

Three white wavy lines resembling water or a signal, positioned above the main title.

Postgres (Pro) on Azure

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Postgres Professional

- Postgres Professional, established in 2015, is a key contributor to PostgreSQL community
- At Postgres Professional we develop Postgres Pro database, a private PostgreSQL fork
- Postgres Professional specializes in custom feature development for PostgreSQL, 24x7 technical support and other professional services (database migration, audit and performance tuning)

Postgres (Pro) on Azure (1/2)

- Why Azure ?
 - one of the 'big three' cloud vendors
- Why Postgres ?
 - the world's most advanced open-source relational database
- Why Postgres Pro ?
 - the most functional PostgreSQL-based database

Postgres (Pro) on Azure (2/2)

- What is better for Postgres on Azure: IaaS or DBaaS ?
 - such comparison is about flexibility vs manageability, each option has pros and cons
 - for IaaS you have more choice of what version of Postgres to use, what extension to add etc., but at the same time you responsible for all management aspects of Postgres (backup, availability and so on)
 - for DBaaS all Postgres management is done by solution provider on Azure, often with SLAs, but on the other hand there're restrictions with specific Postgres version, ability to add extensions etc.

Postgres Pro vs PostgreSQL on Azure

- There are PostgreSQL offers on Azure from other vendors
- Postgres Pro comes in two editions: Standard and Enterprise
- Postgres Pro includes all functionality of PostgreSQL and has additional features on top of it
- Postgres Pro Standard uses BYOL scheme
- Postgres Pro Enterprise license fee is \$0.14 per core per hour
- The Postgres Pro versioning scheme is based on the PostgreSQL one and has an additional decimal place (13.2.2 vs 13.2), which allows shorter release cycle.

Postgres Pro Standard

- Postgres Pro Standard is the most actual PostgreSQL version with some additional patches applied and extensions added
- It includes new features developed by Postgres Professional, as well as third-party patches already accepted by the PostgreSQL community for the upcoming PostgreSQL versions
- Postgres Pro Standard users thus have early access to important features and fixes
- Complete list of Postgres Pro Standard features:

<https://postgrespro.com/docs/postgrespro/13/intro-pgpro-vs-pg>

Postgres Pro Enterprise (1/3)

- Postgres Pro Enterprise contains more features on top of Postgres Pro Standard to work with large databases and process lots of transactions
- Some of the features are built into Postgres Pro Enterprise kernel, the others are available as extensions
- Complete list of Postgres Pro Enterprise features:

<https://postgrespro.com/docs/enterprise/12/intro-pgpro-vs-pg>

Postgres Pro Enterprise (2/3)

- Key features of Postgres Pro Enterprise:
 - compressed file system (CFS)
 - incremental block-level backup (pg_probackup)
 - multimaster (scalable, fault-tolerant shared-nothing cluster with synchronous logical replication)
 - in-memory data processing (in_memory)
 - built-in connection pooler
 - transportable tables
 - advanced task scheduler

Postgres Pro Enterprise (3/3)

- Key features of Postgres Pro Enterprise:
 - query optimizer hints
 - adaptive query planning
 - covering indexes
 - autonomous transactions
 - 64-bit transaction counter
 - database sharding (pg_shardman)
 - online minor upgrade

Postgres Pro on Azure - versions

- All existing Postgres Pro versions are available on Azure Marketplace
- Postgres Pro Standard - 9.5, 9.6, 10, 11, 12, 13
- Postgres Pro Enterprise - 9.6, 10, 11, 12, 13

Postgres Pro on Azure - offers

- Postgres Pro offer on Azure is available as:
 - virtual machine (VM)
 - container
 - VM with Docker image
 - Postgres Pro Standard - VMs, containers and VMs with Docker image
 - Postgres Pro Enterprise - VMs only
 - Postgres Pro Docker images can run in Azure Kubernetes Service

Postgres Pro on Azure - OS

- VM with Postgres Pro Standard - CentOS 7
- VM with Postgres Pro Enterprise - CentOS 7 and Debian 10
- Container with Postgres Pro Standard - Debian 10
- VM with Docker image - Debian 10

Postgres Pro on Azure - content of VM offer (1/2)

- Postgres Pro Standard or Enterprise of specific version
- main database - TCP-port 5433
- Zabbix server/agent
- Apache web server - TCP-ports 80/443
- PostgreSQL database as Zabbix storage - TCP port 5432
- mamonsu agent
- sends Postgres Pro database metrics to Zabbix server
- tunes Postgres Pro database settings in postgresql.auto.conf upon VM's first startup

Postgres Pro on Azure - content of VM offer (2/2)

- HA-cluster Patroni (Consul as DCS, HAProxy for load-balancing)
- 'az' CLI to connect to Azure Blob Storage (backup and restore)
- various useful Linux utilities (screen, dstat, git, make, gcc, bison, flex, patch etc.)
- latest OS updates and security fixes applied
- OS firewall is turned on
- VM's OS disk size is 30 GB

Postgres Pro on Azure - content of container offer

- Postgres Pro Standard of specific version - TCP-port 5433
- 'mamonstu tune' runs upon Postgres Pro Standard startup in container to tune database settings in postgresql.auto.conf
- latest OS updates and security fixes applied
- 'debian:10-slim' is used for building Docker image
- Docker image size is 220-250 MB depending on Postgres Pro Standard version

Postgres Pro on Azure - content of VM with Docker image offer

- PostgreSQL of specific version (for 'psql')
- Docker Engine (community edition)
- The same Docker image used for container offer

Postgres Pro on Azure - Marketplace

- Links to the offers with latest versions of Postgres Pro on Azure Marketplace

<https://postgrespro.com/products/postgrespro/azure>

- You can also choose a specific version of Postgres Pro offer on Azure Marketplace

<https://azuremarketplace.microsoft.com/en-us/marketplace/apps?search=postgres%20pro&page=1>

- Or you can search for 'postgres pro' on Azure Portal

<https://portal.azure.com/#create/hub>

- Azure CLI can be user to get Postgers Pro offers as well

<https://docs.microsoft.com/en-us/cli/azure/install-azure-cli>

Postgres Pro on Azure - Quick start guide (1/3)

- Quick start guide (general information)

<https://postgrespro.com/products/postgrespro/azure/standard>

<https://postgrespro.com/products/postgrespro/azure/enterprise>

- Postgres Pro Enterprise Multimaster and CFS

<https://postgrespro.com/products/postgrespro/azure/enterprise#multimaster>

<https://postgrespro.com/products/postgrespro/azure/enterprise#cfs>

Postgres Pro on Azure - Quick start guide (2/3)

- Postgres Pro database backup and restore

<https://postgrespro.com/products/postgrespro/azure/standard#dbbackup>

<https://postgrespro.com/products/postgrespro/azure/enterprise#dbbackup>

- Postgres Pro database high availability

<https://postgrespro.com/products/postgrespro/azure/standard#dba>

<https://postgrespro.com/products/postgrespro/azure/enterprise#dba>

Postgres Pro on Azure - Quick start guide (3/3)

- Postgres Pro Standard (container) quick start guide

<https://postgrespro.com/products/postgrespro/azure/standard#dockerquickstartguide>

- Postgres Pro Standard (VM with docker) quick start guide

<https://postgrespro.com/products/postgrespro/azure/standard#vmdockerquickstartguide>

Postgres Pro on Azure - Support & Feedback

- In case of issues or questions, you can contact us via e-mail cloud-support@postgrespro.com
- Any kind of feedback about Postgres Pro on Azure is highly appreciated !

Postgres (Pro) on Azure

Demo

postgrespro.com



Postgres (Pro) on Azure

Q & A

postgrespro.com



Postgres Professional

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