

# On OpenVMS – Running Oracle APEX

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- IT professional since 1988
- Oracle Certified Master
- VMS since 1988
- Oracle since 1994
- AVTware since 2017



# Campus Marienthal Services GmbH

- Founded in 2012
- Focus on
  - consulting
  - Training
  - Hotline services
- We do



# Motivation

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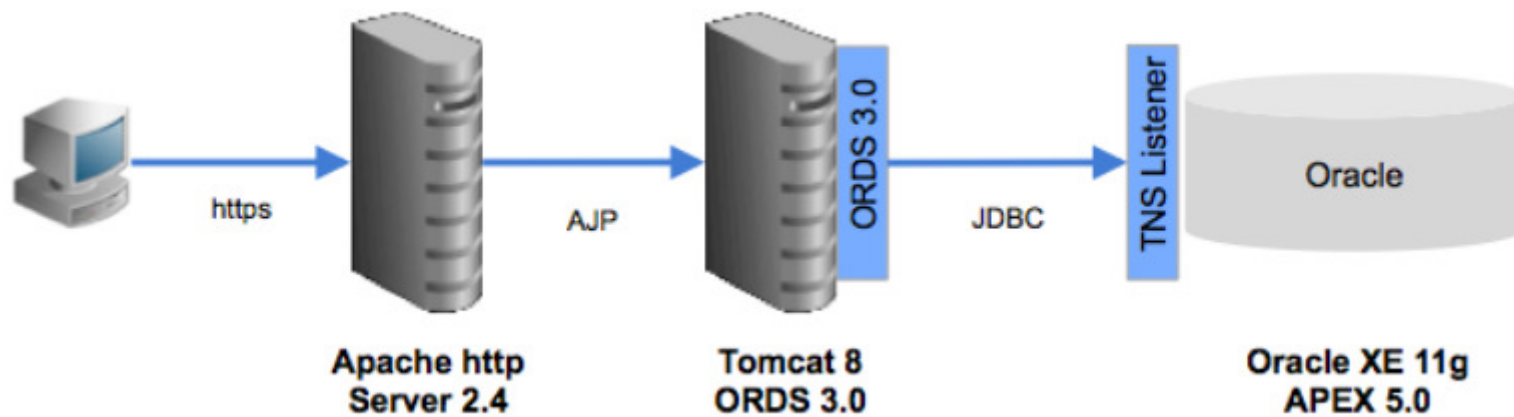
- OpenVMS back on the road
- But what about
  - Applications on VMS
  - Migrating applications back to OpenVMS
  - Software development for OpenVMS
- So let's do an application showcase

# What is APEX?

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- Oracle Application Express
  - Initially launched as ORACLE HTMLDB
  - Part of the database
  - Planned as successor for Forms/Reports

# APEX Architecture



APEX on OpenVMS

## What do we need?

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- Oracle Database
- Java8
- Tomcat 8.5
- ORDS 3.0
- Apache 2.4

## What we've got

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- VSI OpenVMS 8.4-2L1
- Oracle Database 11.2.0.4
- Java8
- Tomcat 8.5
- ORDS 3.0
- VSI CSWS





# What goes first?

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- Don't forget unzip 6.0
  - <ftp://ftp.info-zip.org/pub/infozip/vms/>

# Here we go – get the Oracle Database

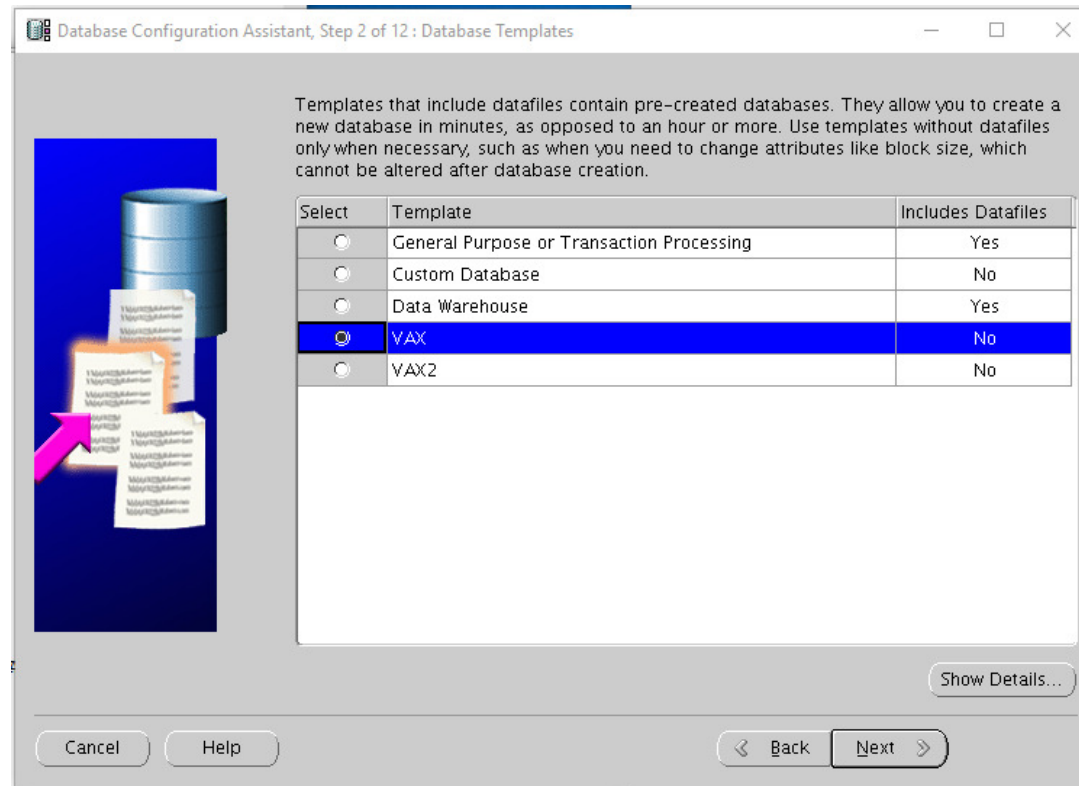
- Get oracle from your Oracle Download source
  - <http://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html>
- Get the latest PSU / CPU
  - <https://support.oracle.com>

# Here we go – Oracle Database - Install



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# Here we go – Oracle Database – Create a DB



# Install APEX – in the database

- Create the same APEX version as on current HP

Install APEX 4.2.2 and upgrade to 4.2.6.3

```
SQL> @apexins APEX APEX TEMP /i/  
  
Session altered.  
  
FOO3  
-----  
install2017-05-07_12-00-52.log  
  
. . .  
.. ORACLE ..  
..  
.. Application Express (APEX) Installation.  
.....  
.
```

# Here we go – JAVA8

- Download from HPE
- Install

```
$ run HPE-I64VMS-JAVA80-V0800--1.PCSI_SFX_I64EXE
UnZipSFX 6.00 of 20 April 2009, by Info-ZIP (http://www.info-zip.org).
  inflating: hpe-i64vms-java80-v0800--1.pcsi$compressed
  inflating: hpe-i64vms-java80-v0800--1.pcsi$compressed_esw
  inflating: hpe-i64vms-java80-v0800--1.pcsi$compressed_hpc

$ product install java80

Performing product kit validation of signed kits ...
%PCSI-I-HPCVALPASSED, validation of DSA302:[STAGE.HP.JAVA]hpe-i64vms-java80-v080
0--1.pcsi$compressed;1 succeeded

The following product has been selected:
    HPE I64VMS JAVA80 V8.0                Layered Product

Do you want to continue? [YES] yes
```

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## Here we go – TOMCAT 8.5.14

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- Download
  - <https://tomcat.apache.org/download-80.cgi>
- Create VMS Scripts
  - Create scripts according to
  - <https://wiki.apache.org/tomcat/TomcatOnOpenVMS>
- Or use CSWS\_JAVA from VSI

# Install APEX – ORDS

- Configure ORDS
  - Use UNIX like syntax for directories

```
$ java -jar ords.war "install" "advanced"
```

- Copy the war file into tomcat webapps folder
- Restart tomcat



## Here we go – VSI CSWS 2.4

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- From the VSI VMS 8.4-2L1 Image
- Install CSWS based on Apache 2.4
- Bug in mod\_proxy – case open with VSI

# One step back – VSI CSWS 2.2

- From VSI
  - Install apache
  - linked with new SSL 1.0.2

```
$ run vsi-i64vms-csws-v0202-1e-1.zipexe
UnZipSFX 6.01 of 29 September 2014, by Info-ZIP (http://www.info-zip.org).
  inflating: vsi-i64vms-csws-v0202-1e-1.pcsi$compressed
  extracting: vsi-i64vms-csws-v0202-1e-1.pcsi$compressed_vnc

$ product install csws /dest=dsa11:[APACHE22]

Performing product kit validation of signed kits ...
%PCSI-I-VSIVALPASSED, validation of DSA302:[STAGE.VSI.I64OPENSOURCE]vsi-i64vms-csws-v0202-1e-1.pcsi$compressed;1 succeeded

The following product has been selected:
  VSI I64VMS CSWS V2.2-1E          Layered Product
```

# One Step forward – VSI CSWS 2.4-3M

- From VSI
  - Install apache 2.4-3M

```
$ run VSI-I64VMS-CSWS-V0204-3M-1.ZIPEXE;1
UnZipSFX 6.01 of 29 September 2014, by Info-ZIP (http://www.info-zip.org).
  inflating: VSI-I64VMS-CSWS-V0204-3M-1.PCSI$COMPRESSED
  extracting: VSI-I64VMS-CSWS-V0204-3M-1.PCSI$COMPRESSED_VNC
$ product install csws /dest=DSA11:[APACHE]

  1 - VSI I64VMS CSWS V2.4-3M           Layered Product
  2 - VSI I64VMS CSWS V2.2-1E         Layered Product
  ? - Help
  E - Exit

Choose one or more items from the menu: 1

Performing product kit validation of signed kits ...
%PCSI-I-VSIVALPASSED, validation of DSA302:[STAGE.VSI.I64OPENSOURCE]VSI-I64VMS-C
SWS-V0204-3M-1.PCSI$COMPRESSED;1 succeeded

The following product has been selected:
  VSI I64VMS CSWS V2.4-3M           Layered Product
```

## Install APEX – add the vmsdemo virtual host

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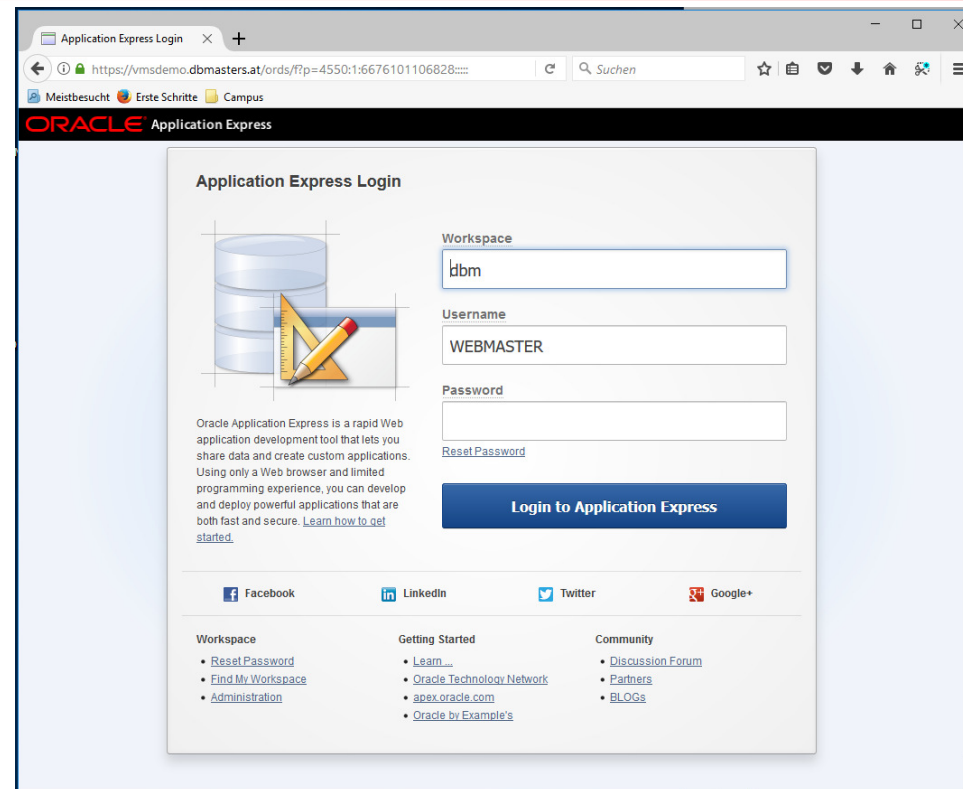
- Configure Apache Reverse Proxy
- Configure the dbmasters.at certificate

# APEX on OpenVMS – Up and running

```
$ sh sys
OpenVMS V8.4-2L1 on node VMS21 9-OCT-2017 18:31:50.89 Uptime 2 04:36:48
  Pid   Process Name   State Pri    I/O      CPU      Page flts  Pages
24A02024 ORA_VAX_PMON    LEF   4     6849    0 00:00:10.36    4438   4109
24A02041 ORA_VAX_DBWO    HIB   6    14208    0 00:00:03.28    5038   4769
24A02044 ORA_VAX_LGWR    HIB   6  1621534    0 00:03:31.52    5864   3430
24A02045 ORA_VAX_CKPT    HIB   5   105706    0 00:00:24.92    3593   3513
24A02048 ORA_VAX_SMON    HIB   6     2873    0 00:00:06.24    8136   7192
...
24A01170 ORA_LISTENER105 LEF   4   362766    0 00:01:00.46    2022   3040
24A01188 TOMCAT 8.5.14   HIB   6 19284005    0 04:41:18.60 75460913 34717 M
....
24A01D4A APACHE$SWS      LEF   6  1242971    0 00:00:49.00    1242   1402
24A01D4B APACHE$SWS0000 LEF   6   216095    0 00:00:13.83    1389   1565
24A01D4C APACHE$SWS0001 LEF   6   161886    0 00:00:10.71    1390   1566
24A01D4D APACHE$SWS0002 LEF   6   255061    0 00:00:13.45    1387   1563
24A01D4E APACHE$SWS0003 LEF   6   216552    0 00:00:13.19    1390   1566
```

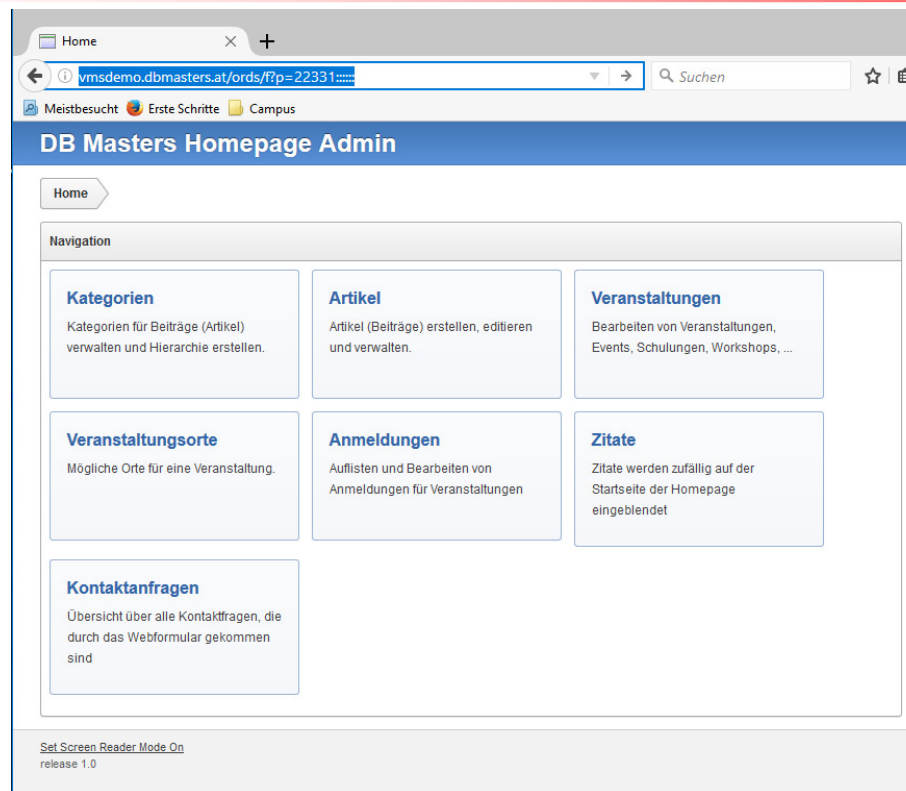
APEX on OpenVMS

# Demo - Login to APEX via https



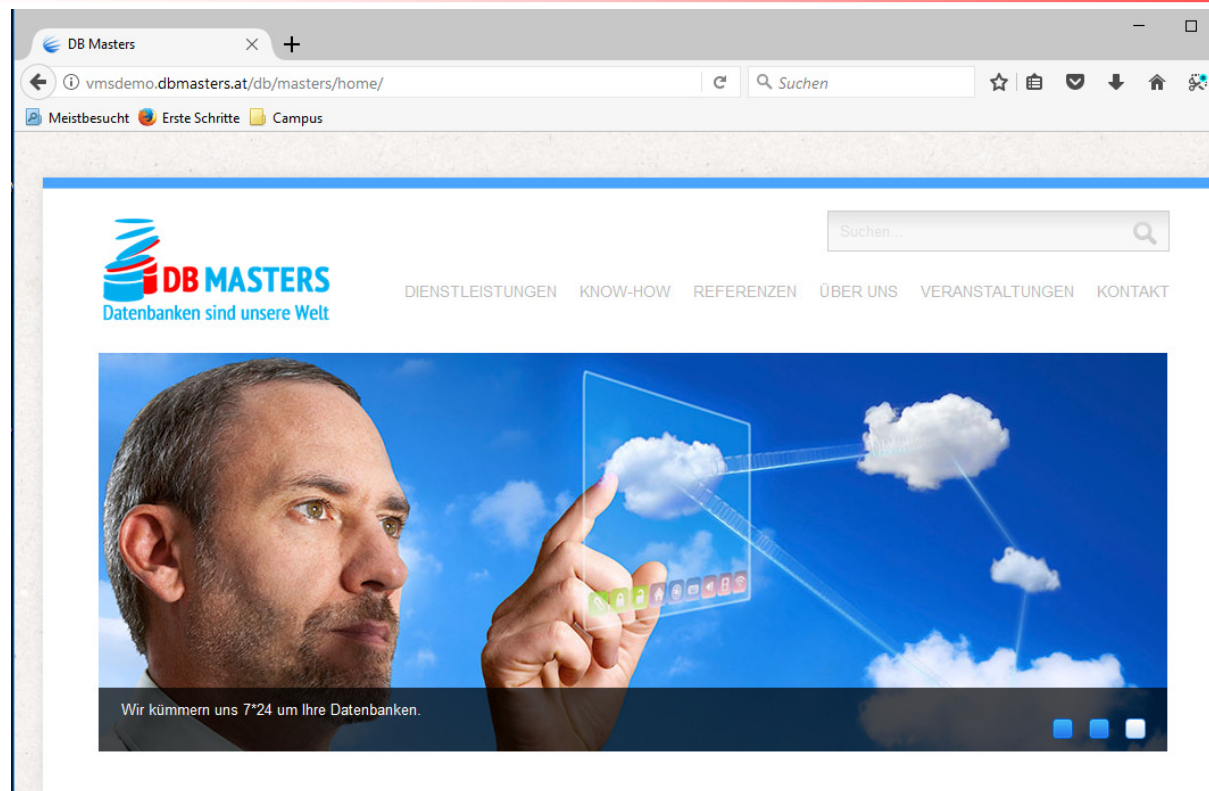
APEX on OpenVMS

# Demo - Login to Homepage admin



APEX on OpenVMS

# Demo - dbmasters.at on VMS Homepage



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# Q & A

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APEX on OpenVMS