

# Python

## Databázy



# Ako Začneme?

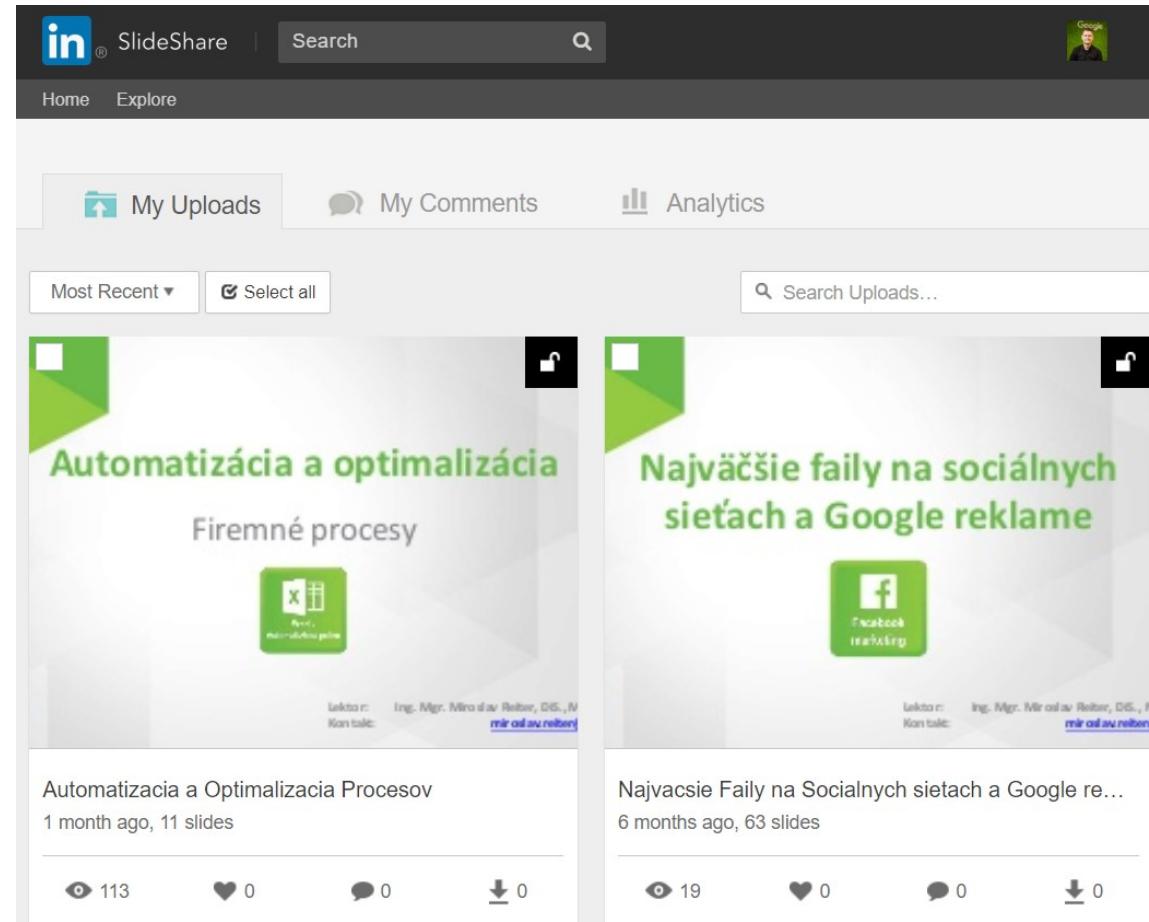
## 1. Registrácia na Jetbrains Datalore + Maj nainštalovaný Anaconda Navigator

- <https://datalore.jetbrains.com/>
- <https://www.anaconda.com/products/>

## 2. Pridaj si ma na LinkedIn

- [www.linkedin.com/in/miroslav-reiter](https://www.linkedin.com/in/miroslav-reiter)

## 3. Prezentácia a materiály po prednáške



[Home](#) » Python a spracovanie dát z databázy

## Python a spracovanie dát z databázy

Programovací jazyk Python poskytuje viacero nástrojov a knižníc na prácu s SQL databázami. SQL je programovací jazyk určený na ukladanie, manipulovanie a vyberanie dát v relačných databázach. Počas kurzu preberieme základy databázových systémov a jazyku SQL a ich nasadenie v programoch vytvorených v Pythone.

### 1. Úvod do Databáz a Databázových Systémov

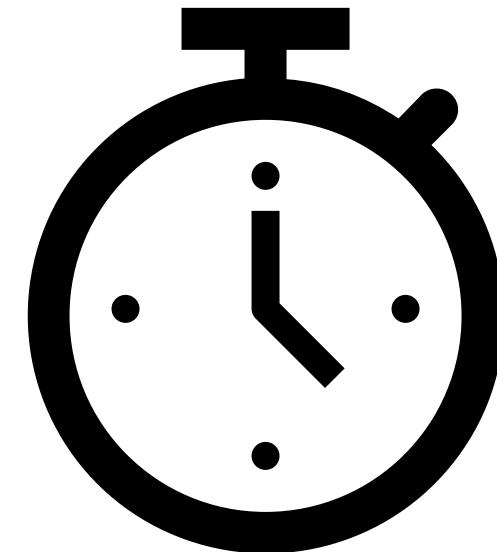
- Databázy, Tabuľky, Dopyty
- Datalore
- Knižnice a Moduly (pymysql, psycopg2, google-cloud)
- Secrets a Heslá
- Environs
- Pripojenie a odpojenie Databázy

### 2. Dopytovanie v SQL a Python

- Jazyk SQL a Dopyty (Queries)
- Tabuľky a Dataframes
- Výber dát a stĺpcov z tabuľky (Select)
- Dátové typy v DB a v Python
- Filtrovanie riadkov (Where)
- Agregačné funkcie (Sum, Min, Max, Avg, Count)
- Limity (Limit, Top, Offset)
- Zoskupenie riadkov (Group by)
- Logické operátory (And, Or, Not, Xor)
- Vytvorenie tabuľky (Create)
- Vymazanie tabuľky (Delete)
- Aktualizácia tabuľky (Update)

# Úvodné informácie

- Časový rozvrh (9:00-13:30)
  - Prestávky
  - Mobilné telefóny a zariadenia
- 
- Priprav si otázky a rovno sa pýtaj
  - Interaktívna forma



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---

**MOTIVÁCIA**

# Študuje 5 odborov a absolvoval už 12 univerzít. Ako zvláda stres a manažovanie času?



Foto: Jakub Kovalík pre FMK UCM | Miroslav Reiter na prednáške Grow with Google na FMK UCM.

**Nikola Kotláriková**

19. júl 2022 · 8 min. čítania



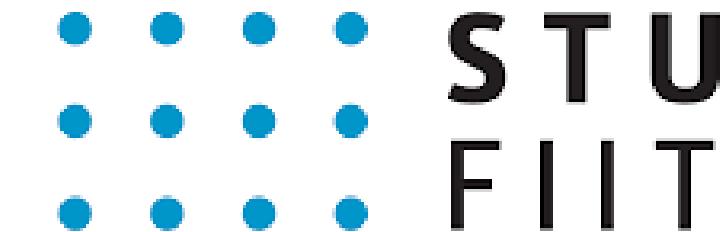
# Miroslav Reiter



1. PhDr. VŠM (Podnikovný manažment)
2. Ing. STU FEI (**Aplikovaná informatika**)
3. Mgr. UK FM (**Strategický manažment a marketing**)
4. Mgr. VŠM (**Manažérstvo kvality**)
5. Mgr. VŠEMVŠ (Verejná správa)
6. Mgr. DTI (Učiteľstvo ekonomických predmetov)
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10. MPA IES (Verejná správa a samospráva krajov)
11. MSc. Humanum (**Bezpečnosť informačných systémov**)
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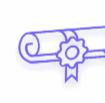
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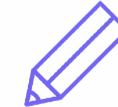
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Začiatočník  
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# Moje začiatky

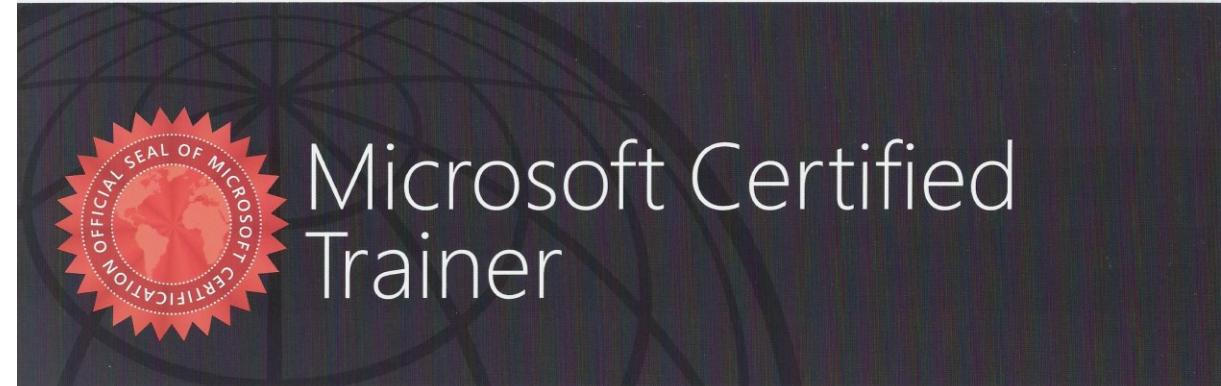


# Miroslav Reiter

získava status  
**Google Certified Trainer**

Automation

Google



MIROSLAV REITER

Has successfully completed the requirements to be recognized as a Microsoft Certified Trainer

N. S. Nadella  
Satya Nadella  
Chief Executive Officer

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Luigi, Mário  
a Yoshi



# Čo robíte?

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2. Zamestnanec

3. Podnikateľ

4. Nezamestnaný/materská

5. Dievča pre všetko



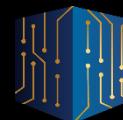
National competence centre for high performance computing  
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#### Vzdelávanie

Kurzy:  
[itkurzy.sav.sk](http://itkurzy.sav.sk)



#### Propagácia

Prednášky:  
<https://eurocc.nscc.sk/vzdelavanie/prednasky/prednasky-archiv/>



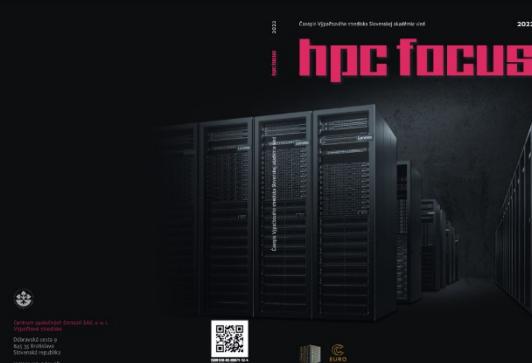
#### HPC služby

Prístup k  
výpočtovým  
prostriedkom



#### Spolupráca

Pilotné projekty  
  
Dlhodobá  
spolupráca



robíme it



Qubit  
Conference

### S kým spolupracujeme:

- Akademické inštitúcie, univerzity,  
ústavy SAV...
- Verejná správa
- Súkromné firmy
- Tretí sektor



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# Interaktívna prednáška

# Aktívne používanie a zapájanie sa

Participants (20)

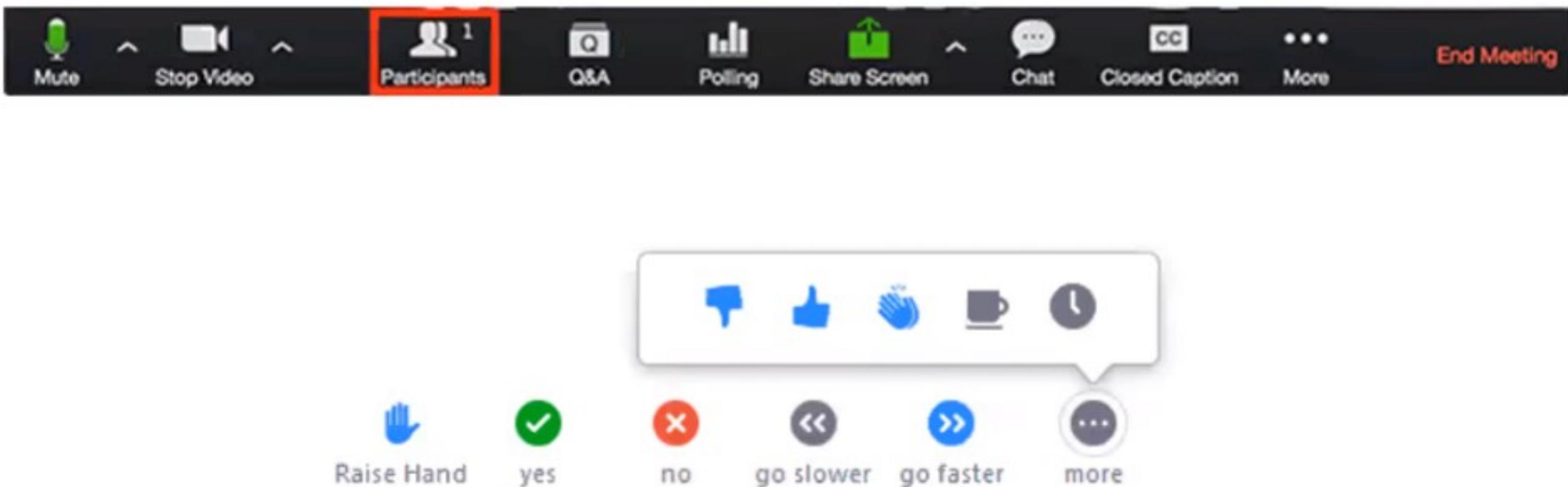
Find a participant

Participant	Color Swatches	Microphone (Green)	Video (Blue)
MR Miroslav Reiter (Me)			

Raise Hand      yes      no      go slower      go faster      more

Invite      Mute Me

# Používame Zoom



# Vaše ciele a očakávania

1. Doplniť si znalosti z jazyka Python

2. Základy analytického myslenia

3. Základy spracovania dát

4. Základy databáz

5. Doplniť si znalosti z Jetbrains Datalore

Zábava je v zaručená v každom bode :-)



# Ako sa pripojiť na Databázy v Python?





**Hello  
MY NAME IS**

**Database**

# **Explain a database in three sentences to your 8-year-old nephew.**

Job: Product Manager

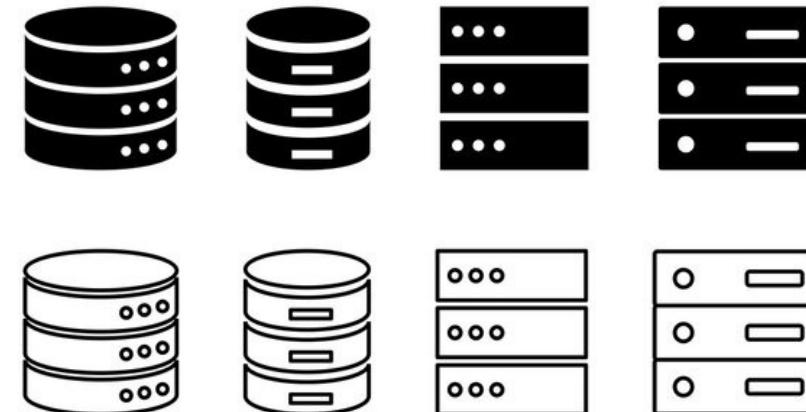
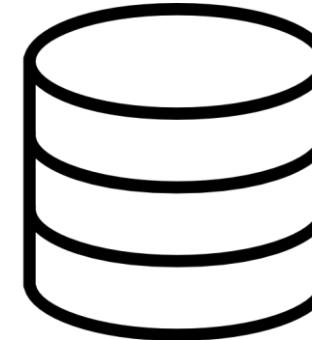
Answer: The point here is to test the applicant's ability to communicate complex ideas in simple language. Here's our attempt: "A database is a machine that remembers lots of information about lots of things. People use them to help remember that information. Go play outside."



Daniel Goodman / Business Insider

# Čo je Databáza?

- Je **kolekcia dát**
- Je **kontajner**, ktorý obsahuje **tabuľky** a iné **štruktúry SQL** súvisiace s **týmito tabuľkami**
- Je **množina štruktúrovaných dát alebo informácií** uložených v **počítačovom systéme**, takým spôsobom, že **počítačový program alebo človek** môže použiť **dopytovací jazyk** (napr. SQL, XMLQuery) na získavanie týchto informácií



# Čo je Databáza?

Databáza = Báza Dát = Organizovaný sklad dát

- Operačné dáta
  - Vstupné dáta
  - Výstupné dáta
- Agregované dáta
- Metadáta

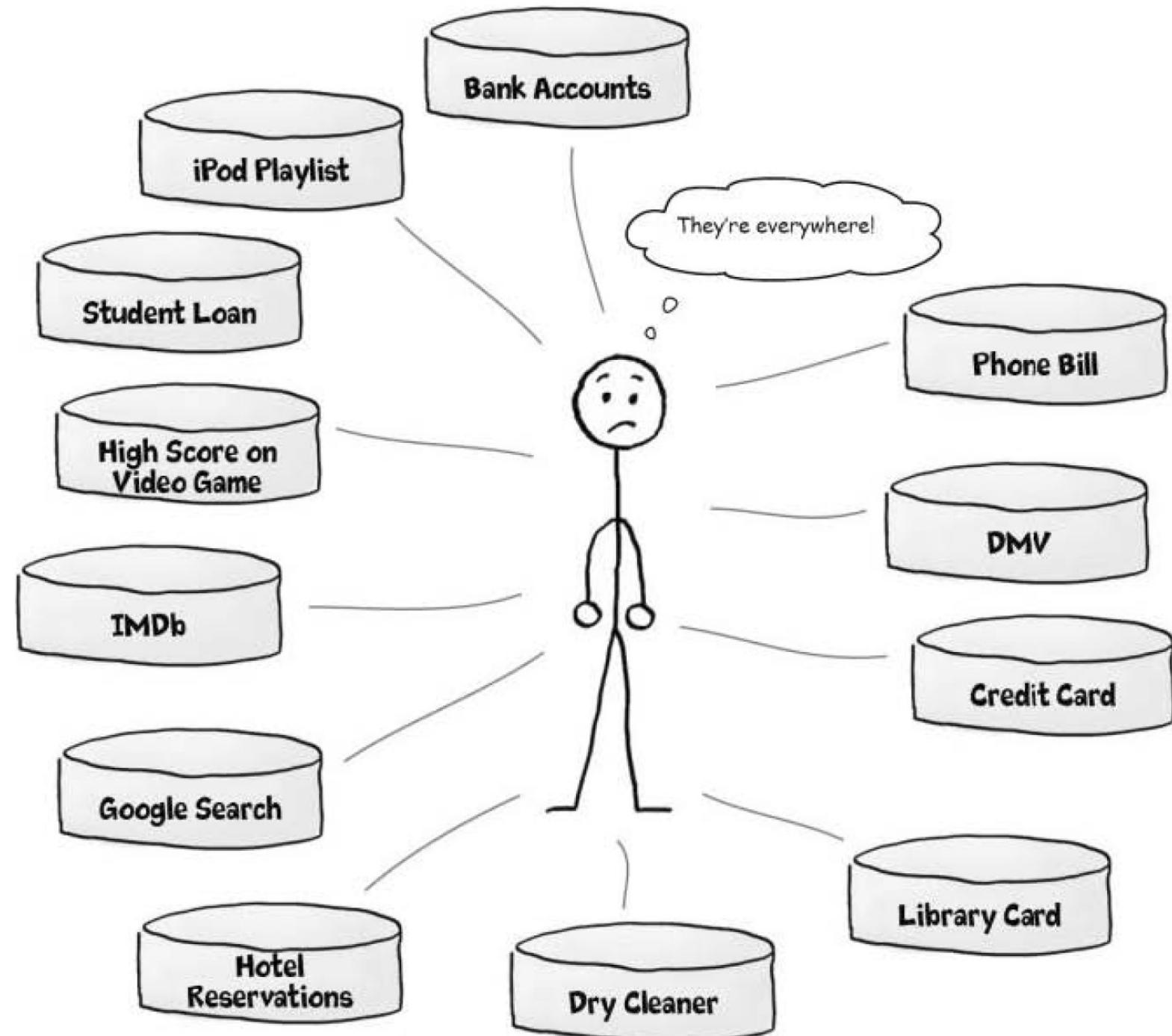


Dáta = Údaje

# Čo je Databáza?

1. Komplex súborov dát, ktoré sú v určitom logickom vzťahu ([Krátky slovník slovenského jazyka, 2003](#))
2. Elektronicky uložený súbor informácií usporiadaných tak, aby sa dali ľahko vyhľadávať, triediť a pod. ([Slovník cudzích slov \(akademický\), 2005](#))
3. Systematicky zhromaždený, eventuálne utriedený súbor informácií, ktorý môže byť spracovávaný pre rôzne účely informatické, výskumné a iné ([Pedagogický slovník, 2008](#))
4. Zdieľaná integrovaná počítačová štruktúra, ktorá zahŕňa koncové – používateľské dáta, t.j. všetko, čo zaujíma používateľa, a metadáta, čiže dáta o dátach, prostredníctvom ktorých sa dáta integrujú a spravujú ([Delikát, T.: Základy databázových systémov, 2006](#));
5. Súhrn navzájom previazaných dát bez zbytočnej redundancie (Králová Z., 2006)

# Kde Používame Databázy?



# Components of a Database

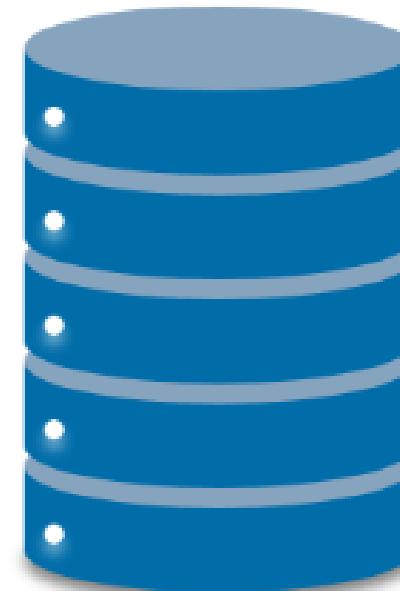
Hardware

Data

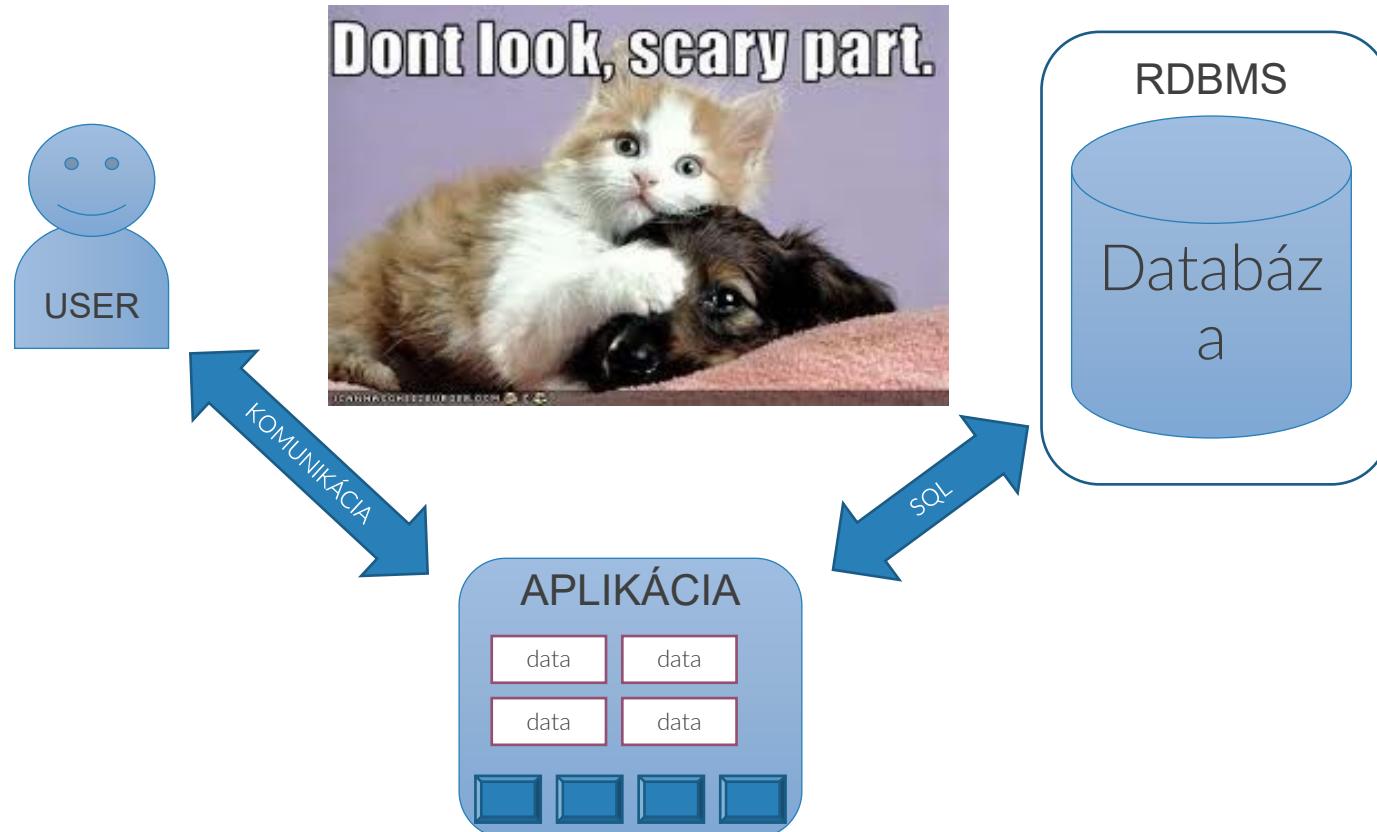
Software

Procedures

Access Language

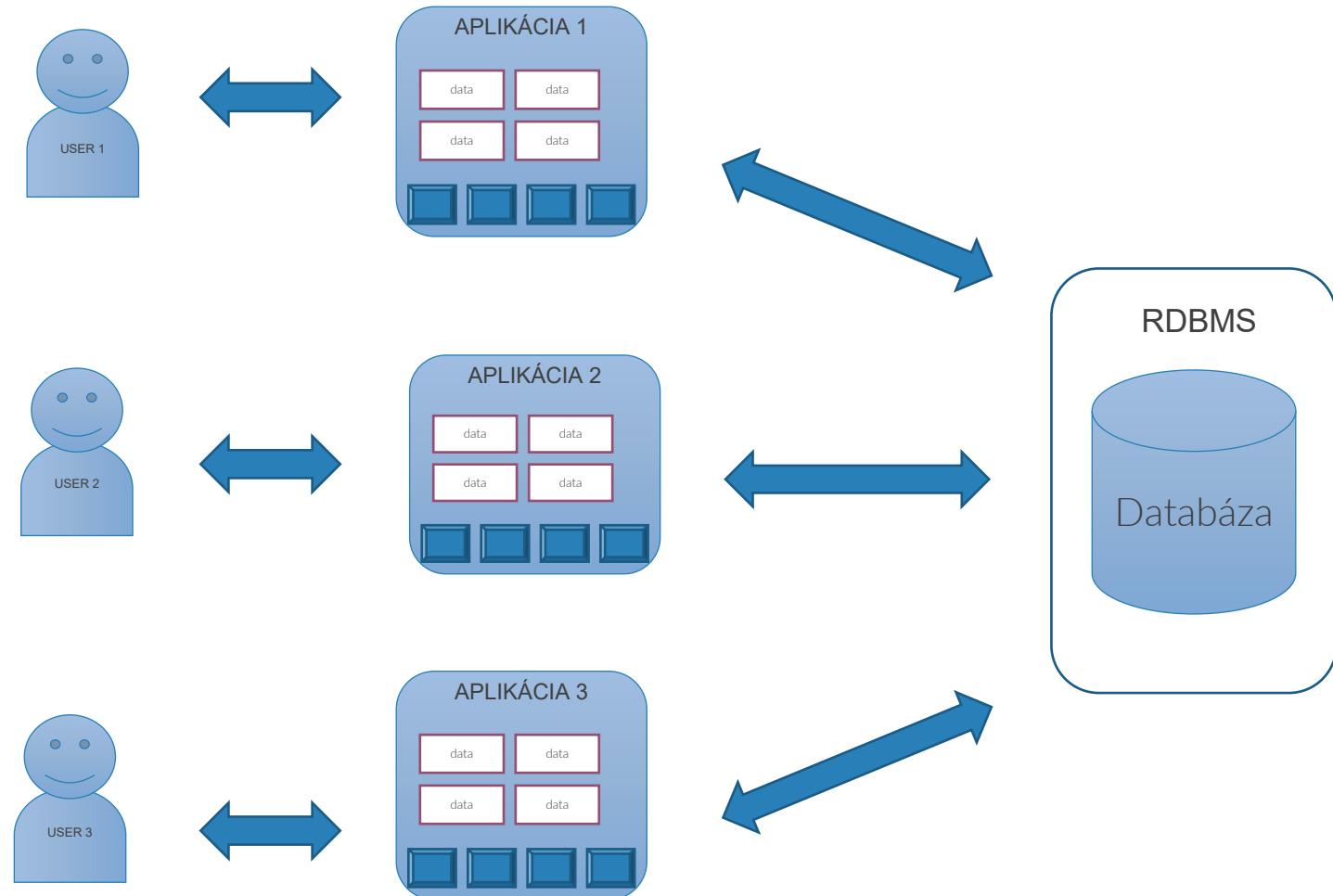


# Princíp Komunikácie



+  
•  
○

# Princíp Komunikácie Multiuser



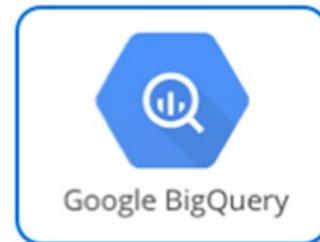
# Čo je Databáza? DB

- Organizované úložisko dát
- Rozdelenie podľa modelu databázy:
  1. Hierarchické – LDAP
  2. **Relačné** – dimenzionálny model – mnohé aktuálne DB systémy
  3. Grafové – IBM System G Native Store, Oracle Spatial and Graph
  4. Multi-hodnotové – Intersystems Caché
  5. Objektovo-orientované – PostgreSQL
- Špeciálna kategória databáz
  - NoSQL – Not only SQL (kľuč-hodnota + graf + dokumenty)

# Čo je Databázový Systém? DBMS

- DBMS – DataBase Management System
- Aplikačná rovina
  - Správa databázového servera
  - Správa dát
  - Prístup k dátam – konektory, ODBC, JDBC, ...
- Konceptuálna rovina
  - ACID
  - CRUD

# Database Management System (DBMS)



Systém Riadenia Bázy Dát (SRBD)

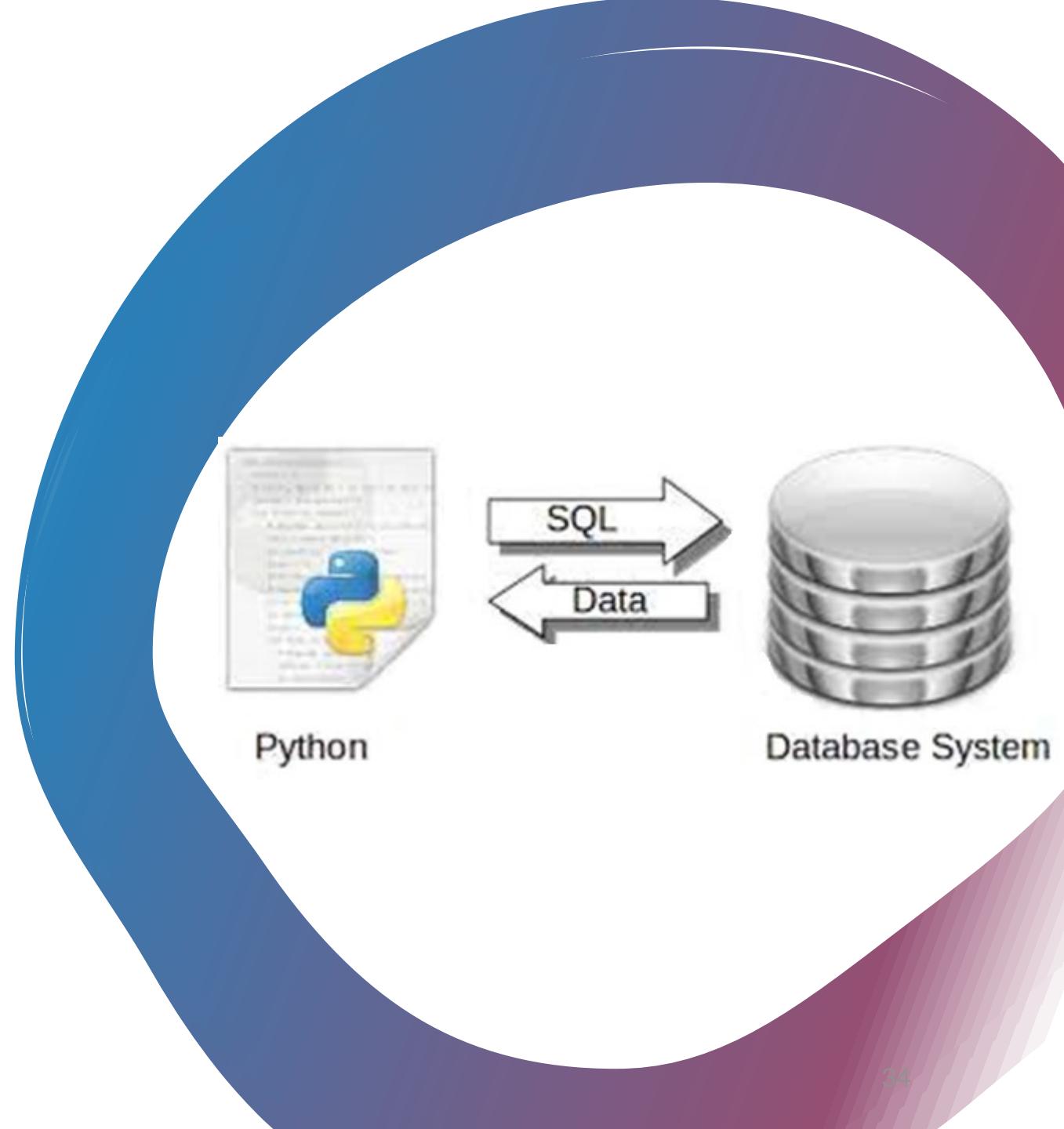


# Ako sa Pripojiť na DB v Pythonе

---

# Knižnice/Moduly pre Databázy

1. pymysql
2. psycopg2
3. sqlite3
4. oracledb
5. pyodbc
6. sqlalchemy





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Register

# pymysql 1.0.3

pip install pymysql



[Latest version](#)

Released: Mar 28, 2023

Pure Python MySQL Driver

## Navigation

[Project description](#)

[Release history](#)

[Download files](#)

## Project links

[Documentation](#)

[Project](#)

## Project description

docs passing coverage 87%

### PyMySQL

This package contains a pure-Python MySQL client library, based on [PEP 249](#).

## Requirements

- Python -- one of the following:
  - [CPython](#): 3.7 and newer
  - [PyPy](#): Latest 3.x version



Search projects



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Log in

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# psycopg2 2.9.6

pip install psycopg2



[Latest version](#)

Released: Apr 3, 2023

psycopg2 - Python-PostgreSQL Database Adapter

## Navigation

Project description

Release history

Download files

## Project links

Homepage

Code

Documentation

## Project description

Psycopg is the most popular PostgreSQL database adapter for the Python programming language. Its main features are the complete implementation of the Python DB API 2.0 specification and the thread safety (several threads can share the same connection). It was designed for heavily multi-threaded applications that create and destroy lots of cursors and make a large number of concurrent “INSERT”s or “UPDATE”s.

Psycopg 2 is mostly implemented in C as a libpq wrapper, resulting in being both efficient and secure. It features client-side and server-side cursors, asynchronous communication and notifications, “COPY TO/COPY FROM” support. Many Python types are supported out-of-the-box and adapted to matching PostgreSQL data types; adaptation can be extended and customized thanks to a flexible objects adaptation system.

Psycopg 2 is both Unicode and Python 3 friendly.

## Documentation

web framework	None	Flask	Flask	Django
ORM	SQLAlchemy	SQLAlchemy	SQLAlchemy	Django ORM
database connector	(built into Python stdlib)	MySQL-python	psycopg	psycopg
relational database	 SQLite	 MySQL	 PostgreSQL	 PostgreSQL

[Datalore documentation home page](#)[Quick start tutorial](#)[Overview of Datalore features](#)[▶ Before you start](#)[▶ Notebook editor](#)[▶ Data](#)[▼ Environment](#)[Customize notebook environment](#)

## Environment variables

[Manage packages in the editor](#)[Work with Git in Datalore](#)[Switch Python versions](#)[▶ Kernels and computation](#)[▶ Sharing and collaboration](#)[▶ Account settings](#)[Plans](#)[▶ Datalore Enterprise installation guide](#)[▶ Administer Datalore Enterprise](#)[▶ Datalore reference](#)

# Environment variables

Last modified: 07 April 2023

[Environment variables](#)[About environment variables](#)[Procedures](#)

## About environment variables

Create sets of environment variables for your notebooks. Such variables can store passwords, API tokens, and other kinds of sensitive data for your notebooks to integrate with other services.

You can set up an environment variable for just one specific notebook or create one in a specific workspace and add it to any associated notebook.

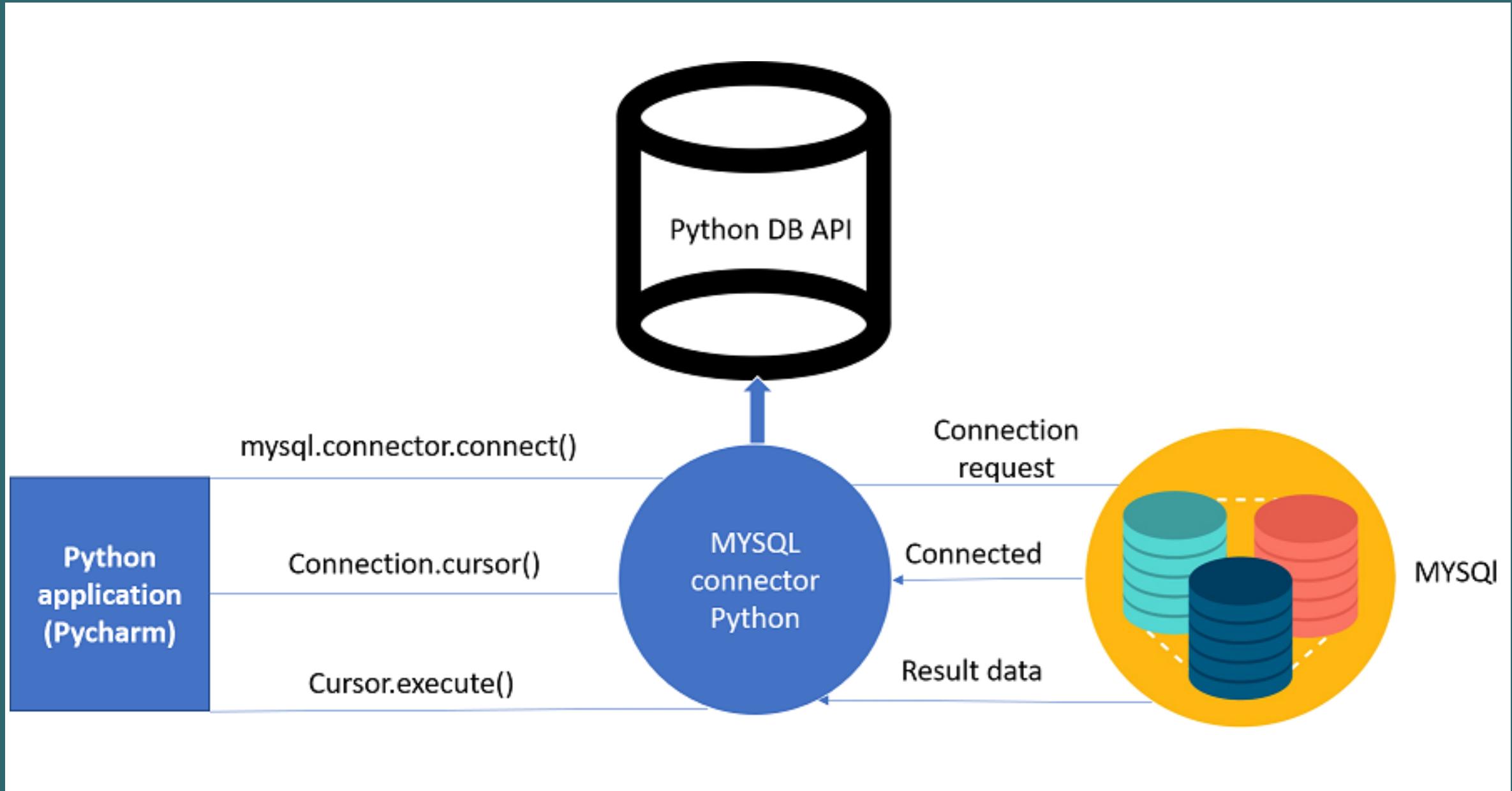
## Collaboration and permissions

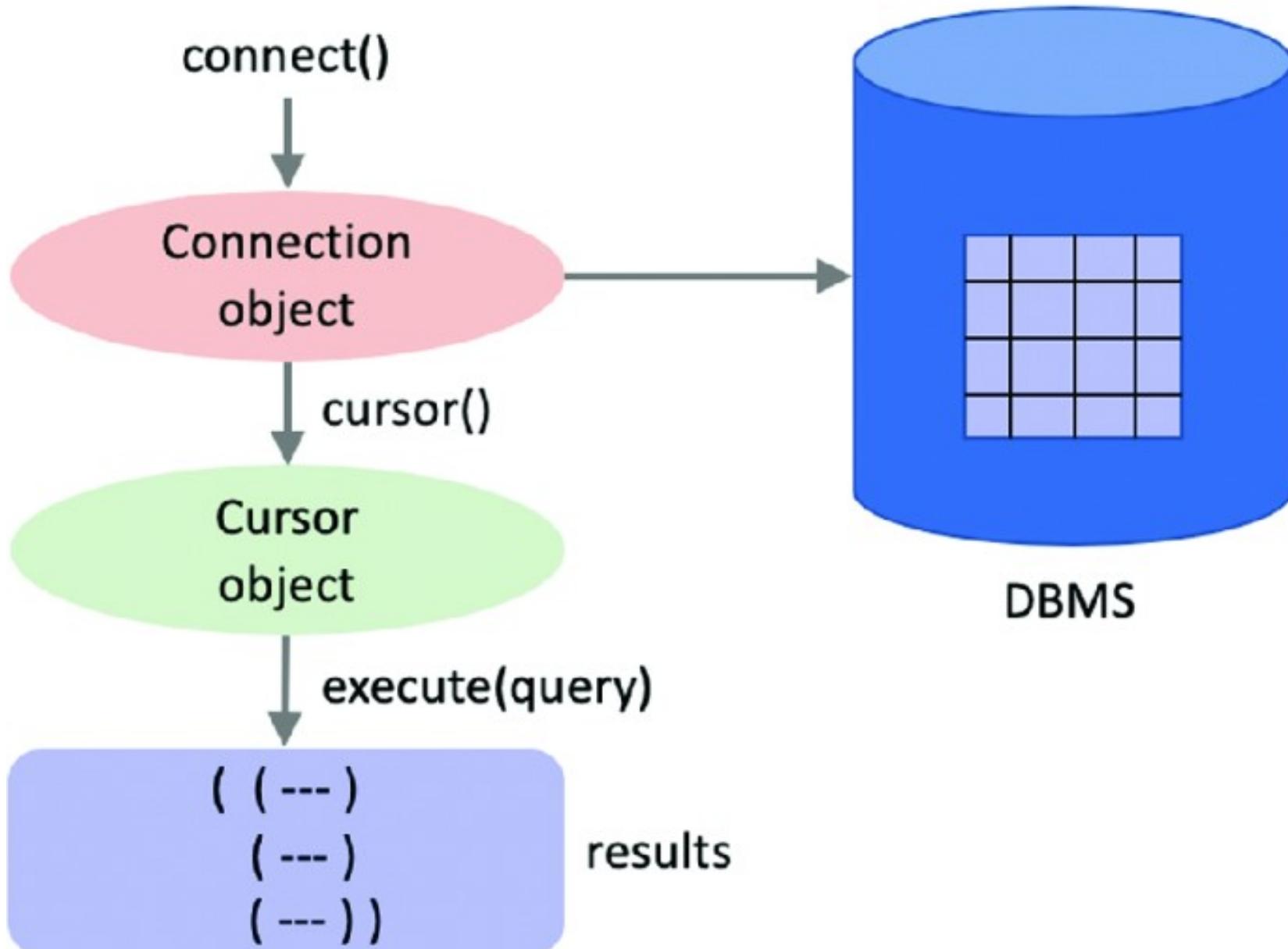
This is how collaborators can manage environment variables:

- Environment variable owners (creators) can manage them on the workspace and notebook level
- Workspace collaborators with editor rights can attach already existing environment variables to, and detach them from, notebooks
- Workspace collaborators with viewer right can view environment variables

## Migrate secrets to environment variables

Environment variables are the new alternative to Secrets (soon deprecated). To preserve

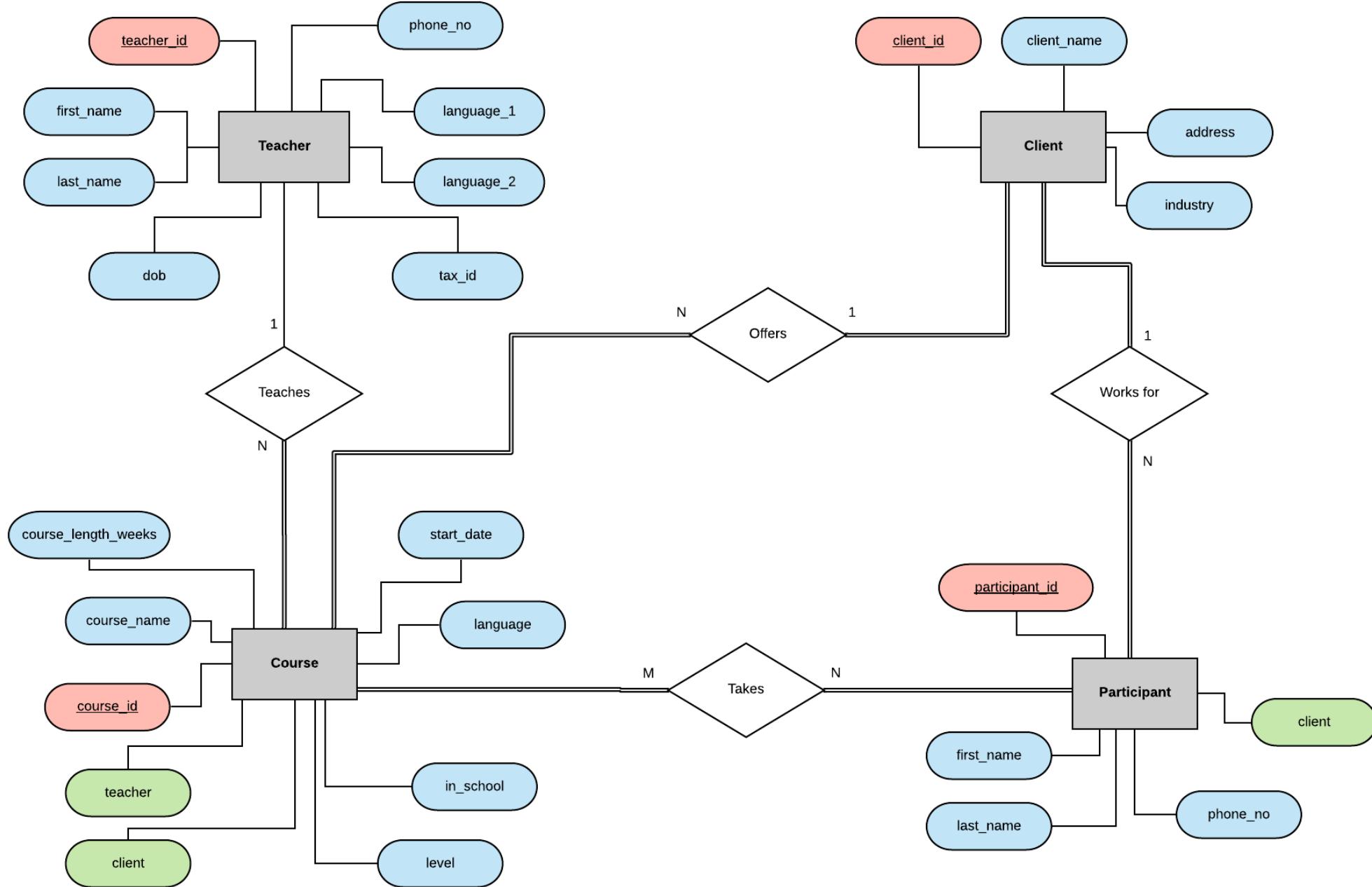




# International Language School

## Entity Relationship Diagram (ERD)

41



# Čo je SQL?

Structured Query Language



Microsoft

Nie je programovací jazyk!

# Členenie SQL Jazyka podľa Operácií

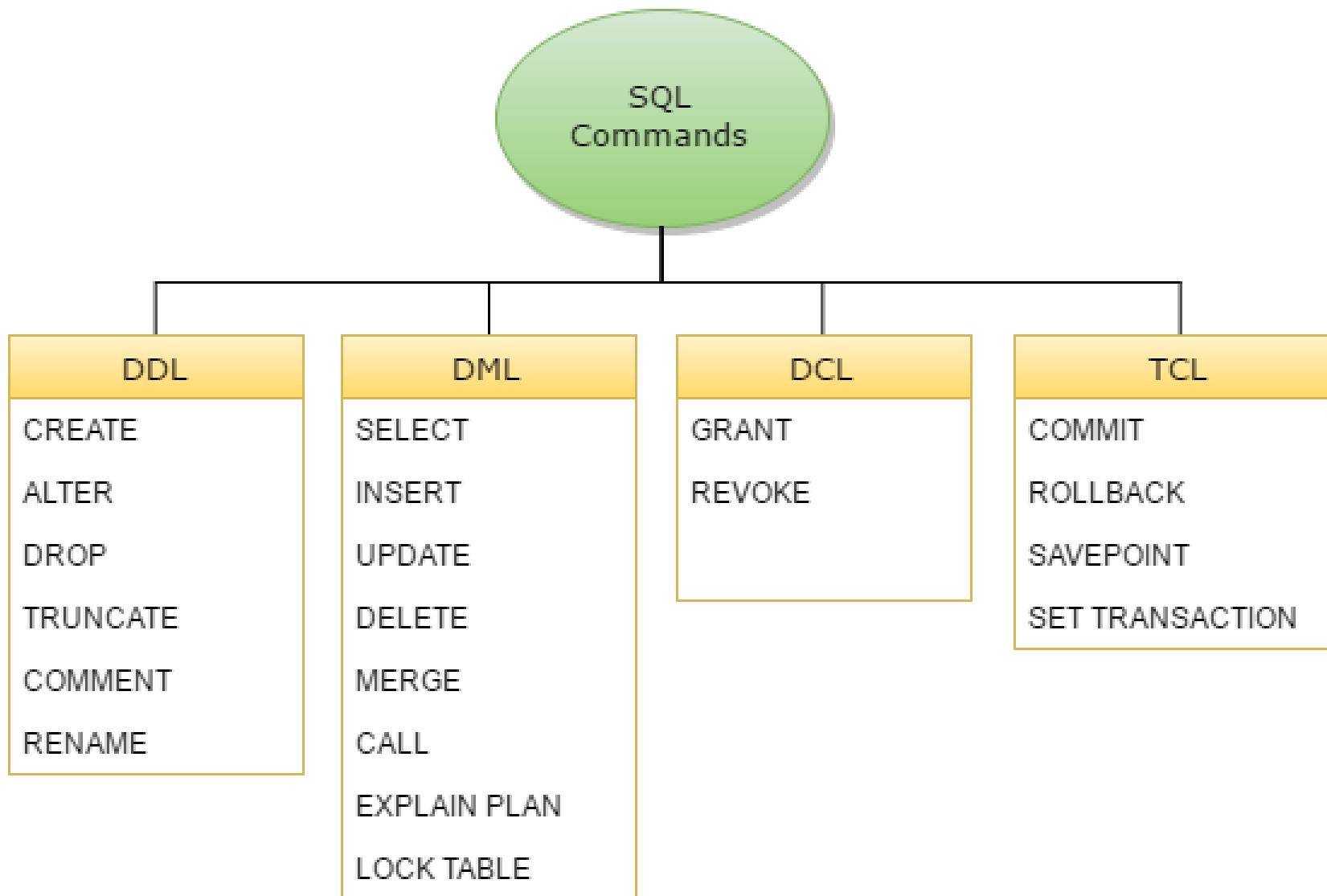
**DDL** – Data  
Definition  
Language

**DML** – Data  
Manipulation  
Language

**DCL** – Data  
Control  
Language

**DQL** – Data  
Query  
Language

# Členenie SQL jazyka podľa operácií



# Výber Dát (Select) z Tabuľky

`SELECT c1, c2 FROM t;`  
Query Data In Columns C1, C2 From A Table

`SELECT * FROM t;`  
Query All Rows And Columns From A Table

`SELECT c1, c2 FROM t  
WHERE condition;`  
Query Data And Filter Rows With A Condition

`SELECT DISTINCT c1 FROM t  
WHERE condition;`  
Query Distinct Rows From A Table

`SELECT c1, c2 FROM t  
ORDER BY c1 ASC [DESC];`  
Sort The Result Set In Ascending Or Descending Order

`SELECT c1, c2 FROM t  
ORDER BY c1  
LIMIT n OFFSET offset;`  
Skip Offset Of Rows And Return The Next N Rows

`SELECT c1, aggregate(c2)  
FROM t  
GROUP BY c1;`  
Group Rows Using An Aggregate Function

`SELECT c1, aggregate(c2)  
FROM t  
GROUP BY c1`



# Manažovanie Tabuliek

```
CREATE TABLE t (  
    id INT PRIMARY KEY,  
    name VARCHAR NOT NULL,  
    price INT DEFAULT 0  
);
```

Create a new table with three columns

```
DROP TABLE t ;
```

Delete the table from the database

```
ALTER TABLE t ADD column;
```

Add a new column to the table

```
ALTER TABLE t DROP COLUMN c ;
```

Drop column c from the table

```
ALTER TABLE t ADD constraint;
```

Add a constraint

```
ALTER TABLE t DROP constraint;
```

Drop a constraint

```
ALTER TABLE t1 RENAME TO t2;
```

Rename a table from t1 to t2

```
ALTER TABLE t1 RENAME c1 TO c2 ;
```

Rename column c1 to c2

```
TRUNCATE TABLE t;
```

Remove all data in a table



web framework	None	Flask	Flask	Django
ORM	SQLAlchemy	SQLAlchemy	SQLAlchemy	Django ORM
database connector	(built into Python stdlib)	MySQL-python	psycopg	psycopg
relational database	 SQLite	 MySQL	 PostgreSQL	 PostgreSQL



**čo je  
ORM?**





# Objektovo Relačné Mapovanie (ORM)

- Programovacia technika v softvérovom inžinierstve, ktorá zaistuje automatickú konverziu dát medzi relačnou databázou a objektovo orientovaným programovacím jazykom
- Pri modelovaní a vývoji aplikácií je snaha čo najvernejšie zachytiť realitu
- Objekty reálneho sveta sú v aplikácii reprezentované ako entity
- Zatiaľ čo je v relačnej databáze entita reprezentovaná ako riadok, resp. množina riadkov v databázových tabuľkách, ako aj v objektovo orientovanom jazyku je entita spravidla reprezentovaná ako inštancia nejakej triedy

# Objektovo Relačné Mapovanie (ORM)

- Stará sa o **automatickú konverziu rozdielnych dátových typov** medzi databázovým systémom a programovacím jazykom
- Pokročilé techniky ORM tiež riešia napríklad možnosť **využitia objektovej dedičnosti**, ktorú štandardné relačné databázy nepodporujú
- Hlavným cieľom ORM je **synchronizácia medzi používanými objektmi** v aplikácii a ich **reprezentáciou v databázovom systéme** tak, aby bola zaistená **perzistencia dát**
- Vývojár potrebuje persistentne uchovávať objekty, ale nepotrebuje sa starať, ako sa táto perzistencia vykoná



Going  
outside  
and getting  
a gf

import life

def girlfriend:  
personality.id = kind,  
caring  
gender.id = ("female",

# Objektovo Relačné Mapovanie (ORM)

The Django  
ORM

SQLAlchemy

Peewee

PonyORM

SQLObject

Storm

# Čo je ORM?

Relational database (such as PostgreSQL or MySQL)

ID	FIRST_NAME	LAST_NAME	PHONE
1	John	Connor	+16105551234
2	Matt	Makai	+12025555689
3	Sarah	Smith	+19735554512
...	...	...	...

Python objects

```
class Person:  
    first_name = "John"  
    last_name = "Connor"  
    phone_number = "+16105551234"
```

```
class Person:  
    first_name = "Matt"  
    last_name = "Makai"  
    phone_number = "+12025555689"
```

```
class Person:  
    first_name = "Sarah"  
    last_name = "Smith"  
    phone_number = "+19735554512"
```

ORMs provide a bridge between  
**relational database tables, relationships  
and fields and Python objects**

# čo je SQLAlchemy?

---

## The Python SQL Toolkit and Object Relational Mapper

SQLAlchemy is the Python SQL toolkit and Object Relational Mapper that gives application developers the full power and flexibility of SQL.

It provides a full suite of well known enterprise-level persistence patterns, designed for efficient and high-performing database access, adapted into a simple and Pythonic domain language.

### Documentation

- [Current Documentation \(version 2.0\)](#) - learn SQLAlchemy here
  - [Documentation Overview](#)
  - [Installation Guide](#)
  - [ORM Quickstart](#)
  - [Comprehensive Tutorial](#)
  - [Reference Guides](#)
    - [Object Relational Mapping \(ORM\)](#)
    - [Core \(Connections, Schema Management, SQL\)](#)
    - [Dialects \(specific backends\)](#)
- [Documentation by Version](#)
  - [Version 2.0](#)
  - [Version 1.4](#)
  - [Version 1.3](#)

### Learn More

- [Front Matter](#)
  - [SQLAlchemy's Philosophy](#)

### CURRENT RELEASES

**2.0.10** - 2023-04-21 - [announce](#)  
[changes](#) | [migration notes](#) | [docs](#)

[pypi v2.0.10](#) [downloads 69M/month](#)  
[python 3.7 | 3.8 | 3.9 | 3.10 | 3.11](#)

**1.4.47** - 2023-03-18 - [announce](#)  
[changes](#) | [migration notes](#) | [docs](#)

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### LATEST NEWS

SQLAlchemy 2.0.10 Released  
*Fri, 21 Apr 2023*

SQLAlchemy 2.0.9 Released  
*Thu, 06 Apr 2023*

SQLAlchemy 2.0.8 Released  
*Fri, 31 Mar 2023*

# SQL Alchemy

```
from sqlalchemy import *
from sqlalchemy.ext.declarative import declarative_base
from sqlalchemy.orm import relation, sessionmaker

Base = declarative_base()

class Movie(Base):
    __tablename__ = "movies"

    id = Column(Integer, primary_key=True)
    title = Column(String(255), nullable=False)
    year = Column(Integer)
    directed_by = Column(Integer, ForeignKey("directors.id"))

    director = relation("Director", backref="movies", lazy=False)

    def __init__(self, title=None, year=None):
        self.title = title
        self.year = year

    def __repr__():
        return "Movie(%r, %r, %r)" % (self.title, self.year, self.director)

class Director(Base):
    __tablename__ = "directors"

    id = Column(Integer, primary_key=True)
    name = Column(String(50), nullable=False, unique=True)

    def __init__(self, name=None):
        self.name = name

    def __repr__():
        return "Director(%r)" % (self.name)

engine = create_engine("dbms://user:pwd@host/dbname")
Base.metadata.create_all(engine)
```

# Storm

```
from storm.locals import *

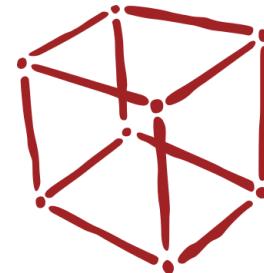
class Foo:
    __storm_table__ = 'foos'
    id = Int(primary=True)

class Thing:
    __storm_table__ = 'things'
    id = Int(primary=True)
    name = Unicode()
    description = Unicode()
    foo_id = Int()
    foo = Reference(foo_id, Foo.id)

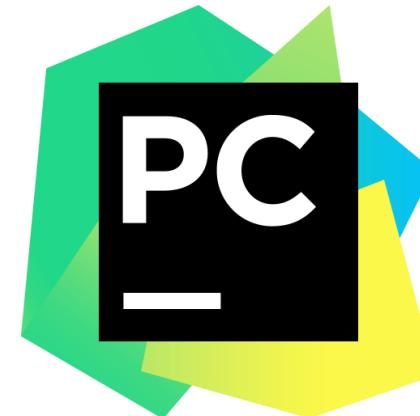
db = create_database('sqlite:')
store = Store(db)

foo = Foo()
store.add(foo)
thing = Thing()
thing.foo = foo
store.add(thing)
store.commit()
```

# Aké IDE mám použiť?



NetBeans



WxPython



Visual Studio



# Chceme úplne všetko!

---



 ANACONDA NAVIGATOR[Sign in to Anaconda Cloud](#) Home

Applications on

base (root)

Channels

Refresh

 Environments Learning Community

## Documentation

## Developer Blog



Icon	Name	Version	Description	Action
	CMD.exe Prompt	0.1.1	Run a cmd.exe terminal with your current environment from Navigator activated	<a href="#">Launch</a>
	JupyterLab	1.2.6	An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture.	<a href="#">Launch</a>
	Notebook	6.0.3	Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.	<a href="#">Launch</a>
	Powershell Prompt	0.0.1	Run a Powershell terminal with your current environment from Navigator activated	<a href="#">Launch</a>
	Qt Console	4.6.0	PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more.	<a href="#">Launch</a>
	Spyder	4.0.1	Scientific PYthon Development EnviRonment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features	<a href="#">Launch</a>
	VS Code	1.52.1	Streamlined code editor with support for development operations like debugging, task running and version control.	<a href="#">Launch</a>
	Glueviz	0.15.2	Multidimensional data visualization across files. Explore relationships within and among related datasets.	<a href="#">Install</a>
	Orange 3	3.23.1	Component based data mining framework. Data visualization and data analysis for novice and expert. Interactive workflows with a large toolbox.	<a href="#">Install</a>
	RStudio	1.1.456	A set of integrated tools designed to help you be more productive with R. Includes R essentials and notebooks.	<a href="#">Install</a>

Microsoft Store

python

Filtre

# "python"

Všetky oddelenia Aplikácie Hry

Python 3.9

Aplikácie • Developer tools

★★★★★ 4

Nainštalované

Python 3.8

Aplikácie • Developer tools

Bezplatné

Python 3.10

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Bezplatné

Python 3.7

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★★★★★ 1

Bezplatné

Learn Django and Python by GoLearningBus

Aplikácie • Books & reference

Bezplatné

WiBit.Net :: Programming in Python

Aplikácie • Education

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计算机二级 Python 考试试题库

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Introduction to Python Programming by...

Aplikácie • Books & reference

Python Playground

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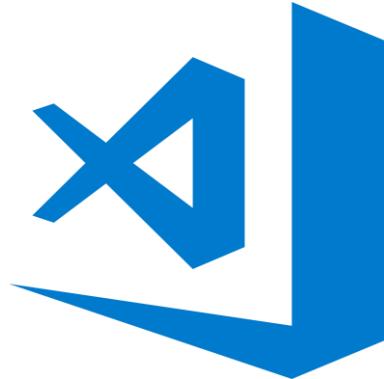
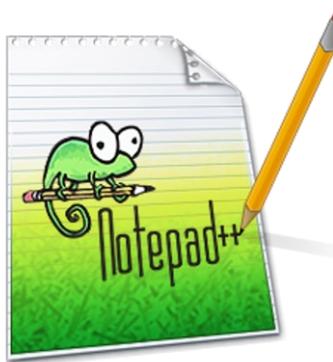
Python Programming Manual For Absolute...

Aplikácie • Utilities & tools

Python User Tutorial

Aplikácie • Utilities & tools

# Aký editor mám použiť?



```
:::  
iLE880j. :jD888880j:  
.LGitE888D.f8GjjjL8888E;  
iE :8888Et. .G8888.  
;i E888, ,8888,  
D888, :8888:  
D888, :8888:  
D888, :8888:  
D888, :8888:  
888W, :8888:  
W88W, :8888:  
W88W: :8888:  
DGGD: :8888:  
:8888:  
:W888:  
:8888:  
E888i  
tW88D
```



IDE ≠ editor



# Dashboard

Welcome, [itacademysk](#)**CPU Usage:** 0% used – 0.00s of 100s. Resets in 1 hour, 56 minutes [More Info](#)**File storage:** 0% full – 100.0 KB of your 512.0 MB quota [More Info](#)[Upgrade Account](#)

## Recent Consoles

[+ 5 -](#)*You have no recent consoles.*

## New console:

[\\$ Bash](#)[>>> Python ▾](#)[More...](#)

### Version

[2.7](#)[3.7](#)[3.8](#)

## Recent Files

[+ 5 -](#)

/home/itacademysk/.bashrc  
/home/itacademysk/.gitconfig  
/home/itacademysk/.profile  
/home/itacademysk/.pythonstartup.py  
/home/itacademysk/.vimrc

[+ Open another file](#)[Browse files](#)

## Recent Notebooks

[+ 5 -](#)

Your account does not support Jupyter Notebooks. [Upgrade your account](#) to get access!

## All Web apps

*You don't have any web apps.*[Open Web tab](#)

[MySQL](#)[Postgres](#)

## Initialize MySQL

Let's get started! The first thing to do is to initialize a MySQL server:

Enter a new password in the form below, and note it down: you'll need it to access the databases once you've created them. You will only need to do this once.

**New password:**

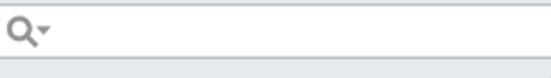
A password input field with a small circular icon containing a question mark in the top right corner.

**Confirm password:**

A password input field with a small circular icon containing a question mark in the top right corner.

**Initialize MySQL**

This should be different to your main PythonAnywhere password, because it is likely to appear in plain text in any web applications you write.



## Editor > Live Templates

By default expand with Tab

### Python

- compd (Dict comprehension)
- compdi (Dict comprehension with 'if')
- compg (Generator comprehension)
- compgi (Generator comprehension with 'if')
- compl (List comprehension)
- compli (List comprehension with 'if')
- comps (Set comprehension)
- compsi (Set comprehension with 'if')
- iter (Iterate (for ... in ...))
- itere (Iterate (for ... in enumerate))
- main (if \_\_name\_\_ == '\_\_main\_\_')
- prop (Property getter)
- props (Property getter/setter)
- propsd (Property getter/setter/deleter)
- super ('super(...)' call)

### R

### React

...

No live templates are selected

## > Appearance & Behavior

### Keymap

## Editor

### > General

Font

### > Color Scheme

### > Code Style



Inspections



File and Code Templates



File Encodings



## Live Templates

File Types

### > Emmet

Images

Intentions

Language Injections



Spelling



TextMate Bundles



TODO



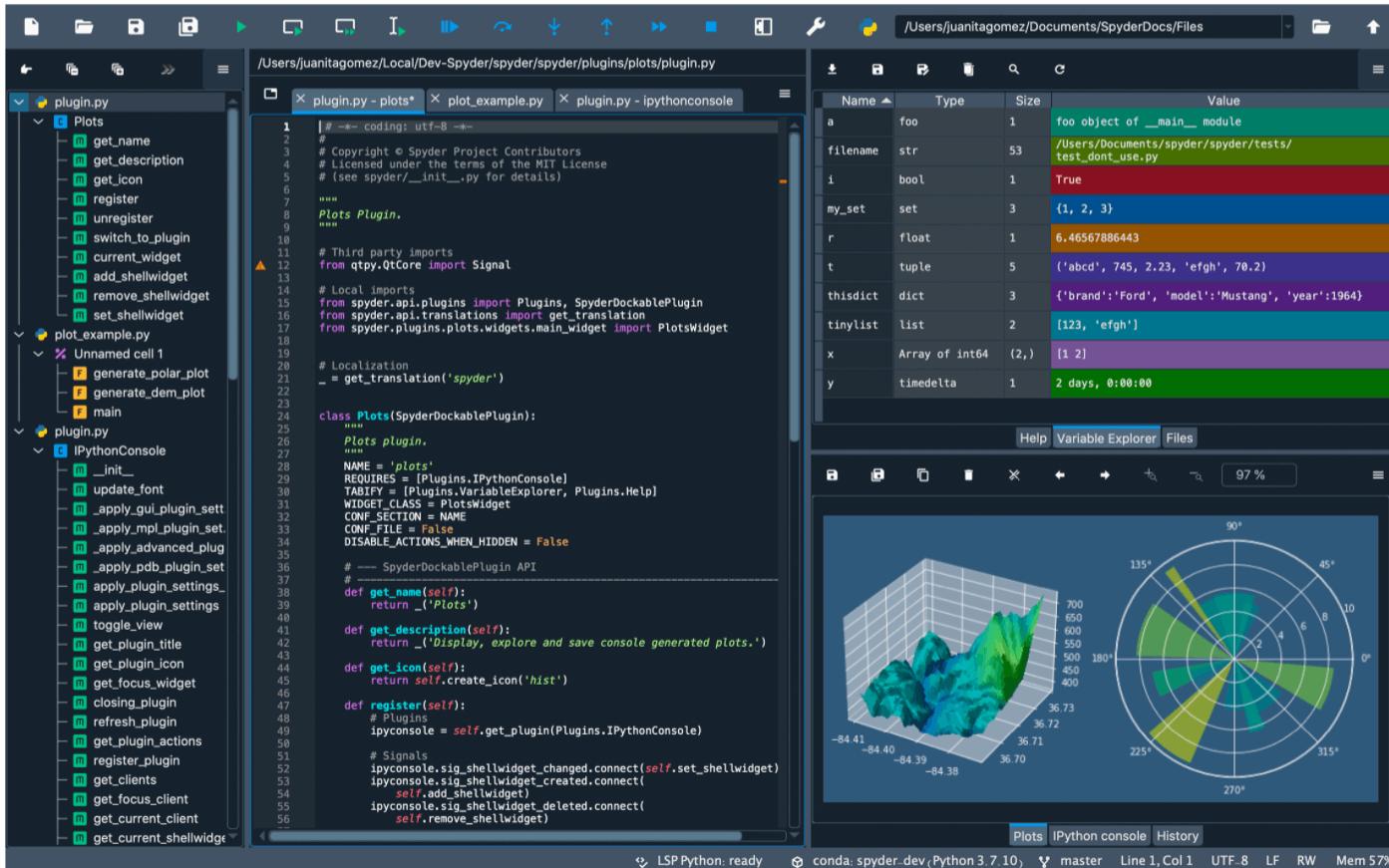
## Plugins

## > Version Control





# The Scientific Python Development Environment



The screenshot displays the Spyder IDE interface with the following components:

- Code Editor:** Shows the file `/Users/juanitagomez/Local/Dev-Spyder/spyder/spyder/plugins/plots/plugin.py`. The code defines a `Plots` plugin for Spyder. It includes imports for `QtCore`, `Signal`, and various Spyder API modules. The class `Plots` inherits from `SpyderDockablePlugin` and implements methods like `get_name`, `get_description`, `get_icon`, `register`, etc.
- Variable Explorer:** A table showing the current state of variables:

Name	Type	Size	Value
a	foo	1	foo object of __main__ module
filename	str	53	/Users/Documents/spyder/spyder/tests/test_dont_use.py
i	bool	1	True
my_set	set	3	{1, 2, 3}
r	float	1	6.46567886443
t	tuple	5	('abcd', 745, 2.23, 'efgh', 78.2)
thisdict	dict	3	{'brand': 'Ford', 'model': 'Mustang', 'year': 1964}
tinylist	list	2	[123, 'efgh']
x	Array of int64	(2,)	[1 2]
y	timedelta	1	2 days, 0:00:00
- Plots:** Two plots are shown in the bottom right:
  - A 3D surface plot of a function over a grid.
  - A polar plot with radial and angular axes.
- Status Bar:** Shows "LSP Python: ready", "conda: spyder.dev:Python 3.7.10", and memory usage "Mem 57%".

VERSION

Spyder 5

Search ...



WELCOME

QUICKSTART

INSTALLATION GUIDE

▶ INTRO VIDEOS

▶ PANES IN DEPTH

▶ SPYDER PLUGINS

▶ TROUBLESHOOTING

▶ WORKSHOPS

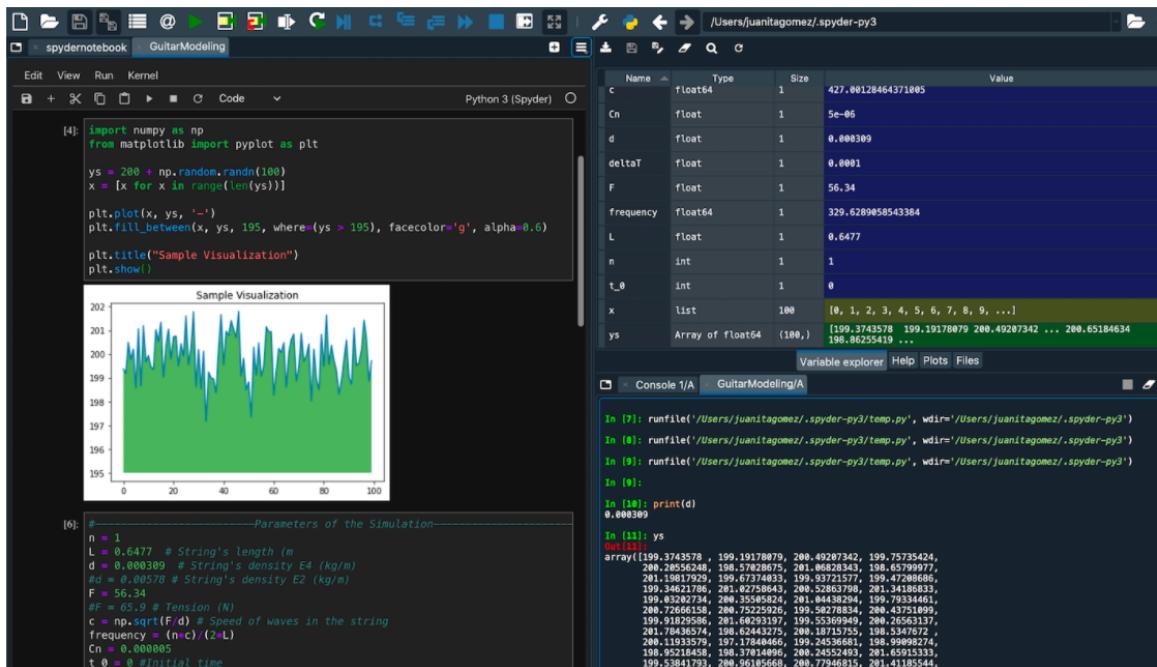
FAQ

# Spyder Notebook

## Warning

Currently, this plugin is still being ported to Spyder 5, and will likely not yet work or experience serious issues on this version of Spyder. A compatible version is expected soon. Thanks for your patience!

**Spyder-notebook** is a plugin that allows you to open, edit and interact with Jupyter Notebooks right inside Spyder.



conda install spyder-notebook -c spyder-ide

[Edit this page](#)[On this page](#)[Installing the Notebook](#)[Using the Notebook](#)[Connecting an IPython Console](#)[Additional Options](#)[OPEN CHAT](#)

## Útržky kódu

Filtrovať útržky kódu

Adding form fields →

Camera Capture →

Cross-output communication →

display.Javascript to execute Jav... →

Downloading files or importing da... →

Adding form fields

Vložit'

Forms example

Forms support multiple types of fields with type checking including sliders, date pickers, input fields, dropdown menus, and dropdown menus that allow input.

```
#@title Example form fields
#@markdown Forms support many types of fields with type checking including sliders, date pickers, input fields, dropdown menus, and dropdown menus that allow input.

no_type_checking = '' #@param
string_type = 'example' #@param
slider_value = 142 #@param {type: "number", min: 0, max: 200}
number = 102 #@param {type: "number", min: 0, max: 200}
date = '2010-11-05' #@param {type: "date", min: "2010-01-01", max: "2020-12-31"}
pick_me = "monday" #@param [ 'monday', 'tuesday', 'wednesday', 'thursday', 'friday', 'saturday', 'sunday' ]
select_or_input = "apples" #@param {type: "select", options: [ "apples", "oranges", "bananas" ]}
```

[Zobrazit zdrojový zápisník](#)

+ Kód + Text Kopírovať na Disk

```
tiene = True
# r g b, c m y k, w
farby_vlastne = ["black","pink", "b", "#CCCC00"]

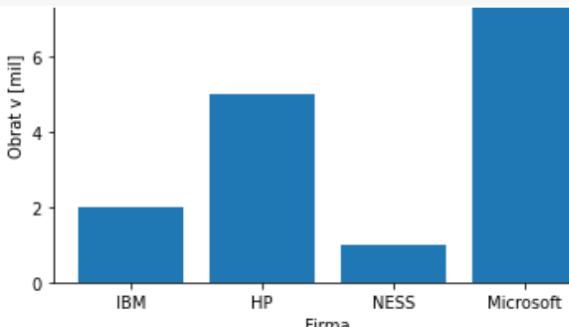
print(type(y))
print(y)

plt.pie(y, labels = menovky, startangle = 0, explode = vykrojenie, shadow = tiene, colors = farby_vlastne)
plt.legend(title = "Produkty ABC s.r.o.")
plt.title("Analyza predaja produktov za Q1-2022")
plt.show()

x1 = np.array(["IBM", "HP", "NESS", "Microsoft"])
y1 = np.array([2, 5, 1, 9])

plt.bar(x1, y1)
plt.title("Porovnanie IT firiem 2022")
plt.xlabel("Firma")
plt.ylabel("Obrat v [mil]")
plt.show()

nahoda = np.random.normal(100, 10, 200)
print(nahoda)
plt.hist(nahoda)
plt.show()
```



```
[ 79.76069196  99.4155264   114.29926387  101.33767141  88.49106384
 111.70288892  91.32702578  102.53587004  108.38846479  114.34889501
 98.79114202  117.40488367  89.26174251  94.12100639  101.96805716]
```

C:\Users\miros

▼ ↑

Python\_I\_Za...

Value

Name Type Size

Edit View Run Kernel

Python 3 (Spyder)

## Kurz Python - 1. deň

Miroslav Reiter | miroslav.reiter@it-academy.sk | <https://www.linkedin.com/in/miroslav-reiter/>

Kurz Python | <https://www.it-academy.sk/kurz/python/> | <https://github.com/miroslav-reiter>

## Komentáre, kódovanie, tlač a docstringy

```
[1]: # -*- coding: utf-8 -*-
# Toto je komentár (jednoriadkový)
"""Toto je docstring (document string)"""

# Pozor na nespravne zalomovanie riadku (Enter)
# SyntaxError: EOL while scanning string Literal
# Emotikony https://emojipedia.org/
print("Python je fajnovy jazyk!")
print(__doc__)
print("🎲 🎲 🎲")
print("Co bolo skorej? --> ", min(['\N{CHICKEN}', '\N{EGG}']))
```

```
Python je fajnovy jazyk!
Toto je docstring (document string)
🎲 🎲 🎲
Co bolo skorej? --> 🎲
```

## Premenné a typy

•••

```
Milujem Python
Milujem Python
Milujem Python
```

```
Nazov produktu je: Hypoteka pre mladych 2021
Splatka vasej hypoteky je: 600 Eur
Uroková sadzba je: 1.5 % p.a.
Je k dispozicii: False
```

Editor Notebook

LSP Python: ready Kite: ready (no index) conda: base (Python 3.8.5) main [86] Line 8, Col 1 UTF-8 CRLF RW Mem 47% CPU 17% 09:26

Variable explorer Help Plots Files

Console 1/A

```
Python 3.8.5 (default, Sep  3 2020, 21:29:08) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.
```

```
IPython 7.19.0 -- An enhanced Interactive Python.
```

```
In [1]:
```



C:\Users\miros\AppData\Local\Temp\kite\_tutorial.py

temp.py kite\_tutorial.py

```

1 # Welcome to...
2 #
3 #      `hmy+.      :::
4 #      .mMMMMMNho: ` NMMm
5 #      :NMMMMMMMMMdS/.` NMMm      :ss:
6 #      +NMMMMMMMMMMMMmy+ NMMm      -MMM-   ---
7 #      `oMMMMMMMMMMMMMMMo NMMm      /ss/   :MM+
8 #      `yMMMMMMMMNshmNMMMN` NMMm      /MM+
9 #      .dMMMMMMMMm/hmhssydmMM+ NMMm      `/yhy. shhy ohmMMMhhhh. ..ydmmdho-
10 #     omMMMMMd/mMMMMMhsosy` NMMm      .omMMmo. mMMN odmMMMdsss. omMdsoshNMNy
11 #     .+dMMMy/mMMMMMMMMMd- NMMm-yNMMy/` mMMN /MM+ sMMN: `:NMMy
12 #     `ymo/NMMMMMMMMMd NMMmNMNMMN` mMMN :MM+ MMNdddNNMMN
13 #     `hMMMMMMMMMM: NMMm+mMMNs. mMMN :MM+ MMN//////////////:
14 #     `:yNMMMMMMMMh NMMm `/dMMNy- mMMN :MM+ `sMMNo` `:
15 #     .+mMMMMMd- NMMm `/dMMNy- mMMN .MMNddNN/ +NMNdhydNNMs
16 #     `:yMMMy yhhs   `/hhh shhs :ydmmdho: `/sdmmmmhs:`
17 #     `om.
18
19 """
20 Kite is your Python programming copilot. Kite will try to show you the
21 right information at the right time as you code to prevent you from context
22 switching out of your current line of thought.
23
24 This tutorial will teach you how to use all of Kite's core features. You
25 should be able to learn everything in 5 minutes.
26
27 If you get stuck at any point, please visit https://help.kite.com/ or file
28 an issue at https://github.com/kiteco/issue-tracker.
29 """
30
31
32
33
34 """ PART 0: BEFORE WE START =====
35
36 Spyder will by default try to start the Kite backend when the editor first
37 starts. You can change this behavior by opening settings, clicking on
38 "Completion and linting", "Advanced", and then changing Kite's "Start Kite
39 Engine on editor startup" setting.
40
41 Look for the Kite indicator in the bottom left corner of Spyder's status
42 bar – It will tell you if Kite is ready and working. If the indicator reads
43 "not running", then you'll have to start the Kite Engine manually before
44 proceeding with the rest of this tutorial.
45 """
46
47
48
49

```

↓ ☰ 🔍 C

Name	Type	Size	Value
a	int	1	5
b	str	1	Karol

Variable explorer Help Plots Files

Console 1/A

Python 3.8.5 (default, Sep 3 2020, 21:29:08) [MSC v.1916 64 bit (AMD64)]  
Type "copyright", "credits" or "license" for more information.

IPython 7.19.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/miros/.spyder-py3/temp.py', wdir='C:/Users/miros/.spyder-py3')

In [2]: runfile('C:/Users/miros/.spyder-py3/temp.py', wdir='C:/Users/miros/.spyder-py3')  
5  
Karol

In [3]:



For Teams

Download

# Code Faster. Stay in Flow.

Kite adds AI powered code completions to your code editor, giving developers superpowers.



Download for Free

```
1 import os
2 import sys
3
4 def count_py_files_in_repos(dirname):
5     if os.path.exists(os.path.join(dirname, '.git')):
6         count = 0
7         for root, dirs, files in os.walk(dirname):
8             count += len([f for f in files if f.endswith('.py')])
9         print('{} has {} Python files'.format(dirname, count))
10        for name in os.listdir(di|
```



dirname  
dirs  
dict

kite.com

```
1 import os
2 import sys
3
4 def count_py_files_in_repos(dirname):
5     i|
```

```
C:\Windows\System32\cmd.exe - pip install matlib
Microsoft Windows [Version 10.0.16299.785]
(c) 2017 Microsoft Corporation. Všetky práva vyhradené.

C:\Windows\System32>cd C:\Program Files (x86)\Python37-32\Scripts

C:\Program Files (x86)\Python37-32\Scripts>pip instal xlwt
ERROR: unknown command "instal" - maybe you meant "install"

C:\Program Files (x86)\Python37-32\Scripts>pip install xlwt
Collecting xlwt
  Downloading https://files.pythonhosted.org/packages/44/48/def306413b25c3d01753603b1a222a011b8621aed27cd7f89cbc27e6b0f4/xlwt-1.3.0-py2.py3-none-any.whl (99kB)
    100% |██████████| 102kB 826kB/s
Installing collected packages: xlwt
Could not install packages due to an EnvironmentError: [WinError 5] Access is denied: 'c:\\\\program files (x86)\\\\python37-32\\\\Lib\\\\site-packages\\\\xlwt'
Consider using the `--user` option or check the permissions.

You are using pip version 10.0.1, however version 18.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

C:\Program Files (x86)\Python37-32\Scripts>pip install matlib
Collecting matlib
```

PIP a easy install



Seems like I've  
installed wrong version  
of Python...

sys Variables		String Methods		Datetime Methods	
argv	Command line args	capitalize() *	lstrip()	today()	fromordinal(ordinal)
builtin_module_names	Linked C modules	center(width)	partition(sep)	now(timezoneinfo)	combine(date, time)
byteorder	Native byte order	count(sub, start, end)	replace(old, new)	utcnow()	strftime(date, format)
check_interval	Signal check frequency	decode()	rfind(sub, start, end)	fromtimestamp(timestamp)	utcfromtimestamp(timestamp)
exec_prefix	Root directory	encode()	rindex(sub, start, end)		
executable	Name of executable	endswith(sub)	rjust(width)		
exitfunc	Exit function name	expandtabs()	rpartition(sep)		
modules	Loaded modules	find(sub, start, end)	rsplit(sep)		
path	Search path	index(sub, start, end)	rstrip()	replace()	utcoffset()
platform	Current platform	isalnum() *	split(sep)	isoformat()	dst()
stdin, stdout, stderr	File objects for I/O	isalpha() *	splines()	__str__()	tzname()
version_info	Python version info	isdigit() *	startswith(sub)	strftime(format)	
winver	Version number	islower() *	strip()		
<b>sys.argv for \$ python foo.py bar -c qux --h</b>		isspace() *	swapcase() *	<b>Date Formatting (strftime and strptime)</b>	
sys.argv[0]	foo.py	istitle() *	title() *	%a	Abbreviated weekday (Sun)
sys.argv[1]	bar	isupper() *	translate(table)	%A	Weekday (Sunday)
sys.argv[2]	-c	join()	upper() *	%b	Abbreviated month name (Jan)
sys.argv[3]	qux	ljust(width)	zfill(width)	%B	Month name (January)
sys.argv[4]	--h	lower()		%c	Date and time
				%d	Day (leading zeros) (01 to 31)
				%H	24 hour (leading zeros) (00 to 23)
				%I	12 hour (leading zeros) (01 to 12)
				%j	Day of year (001 to 366)
				%m	Month (01 to 12)
				%M	Minute (00 to 59)
				%p	AM or PM
				%S	Second (00 to 61*)
				%U	Week number <sup>1</sup> (00 to 53)
				%W	Week number <sup>2</sup> (0 to 6)
				%x	Date
				%X	Time
				%y	Year without century (00 to 99)
				%Y	Year (2008)
				%Z	Time zone (GMT)
				%%	A literal "%" character (%)
os Variables		List Methods		File Methods	
altsep	Alternative sep	append(item)	pop(position)	close()	readlines(size)
curdir	Current dir string	count(item)	remove(item)	flush()	seek(offset)
defpath	Default search path	extend(list)	reverse()	fileno()	tell()
devnull	Path of null device	index(item)	sort()	isatty()	truncate(size)
extsep	Extension separator	insert(position, item)		next()	write(string)
linesep	Line separator			read(size)	writelines(list)
name	Name of OS			readline(size)	
pardir	Parent dir string				
pathsep	Patch separator				
sep	Path separator				
<b>Note</b>		Registered OS names: "posix", "nt", "mac", "os2", "ce", "java", "riscos"		1. Sunday as start of week. All days in a new year preceding the first Sunday are considered to be in week 0.	
		2. 0 is Sunday, 6 is Saturday.		3. Monday as start of week. All days in a new year preceding the first Monday are considered to be in week 0.	
		4. This is not a mistake. Range takes account of leap and double-leap seconds.			
Class Special Methods		Indexes and Slices (of a=[0,1,2,3,4,5])			
__new__(cls)	__lt__(self, other)	len(a)	6		
__init__(self, args)	__le__(self, other)	a[0]	0		
__del__(self)	__gt__(self, other)	a[5]	5		
__repr__(self)	__ge__(self, other)	a[-1]	5		
__str__(self)	__eq__(self, other)	a[-2]	4		
__cmp__(self, other)	__ne__(self, other)	a[1:]	[1,2,3,4,5]		
__index__(self)	__nonzero__(self)	a[:5]	[0,1,2,3,4]		
__hash__(self)		a[:-2]	[0,1,2,3]		
__getattr__(self, name)		a[1:3]	[1,2]		
__getattribute__(self, name)		a[1:-1]	[1,2,3,4]		
__setattr__(self, name, attr)		b=a[:]	Shallow copy of a		
__delattr__(self, name)					
__call__(self, args, kwargs)					

PC Settings X

Search

> Appearance & Behavior

Keymap

Editor

- > General
- Font
- > Color Scheme
- > Code Style
- Inspections
- File and Code Templates
- File Encodings
- Live Templates**
- File Types
- > Emmet
- Images
- Intentions
- Language Injections
- Spelling
- TextMate Bundles
- TODO

Plugins

> Version Control

> Project: test1

> Build, Execution, Deployment

> Languages & Frameworks

> Tools

Editor > Live Templates

By default expand with **Tab** ▼

>  **Python**

- compd (Dict comprehension)
- compdi (Dict comprehension with 'if')
- compg (Generator comprehension)
- compgi (Generator comprehension with 'if')
- compl (List comprehension)
- compli (List comprehension with 'if')
- comps (Set comprehension)
- compsi (Set comprehension with 'if')
- iter (Iterate (for ... in ...))
- itere (Iterate (for ... in enumerate))
- main (if \_\_name\_\_ == '\_\_main\_\_')
- prop (Property getter)
- props (Property getter/setter)
- propsd (Property getter/setter/deleter)
- super ('super(...)' call)

>  **R**

>  **React**

No live templates are selected

OK Cancel Apply

	Cross Platform	Commercial/Fre e	Auto Code Completion	Multi-Langua ge Support	Integrat ed Python Debugging	Error Markup	Source Control Integrati on	Smart Indent	Bracket Matchin g	Line Numbering	UML Editing / Viewing	Code Folding	Code Templat es	Unit Testing	GUI Designe r (Qt, Eric, etc)	Integrat ed DB Support	Rapid Application	Development
Atom	Y	F			Y	Y	Y	Y	Y	Y		Y	Y					
BlackAdder	Y	C							Y			Y						
BlueFish	L																	
ConTEXT	W	C																
DABO	Y																	
DreamPie		F	Y				Y											
Dr.Python		F			Y													
Editra	Y	F	Y	Y			Y	Y	Y	Y		Y						
Emacs	Y	F	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Eric Ide	Y	F	Y		Y	Y		Y		Y		Y			Y			
E-Texteditor	W																	
Geany	Y	F	Y*	Y					Y	Y	Y		Y					*very limited
Gedit	Y	F	Y <sup>1</sup>	Y					Y	Y	Y			Y <sup>2</sup>				1with plugin; 2sort of
Idle	Y	F	Y		Y				Y	Y								
JEdit	Y	F		Y					Y	Y		Y						
KDevelop	Y	F		Y			Y	Y	Y	Y		Y						
Komodo	Y	CF	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		
NetBeans*	Y	F	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y		Y		*pre-v7.0
NotePad++	W	F		Y				Y*		Y								*with plugin
Pfaide	W	C	Y	Y				Y	Y	Y		Y	Y					
PIDA	LW	F	Y	Y				Y	Y	Y		Y						VIM based
PTVS	W	F	Y	Y	Y	Y	Y	Y	Y	Y		Y			Y*		Y	*WPF bsed
PyCharm	Y	CF	Y	Y*	Y		Y	Y	Y	Y		Y		Y				*JavaScript
PyDev(Eclipse)	Y	F	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Pyscripter	W	F	Y		Y	Y		Y		Y				Y	Y			
PythonWin	W	F	Y		Y			Y	Y	Y		Y						
SciTE	Y	F <sup>1</sup>		Y		Y		Y	Y	Y		Y	Y					1Mac version is commercial
ScriptDev	W	C	Y	Y	Y	Y	Y		Y	Y	Y		Y	Y				
SPE		F	Y									Y						
Spyder	Y	F	Y		Y	Y		Y	Y	Y								
Sublime Text	Y	CF	Y	Y				Y	Y	Y		Y	Y	Y*				extensible w/Python,

# Ktoré GUI a prečo?



*wxPython*



# Čo sa oplatí prečítať?

## Slovensko a česko

- Albatrosmedia
- Kopp
- Grada
- Wolters Kluwer
- BEN
- Veda

## Zahraničie

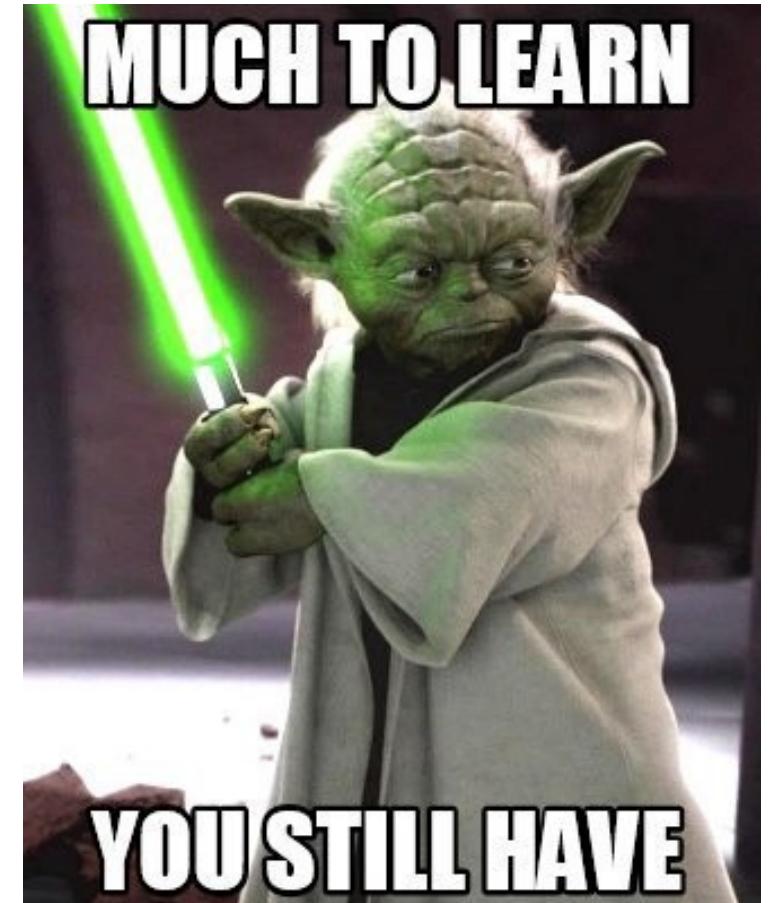
- O'Reilly
- Manning
- Packt
- Apress
- Wiley
- No Starch Press

## YouTube tutoriály

Packt Publishing

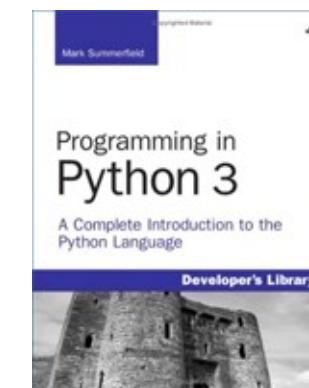
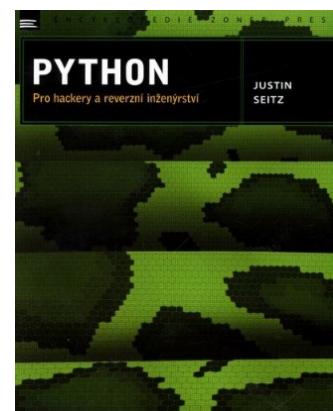
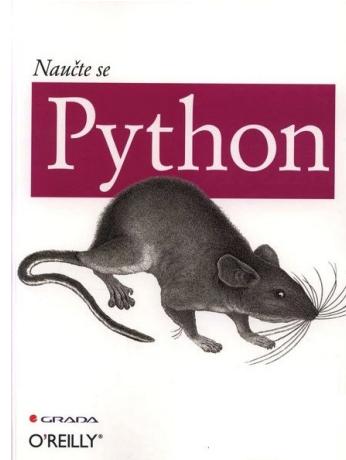
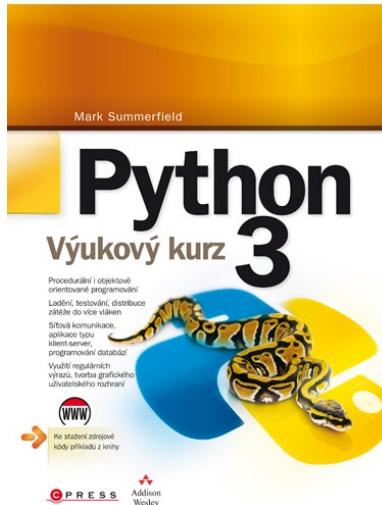
# Čo ti odporúčam si pozrieť?

1. <https://docs.python.org/3/>
2. <https://realpython.com/tutorials/best-practices/>
3. <https://google.github.io/styleguide/pyguide.html>
4. <https://docs.python.org/3/>
5. <http://python2013.input.sk/19prednaska>
6. <https://realpython.com/python3-object-oriented-programming/>
7. <https://jeffknupp.com/blog/2014/06/18/improve-your-python-python-classes-and-object-oriented-programming/>
8. <https://overiq.com/python-101/inheritance-and-polymorphism-in-python/>
9. <https://www.javatpoint.com/python-oops-concepts>
10. <https://www.programiz.com/python-programming/object-oriented-programming>



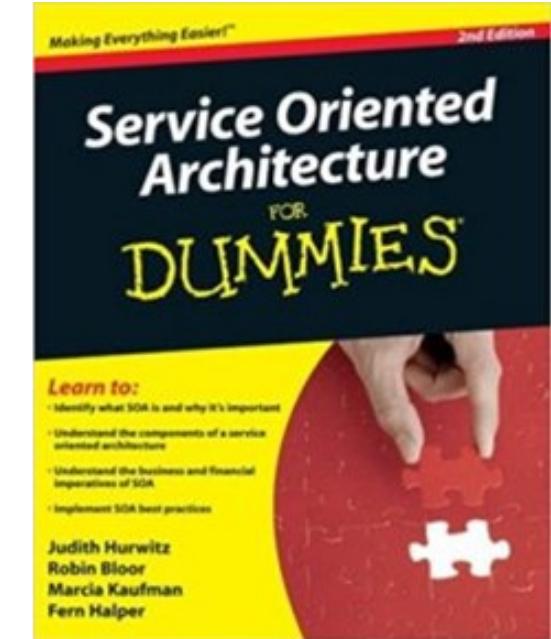
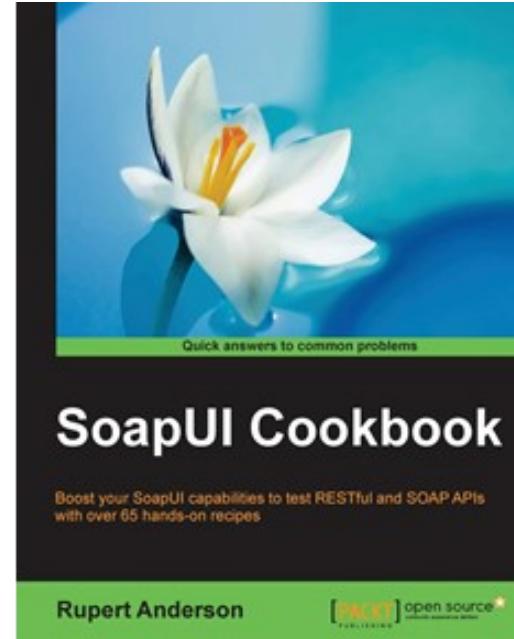
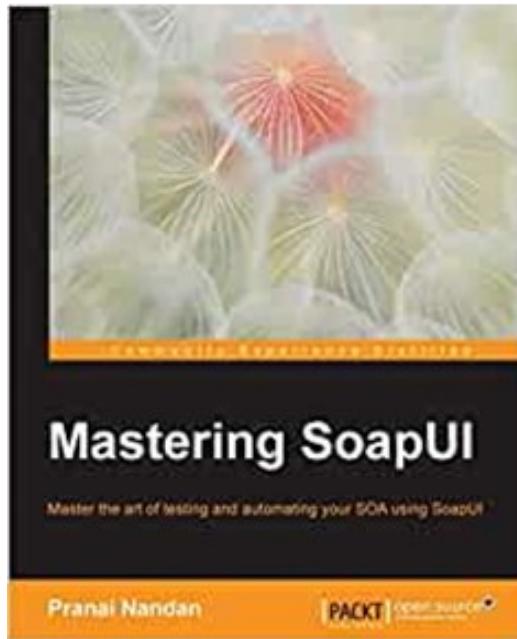
Šup do záložiek

# Čo sa oplatí/neoplatí prečítať SK/CZ?



Mark Pilgrim

# Čo sa oplatí/neoplatí prečítať EN?



# I am programmer



I have Life



I have  
stackoverflow



IT ACADEMY

Home

PUBLIC

Questions

**Tags**

Users

COLLECTIVES

Explore Collectives

FIND A JOB

Jobs

Companies

TEAMS

Create free Team

# Tags

A tag is a keyword or label that categorizes your question with other, similar questions. Using the right tags makes it easier for others to find and answer your question.

[Show all tag synonyms](#)

python

python

Python is a multi-paradigm, dynamically typed, multi-purpose programming language. It is designed to be quick to learn, understand, and...

1870168 questions 695 asked today, 6387 this week

python-3.x

USE ONLY IF YOUR QUESTION IS VERSION-SPECIFIC. For questions about Python programming that are specific to version 3+ of the language...

303562 questions 93 asked today, 836 this week

python-2.7

Python 2.7 is the last major version in the 2.x series, and is no longer maintained since January 1st 2020. Use the generic [python] tag on all Python...

94965 questions 24 asked this week, 106 this month

Popular

Name

New

python-requests

USE ONLY FOR THE PYTHON REQUESTS LIBRARY. Requests is a full-featured Python HTTP library with an easy-to-use, logical API.

18697 questions 8 asked today, 57 this week

python-imaging-library

The Python Imaging Library (PIL) provides the Python language with a de-facto standard foundation for image work. PIL's API is lightweight but...

7883 questions 5 asked today, 38 this week

wxpython

wxPython is a Python wrapper for the cross-platform C++ GUI API wxWidgets.

7047 questions 7 asked this week, 14 this month

ipython

IPython is a feature-rich interactive shell for Python, and provides a kernel for frontends such as IPython Notebook and Jupyter Notebook.

6886 questions 5 asked this week, 26 this month

python-3.6

Version of the Python programming language released in December 2016. For issues specific to Python 3.6. Use more generic [python] and [python-3....

5602 questions 11 asked this week, 24 this month

python-asyncio

to be used for the asyncio Python package which provides mechanisms for writing single-threaded concurrent code. The asyncio package provides...

5492 questions 29 asked this week, 125 this month

python-import

For questions about importing modules in Python

5119 questions 11 asked this week, 47 this month

python-multiprocessing

multiprocessing is a package that supports spawning processes using an API similar to the threading module in python programming language.

4036 questions 12 asked this week, 46 this month

python-3.7

Version of the Python programming language released in June 27, 2018. For issues that are specific to Python 3.7. Use the more generic [python] and...

4034 questions 5 asked this week, 21 this month

# Efektívne používanie klávesnice

**Špeciálne znaky, kde ich nájst' na klávesnici**

Operátory	Porovnávanie	Oddelovače	Bitové operácie	Zátvorky
+	< >	,	&	( )
*	=	. Atribútov		{ } { }
-	!	: Blokov, Klúčov	^	[ ] [ ]
/	Úvodzovky	; Príkazov	XOR	Ostatné
%	Špeciálne znaky	Poznámky	~ Inverzie	Súčasť mena
@		# Komentár	?	\$ Nevyužité

**Retázce**

# Najdôležitejšie klávesové skratky

## Práca s IDE

- Ctrl + D Delete zmaž riadok
- **Ctrl + Space** Asistent kódu
- **Ctrl + /** Komentáre
- Ctrl + A Označ všetko
- **Alt + /** Dokonči slovo
- Ctrl + F Hľadanie a náhrady
- Ctrl + Shift + F Kompakt režim
- Ctrl + Shift + S Ulož všetko

## Práca s browserom

- Ctrl + T Vytvor nový tab
- Ctrl + W Zatvor aktuálny tab
- Ctrl + Shift + W Zatvor všetky taby
- **Ctrl + Shift + T** Otvor posledný tab
- Ctrl + Shift + J/F12 Web console
- **F11** Fullscreen

**F5 nie je spustenie, ale Refresh**

# PYCON SK 2022

Bratislava

KÚP SI LÍSTOK

## Vývojári

Verejná skupina

Informácie

## Diskusia

Oznámenia

Členovia

Podujatia

Videá

Fotky

Súbory

Hľadať v tejto skupine



Ste člen

Upozornenia

Zdieľať

... Viac



Napísat' príspěvok...

Pridať fotku/vi...

Živé video

Viac



Napište niečo...



Fotka/video



Divácka páry



Označiť priat...

...

NOVÁ AKTIVITA



Roland Mondek

10 h

## POZVAŤ ČLENOV

+ Zadajte meno alebo e-mailovú adresu...



## ČLENOVIA

5 505 členov



## POPIS

Skupina softvérových vývojárov. Táto skupina by mala byť miestom... [Zobraziť viac](#)

## TYP SKUPINY

Všeobecné

## VAŠE STRÁNKY



IT Academy



VITA - Virtual It Academy

## KONTAKTY



Evka Rybárska



Jarmila Palenčárová



Stefan Orosi



Ivana Ivka Jasaňová



Hrá Word Blitz



Ivana Pavlíková



Martin Vanko



Lucia Kovačičová

4 h



Lošák Filip



Andrej Nejedlik



Gabika Zubrikova

## SKUPINOVÉ KONVERZÁCIE



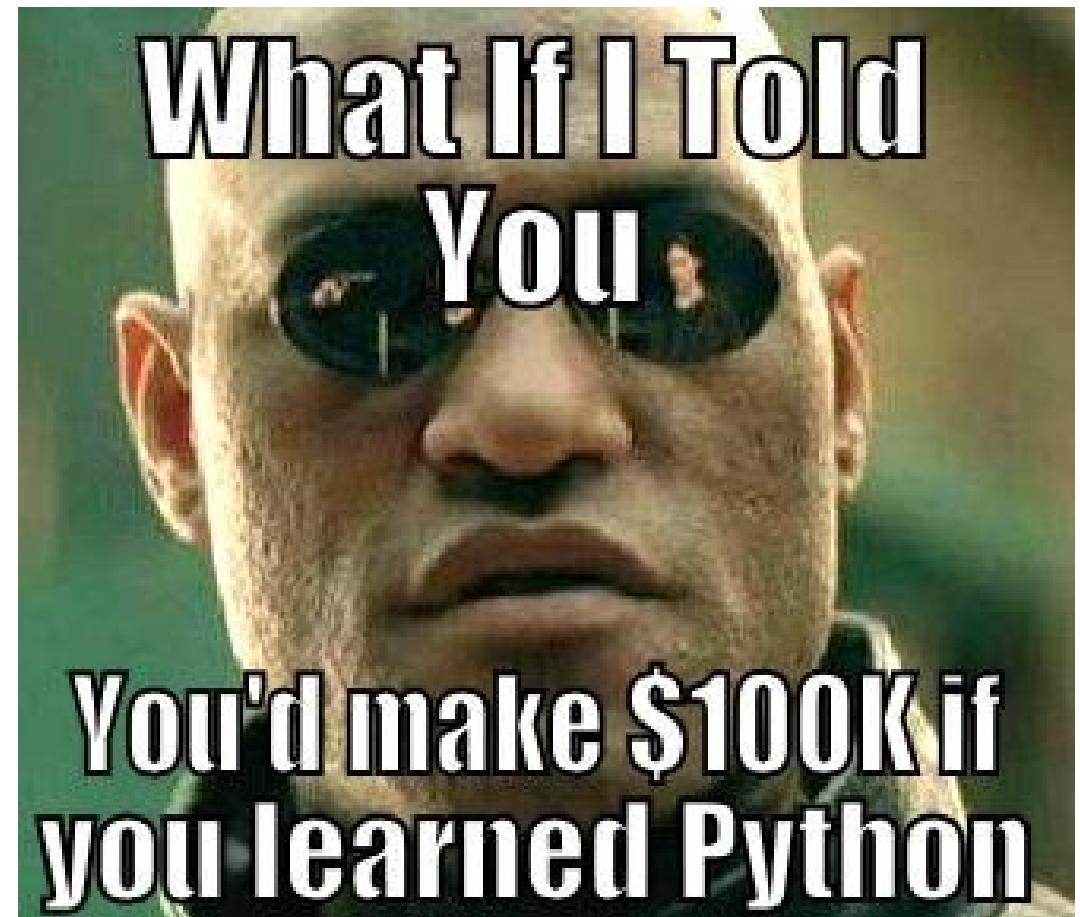
Vytvoriť novú skupinu

Hľadať



# Zen filozofia Pythonu

1. Krásny je lepší než škaredý
2. Explicitný je lepší ako implicitný
3. Jednoduchý je lepší ako zložitý
4. Zložitý je lepší ako komplikovaný
5. Plochý je lepší ako vnorený
6. Riedky je lepší ako hustý
7. Na čitateľnosti záleží
8. Praktickosť vyhráva nad čistotou



import this

# Čaká nás krásna budúcnosť

```
>>> from __future__ import braces  
SyntaxError: not a chance (<pyshell#13>, line 2)  
>>> |
```

No future {} a ;



# Inšpirácia na projekty

# Python Project Ideas

Easy



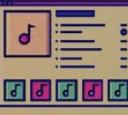
Quote Gener. Number guessing Dice Simulation YT downloader

Mid



Password Manag. Mario Party Web Crawler Email Autom.

Pro



Music Player Face Detection Twitter Clone Twitter Bot

# Čo je Grow with Google?

Grow with Google je globálna iniciatíva, ktorej cieľom je vytvoriť viac príležitostí pre všetkých.

Poskytuje bezplatné kurzy, nástroje a školenia či už online alebo offline, ktoré ľuďom pomáhajú ziskavať tie správne zručnosti, aby si našli prácu, posunuli svoju kariéru či nakopli svoje podnikanie.

V roku 2022 sa zameriava na pomoc:

- malým a stredným podnikateľom
- startupom
- neziskovým organizáciám
- ženám
- mnoho ďalším...



# Ako ti môžeme pomôcť?

Pre firmy

Pre jednotlivcov

Pre školy

Pre startupy

Väčšina

Získaj novú prácu

Získaj nové zručnosti

Začni podnikat

Pracuj lepšie na diaľku

Bud' v online svete v bezpečí

## Odporúčame

Objav naše tipy a odporúčania pre jednotlivcov



### NÁSTROJ

#### Získaj nové zručnosti potrebné pre rast tvojej kariéry

Uč sa svojím vlastným tempom, s flexibilnými a personalizovanými vzdelávacími kurzami navrhnutými tak, aby ti pomohli posunúť sa ďalej.

[Zistit viac](#)

[growwithgoogle.sk](http://growwithgoogle.sk)

**growwithgoogle.sk**

/prefirmy

Pomáha malým a stredným firmám získať digitálne zručnosti, ktoré sú **pre rast podnikania kľúčové**.

/preskoly

Ponúka rady a odporúčania na nástroje, ktoré môžu učiteľom, študentom, ale aj rodičom **pomôcť**.

/preneziskovky

Sumarizuje vzdelávacie materiály a videá, ktoré vám pomôžu byť viditeľný, **budovať komunity**, či riadiť tímy a pracovať efektívnejšie.

# Google Digitálna garáž

## Ako začať?



### Vyber si zručnosť

Či už si študent, alebo firma, na začiatku alebo v strede svojej cesty, môžeš si vybrať z lekcií tie, ktoré sú pre teba najvhodnejšie.



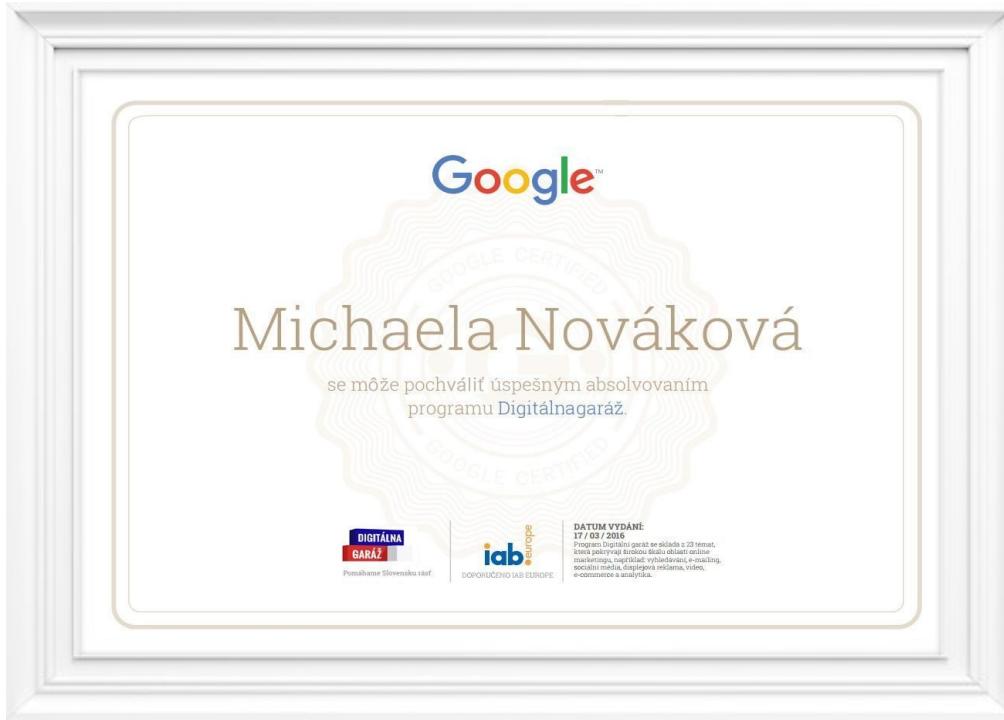
### Uč sa vlastným tempom

Vytvor si vlastný plán vzdelávania vo svojom počítači, smartfóne alebo tablete, podľa toho ako ti to bude najlepšie vyhovovať.



### Získaj certifikáciu

Sleduj svoj pokrok a získaj medzinárodne akreditovaný certifikát, ktorý obohatí tvoj životopis a profil v službe LinkedIn.



**26** téma

**106** lekcií

**9** hodin obsahu



**86 %**  
účastníkov našlo vďaka metóde Design Thinking nové řešenie na existujúci problém.

**63 %**  
účastník uvádza, že sú po absolvovaní workshopu viac kreatívni.

**56 %**  
účastník uvádza, že po absolvovaní workshopu lepšie spolupracujú v tíme.

Zúčastnite sa bezplatných workshopov New Generation of Founders a rozvíjajte svoje nápady a projekty!



**Design Thinking** je metóda riešenia problémov zameraná na používateľa. Začína pochopením jeho potrieb, pokračuje skúmaním inovatívnych riešení a končí testovaním rýchlych prototypov.

V rámci programu **New Generation of Founders** stretnete nových ľudí s rôznymi skúsenosťami a záujmami. Prejdete všetkými krokmi dizajnu s malým teoretickým základom a množstvom praktických cvičení.

**Máte už podnikateľský nápad alebo problém, ktorý chcete vyriešiť?** Skvelé! Na našom workshopu pochopíte, čo za týmto problémom stojí, ako sa vočiť do koze používateľa, a ako testovať a vylepsovať produkt.

# Ako skončíme?

## 1. Pridaj si ma na LinkedIn

- [www.linkedin.com/in/miroslav-reiter](http://www.linkedin.com/in/miroslav-reiter)

## 2. Materiály po prednáške

- <https://1drv.ms/p/s!AlrLrycbTQ1a19sf c1MmNNnYMaluWA?e=FTUITc>

The screenshot shows the LinkedIn SlideShare dashboard. At the top, there is a navigation bar with the LinkedIn logo, the word "SlideShare", a search bar, and a profile picture. Below the navigation bar, there are three main tabs: "Home", "Explore", and "Analytics". The "Home" tab is selected. On the left side, there are three buttons: "My Uploads" (selected), "My Comments", and "Analytics". Below these buttons, there are two filters: "Most Recent" and "Select all". A search bar labeled "Search Uploads..." is located on the right. The main content area displays two presentation cards. The first card, titled "Automatizácia a optimalizácia Firemné procesy", has a green thumbnail featuring a white play button icon. It was uploaded by "Ing. Mgr. Miroslav Reiter, DIes., N" (with a link to their profile) 1 month ago. The second card, titled "Najväčšie faily na sociálnych sietiach a Google reklame", also has a green thumbnail with a white play button icon. It was uploaded by the same user 6 months ago. Both cards show download statistics at the bottom: 113 and 19 respectively.

# Ako sa s nami spojiť?



**ADRESA:** IT Academy, s. r. o.

Budova KOLOSEO prízemie  
Tomášikova 50/A  
831 04 Bratislava



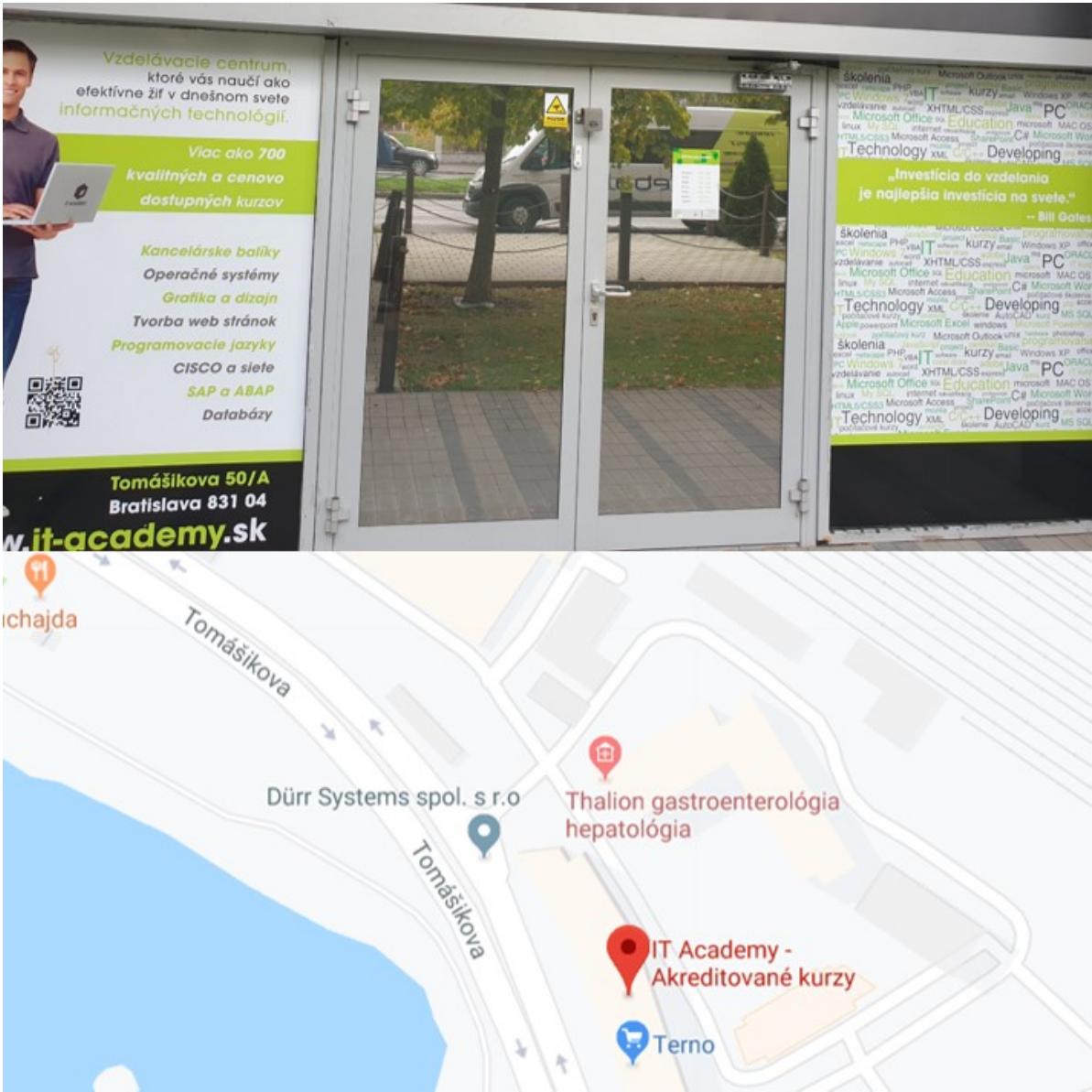
**WEB:** [www.it-academy.sk](http://www.it-academy.sk)



**E-MAIL:** [info@it-academy.sk](mailto:info@it-academy.sk)



**TELEFÓN:** +421 917 095 406



# Ako vieme pomôcť?

#Copywriting

#Školenia

#Zamestnanci

#Pomáhame

#Rast

#Projekty

#Certifikácie

#Kurzy

#Tréningy

#Vzdelávanie

#PPC Kampane

#Elearning

#Mentoring

#Konzultácie

#Online

#Programovanie

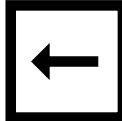
#Vývoj

#Marketing

#Reklama

#Prenájom Techniky

Mrkni na náš YouTube kanál a daj odber

 [WWW.YOUTUBE.COM/C/IT-ACADEMYSK](https://www.youtube.com/c/IT-ACADEMYSK) 

# Vyber si online kurz

Nauč sa programovať, tvoriť webstránky a grafiku, manažovať alebo sa zameraj na osobný rozvoj. Všetko jednoducho vďaka našim online kurzom z pohodlia tvojho domova.

Ročné predplatné na  
všetky online kurzy

~~2299.99€~~

299.99€

Prístup pre Teba do všetkých  
aktuálnych aj pripravovaných  
online kurzov

12 mesačná platnosť

Kúpiť teraz

## Zadarmo

- A. Ďalšie kurzy NSPC
- B. Grow with Google

1. NESTRAŤ PRÁCU (Zamestnaní, SZČO,  
na materskej)
2. KOMPAS/REPAS (Nezamestnaní)
3. YouTube Kanál (IT Academy)

## Platené

1. Moje kurzy na [www.vita.sk](http://www.vita.sk)