SQL og R på windows



SQL og R på windows med tyske biler

BMW X1 sDrive20i Advantage LED RFK Tempomat Shz PDC


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1 / 23

/\ 25.783 km

⚙ Automatik

📅 06/2019

⛽ Benzin

🔌 141 kW (192 PS)

🌿 136 g/km (komb.) | 6 l/100 km (komb.) ²

Bobrink GmbH ★★★★★ (12)

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Der ligger templatekode på
<https://github.com/cphstud/DALE23W48>

	milage	make	model	type	zip	reg	sellertype	fueltype	customer_id	car_id	price	pricelabel	scrapedate	sold
1	99809	bmw	320	c	22846	07-2014	d	b	29012288	1a7df12f-8dc6-427b-8140-bb02600d3ae1	19900	fair-price	2023-11-26	0
2	90736	bmw	318	c	67098	04-2005	d	b	30220572	ebf6d6b3-f83c-4bcb-b580-336bd9ce6bf6	9890	fair-price	2023-11-26	0
3	213163	bmw	330	c	67098	05-2002	d	b	30220572	1eea4b2c-be07-49b8-b303-266350640685	7950	good-price	2023-11-26	0
4	185147	bmw	320	c	67098	01-2002	d	b	30220572	c7598dcb-02da-4f57-baa0-a24f055932f7	7490	top-price	2023-11-26	0
5	101301	bmw	320	c	01328	05-2014	d	d	20090487	1ed9ad9e-cada-4571-ab8e-f825843ae6f9	16590	top-price	2023-11-26	0
6	80000	bmw	318	c	88400	08-2008	p	b	44635925	362eb7e1-4be7-49d0-8580-5296b9d4d767	8490	toolow-price	2023-11-26	0