

Cloud Computing

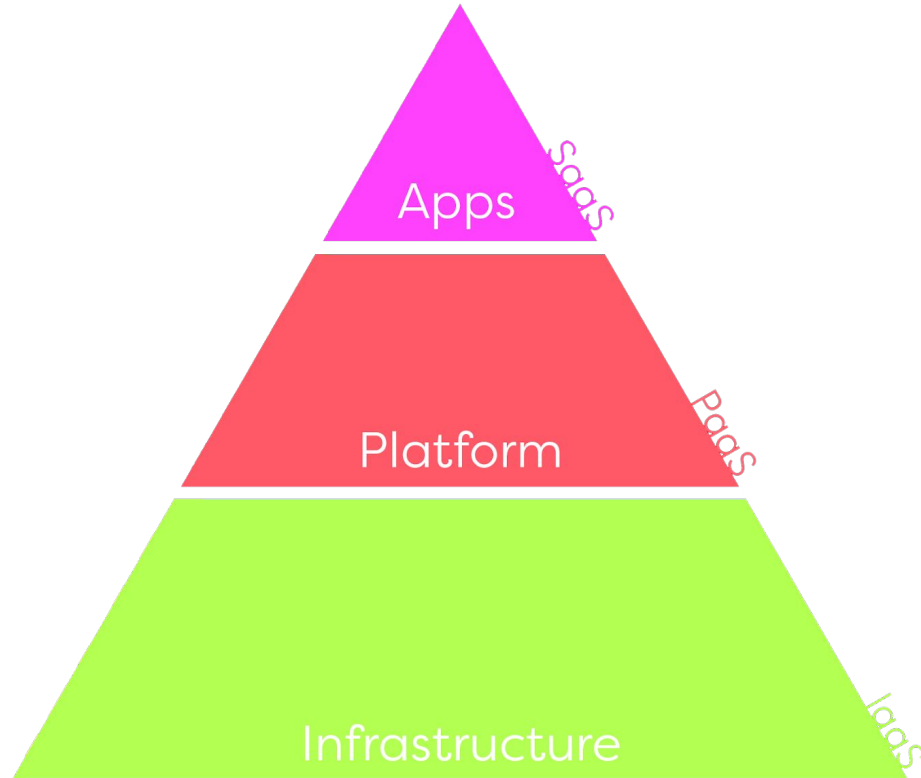
pero con el cielo
despejado

¿Qué es el Cloud Computing?

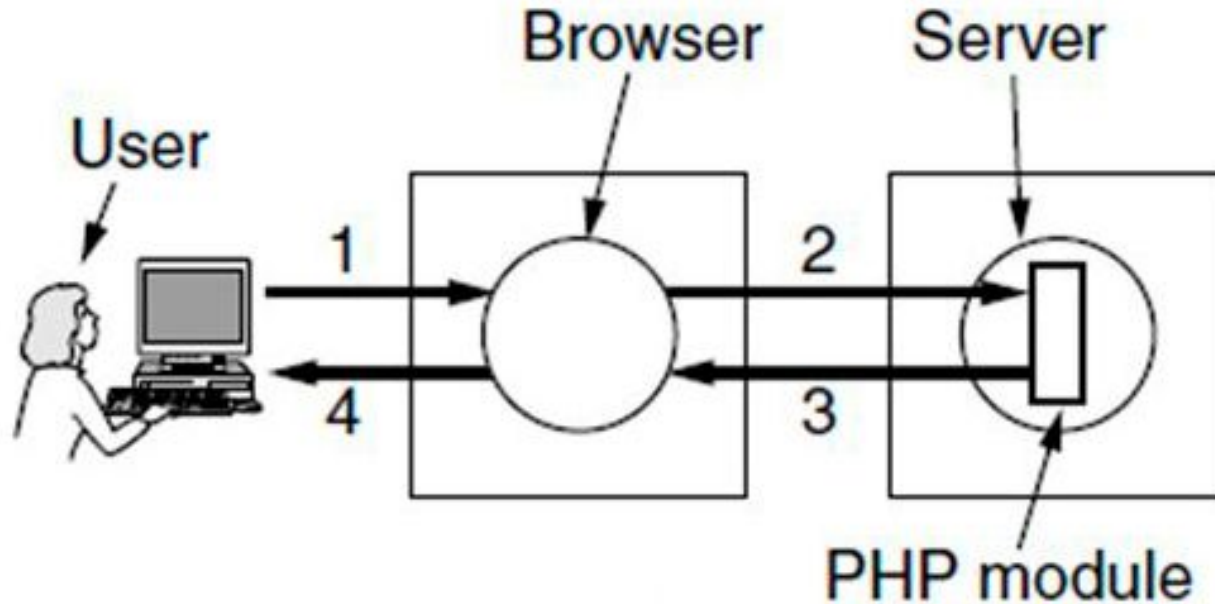
¿Qué es el cloud computing?



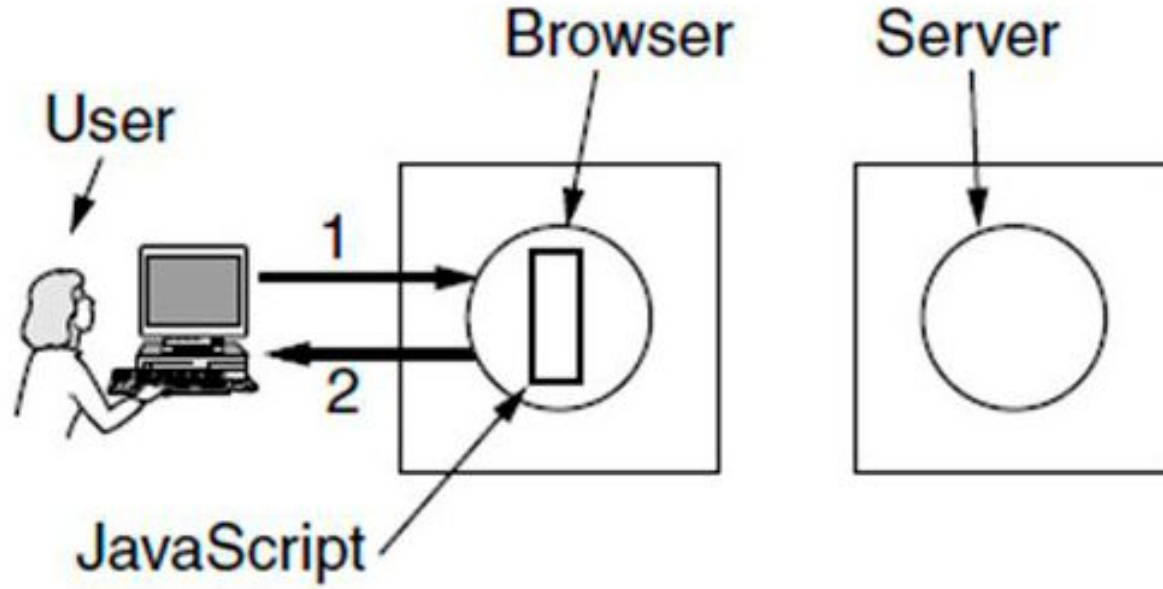
Arquitectura de servicios



Cloud computing: Servidor



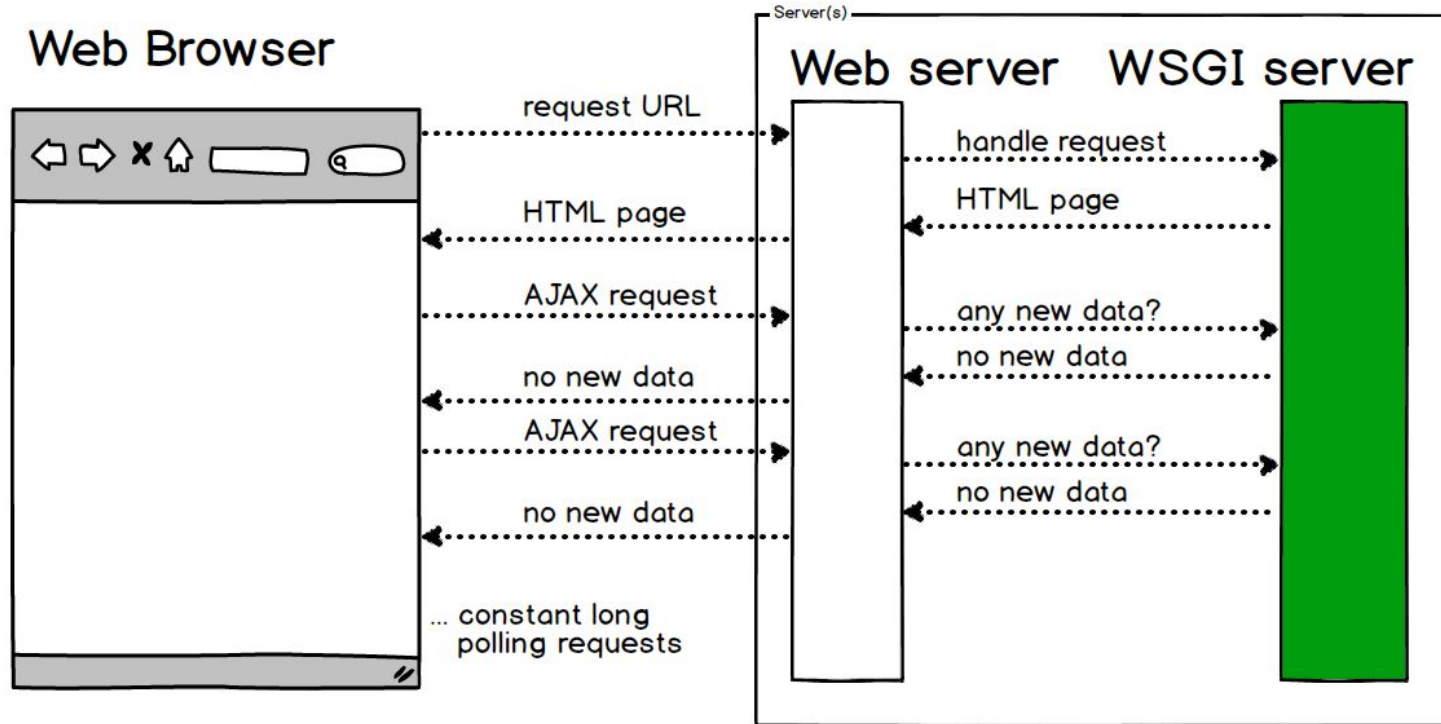
Cloud computing: Cliente



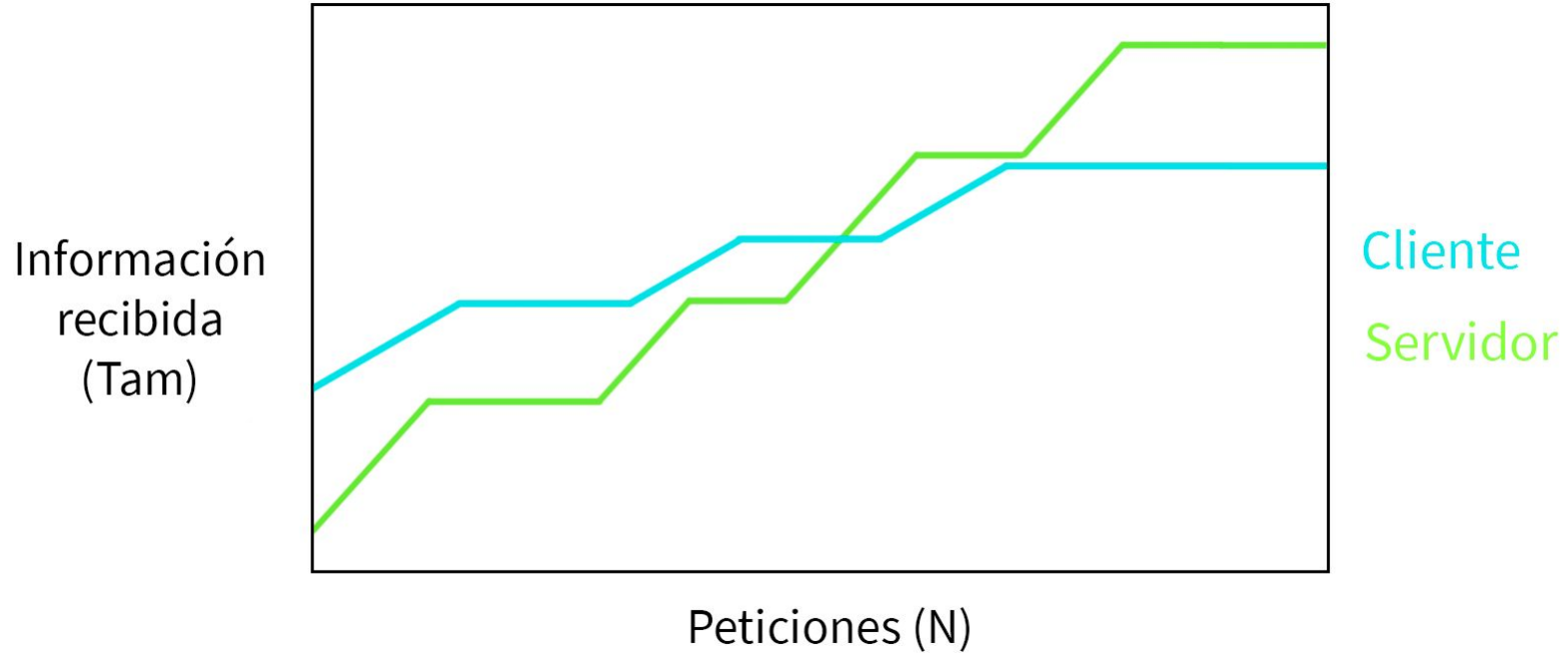
AJAX



Comunicaciones usando AJAX



Diferencias entre ambos lados



Aplicaciones basadas en Cloud Computing

Suite de ofimática

Office 2016 Home and Student edition

- 1 GHz processor
- 2GB RAM
- 3 GB of available disk space; better to have some extra space for temp files
- Screen resolution of a minimum 1280 x 800
- Windows 7 SP1 or above operating system; Works best on latest operating system according to Microsoft
- The browsers used should be the latest versions or the versions immediately preceding the latest versions
- At least .Net 3.5; preferred 4.5 LCR
- A Microsoft account (that naturally has a OneDrive account attached to it).

Suite de ofimática

Google Chrome Requirements for Windows

Google Chrome will run on computers equipped with a Pentium 4 processor or higher, which encompasses most machines manufactured since 2001. The computer must have approximately 100MB of free hard drive space and 128MB of RAM. The oldest version of Windows supported by Chrome is Windows XP with Service Pack 2 installed. Chrome also runs on computers with Windows Vista or Windows 7 installed.

CPU: Pentium 4
ROM: 100MB
RAM: 128 MB
SO: Windows XP

Servicio de streaming

VIDEO DOWNLOAD



MEDIA STREAMING



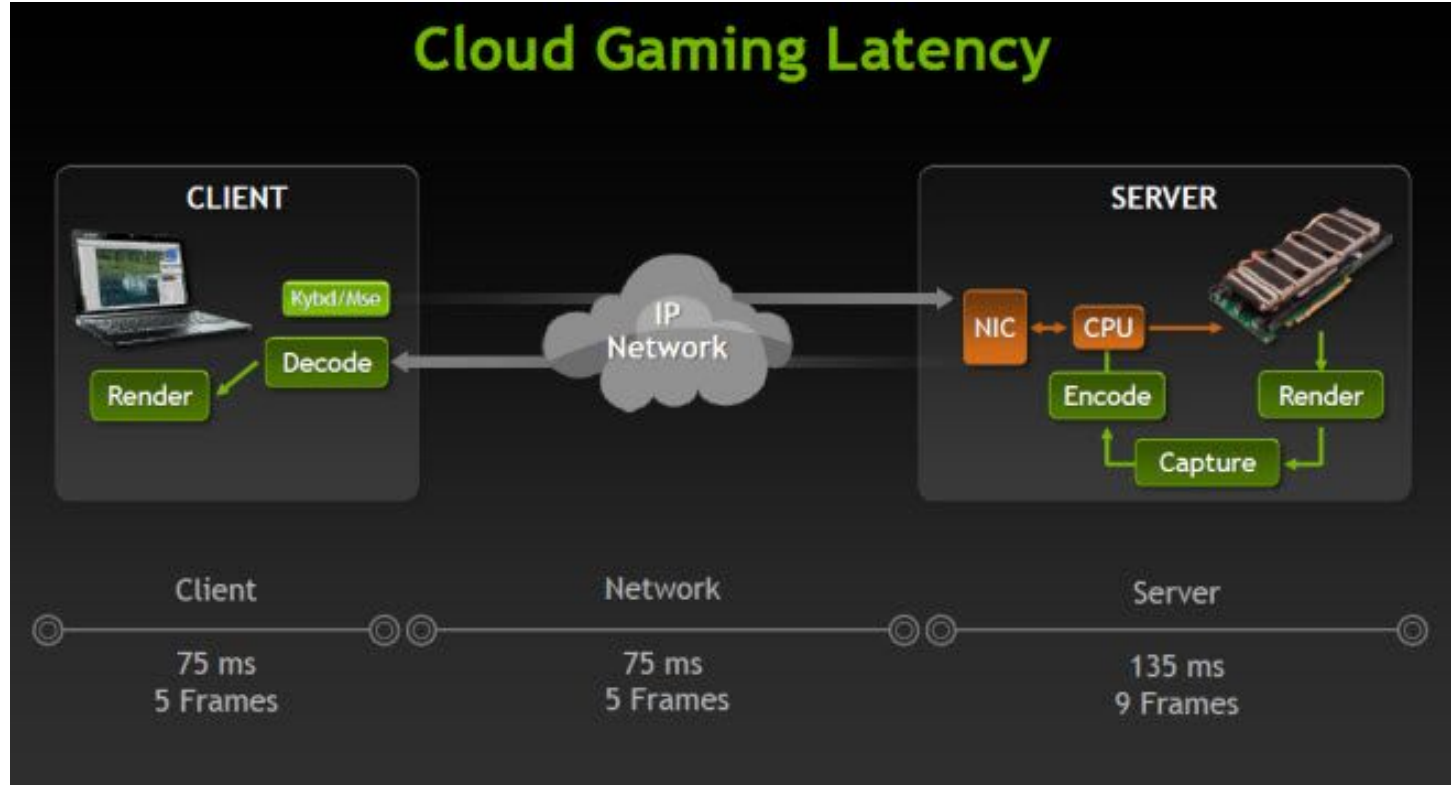
Videojuegos

HexGL para navegadores

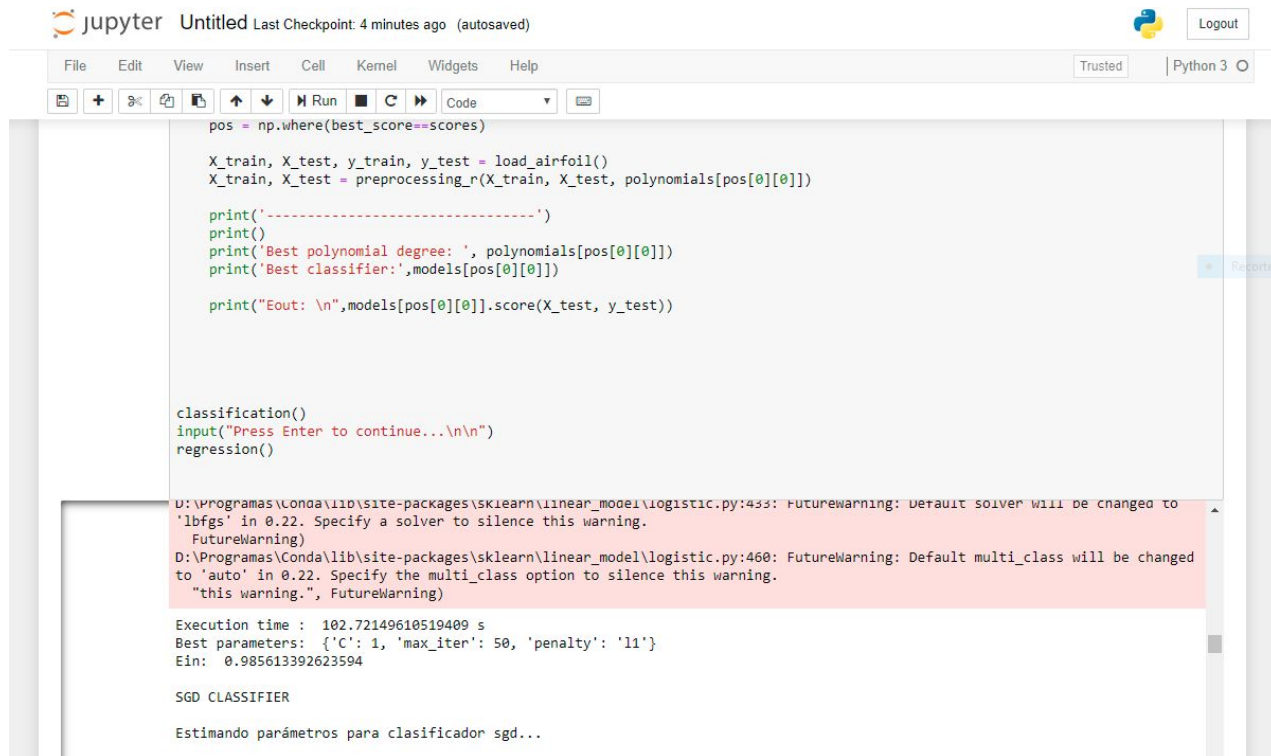


Minecraft Classic

Videojuegos



Tareas de computación pesada



The screenshot shows a Jupyter Notebook titled 'Untitled' with a last checkpoint 4 minutes ago. The code cell contains the following Python code:

```
pos = np.where(best_score==scores)

X_train, X_test, y_train, y_test = load_airfoil()
X_train, X_test = preprocessing_r(X_train, X_test, polynomials[pos[0][0]])

print('-----')
print()
print('Best polynomial degree: ', polynomials[pos[0][0]])
print('Best classifier:', models[pos[0][0]])

print("Eout: \n", models[pos[0][0]].score(X_test, y_test))

classification()
input("Press Enter to continue...\n\n")
regression()
```

The output of the code cell shows two FutureWarning messages from sklearn, followed by the execution time and best parameters for the SGD Classifier:

```
D:\Programas\Conda\lib\site-packages\sklearn\linear_model\logistic.py:453: FutureWarning: Default solver will be changed to
'lbfgs' in 0.22. Specify a solver to silence this warning.
  FutureWarning)
D:\Programas\Conda\lib\site-packages\sklearn\linear_model\logistic.py:460: FutureWarning: Default multi_class will be changed
to 'auto' in 0.22. Specify the multi_class option to silence this warning.
  "this warning.", FutureWarning)

Execution time : 102.72149610519409 s
Best parameters: {'C': 1, 'max_iter': 50, 'penalty': 'l1'}
Ein: 0.985613392623594

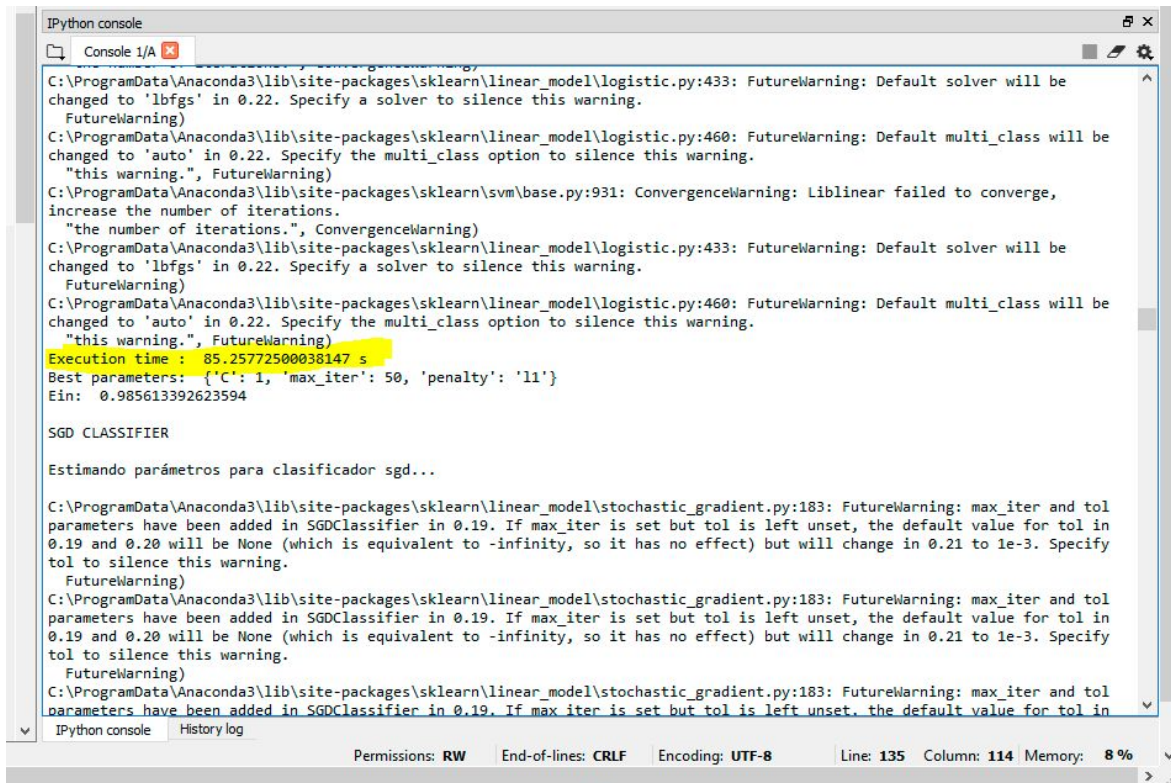
SGD CLASSIFIER

Estimando parámetros para clasificador sgd...
```

Ejecución en local de
algoritmo de aprendizaje
automático:
102.72 segundos

Tareas de computación pesada

Ejecución en remoto de
algoritmo de aprendizaje
automático:
85.25 segundos



```
IPython console
Console 1/A
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\logistic.py:433: FutureWarning: Default solver will be
changed to 'lbfgs' in 0.22. Specify a solver to silence this warning.
FutureWarning)
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\logistic.py:460: FutureWarning: Default multi_class will be
changed to 'auto' in 0.22. Specify the multi_class option to silence this warning.
"this warning.", FutureWarning)
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\svm\base.py:931: ConvergenceWarning: Liblinear failed to converge,
increase the number of iterations.
"the number of iterations.", ConvergenceWarning)
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\logistic.py:433: FutureWarning: Default solver will be
changed to 'lbfgs' in 0.22. Specify a solver to silence this warning.
FutureWarning)
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\logistic.py:460: FutureWarning: Default multi_class will be
changed to 'auto' in 0.22. Specify the multi_class option to silence this warning.
"this warning.", FutureWarning)
Execution time : 85.25772500038147 s
Best parameters: {'C': 1, 'max_iter': 50, 'penalty': 'l1'}
Ein: 0.985613392623594

SGD CLASSIFIER

Estimando parámetros para clasificador sgd...

C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\stochastic_gradient.py:183: FutureWarning: max_iter and tol
parameters have been added in SGDClassifier in 0.19. If max_iter is set but tol is left unset, the default value for tol in
0.19 and 0.20 will be None (which is equivalent to -infinity, so it has no effect) but will change in 0.21 to 1e-3. Specify
tol to silence this warning.
FutureWarning)
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\stochastic_gradient.py:183: FutureWarning: max_iter and tol
parameters have been added in SGDClassifier in 0.19. If max_iter is set but tol is left unset, the default value for tol in
0.19 and 0.20 will be None (which is equivalent to -infinity, so it has no effect) but will change in 0.21 to 1e-3. Specify
tol to silence this warning.
FutureWarning)
C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\stochastic_gradient.py:183: FutureWarning: max_iter and tol
parameters have been added in SGDClassifier in 0.19. If max_iter is set but tol is left unset, the default value for tol in
0.19 and 0.20 will be None (which is equivalent to -infinity, so it has no effect) but will change in 0.21 to 1e-3. Specify
tol to silence this warning.
FutureWarning)

Permissions: RW End-of-lines: CRLF Encoding: UTF-8 Line: 135 Column: 114 Memory: 8%
```

Conclusiones



- Procesamiento de datos y cálculos grandes
- Almacenamiento
- Administración y seguridad
- Código no accesible
- Latencia de red
- Posibilidad de fallos de código y ataques de hackers

- Aplicaciones que no requieran de muchos recursos
- Código disponible para todos los usuarios
- Interacción más rápida con usuario
- No todos los navegadores lo soportan
- El usuario necesita confiar en el desarrollador

Ea,
¿Preguntas?