

1. Herramienta Utilizada

- Nombre: Pylint
- Versión: 2.17.4 (versión estándar)
- Archivo de configuración: `.pylintrc` personalizado

2. Configuración Aplicada - Reglas Personalizadas

Exclusiones y Directorios Ignorados:

```
[MASTER]
ignore = migrations, __pycache__, staticfiles, media, venv, .venv, env, .env
```

- Se excluyen directorios de migraciones, cache, archivos estáticos y entornos virtuales

Mensajes Deshabilitados:

```
disable =
    missing-docstring,                      # No requiere docstrings obligatorios
    too-few-public-methods,                  # Permite clases con pocos métodos
    públicos
    import-error,                          # Ignora errores de importación
    invalid-name,                         # Nombres de variables más flexibles
    duplicate-code,                       # No verifica código duplicado
    C0301,                                # Línea demasiado larga (se usa
    max-line-length=120)
    R0903,                                # Muy pocos métodos públicos
    W0613,                                # Argumento no utilizado
    C0114, C0115, C0116,                  # Docstrings missing-module, missing-class,
    missing-function
    W1203,                                # Logging-fstring-interpolation
    C0411,                                # wrong-import-order
    F5101,                                # f-string-without-interpolation
```

Configuración de Formato:

[FORMAT]

```
max-line-length = 120 # Líneas más largas permitidas (en lugar de 80)
```

Nombres Válidos Adicionales:

[BASIC]

```
good-names =
    i,j,k,ex,Run,_,
    db,id,url,app,
    pk,qs,request,user,obj,
    f,archivo,timestamp,carpeta,
    key,my_dict
```

- Nombres comunes de variables considerados aceptables

Miembros Generados para Typecheck:

[TYPECHECK]

```
generated-members =
    objects,
    DoesNotExist,
    MultipleObjectsReturned,
    pk,
    id,
    _cache_prefix
```

- Atributos de Django y ORM reconocidos para análisis de tipos

Configuración de Diseño:

[DESIGN]

```
max-args=6          # Hasta 6 argumentos permitidos en funciones
max-locals=12       # Hasta 12 variables locales permitidas
min-public-methods=0 # Clases pueden tener 0 métodos públicos
```

3. Resultados Obtenidos - Análisis Inicial

Problemas Identificados (a pesar de la configuración relajada):

Problemas de Formato (No deshabilitados):

- 173 casos de `trailing whitespace` (espacios al final)
- 4 casos de `missing-final-newline` (falta línea final)
- 1 caso de `trailing-newlines` (líneas en blanco al final)

Problemas Estructurales (No deshabilitados):

- 11 casos de `import-outside-toplevel` (imports dentro de funciones)
- 8 casos de `unused-import` (imports no utilizados)
- 2 casos de `raise-missing-from` (excepciones sin 'from')
- 1 caso de `redefined-outer-name` (redefinición de nombres)
- 1 caso de `fixme` (TODO pendiente)
- 1 caso de `consider-iterating-dictionary` (iteración ineficiente)

Métricas Iniciales:

- Calificación: 7.63/10
- Total problemas: 202 (190 convención + 12 warnings)
- Líneas analizadas: 2,741

4. Evidencia de Ejecución Inicial

El reporte `pylint_antes.txt` muestra que incluso con configuración relajada, se mantuvieron checks importantes de calidad:

- Verificación de formato básico (espacios, líneas)
- Control de imports y dependencias
- Detección de código no utilizado
- Mejores prácticas de manejo de excepciones

5. Evidencia de Corrección

El reporte `pylint_despues.txt` demuestra corrección completa:

Resultados Finales:

- Calificación perfecta: 10.00/10
- 0 errores, 0 warnings, 0 problemas de convención

- 841 statements analizados sin incidencias
- 2,730 líneas revisadas limpiamente

6. Análisis de la Configuración

Ventajas de la Configuración Aplicada:

- Enfoque práctico: Excluye directorios irrelevantes
- Flexibilidad: Permite nombres comunes de variables
- Adaptada a Django: Reconoce patrones del ORM
- Balanceada: Mantiene checks importantes de calidad mientras elimina ruido

Problemas Corregidos que Demuestran Calidad:

1. Limpieza de código: Eliminación de espacios innecesarios
2. Estructura adecuada: Imports organizados correctamente
3. Eficiencia: Eliminación de código no utilizado
4. Buenas prácticas: Manejo correcto de excepciones
5. Mantenibilidad: Resolución de TODOs pendientes

La configuración permitió enfocarse en problemas reales de calidad sin el ruido de reglas demasiado estrictas, demostrando que se puede lograr código de alta calidad (10/10) con una configuración balanceada y pragmática.

pylint_antes.txt

***** Module grupos.admin

grupos\admin.py:28:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:41:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:59:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:73:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:89:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:99:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:113:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:133:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:149:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:165:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:181:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:193:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:209:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:218:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:226:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\admin.py:235:0: C0303: Trailing whitespace (trailing-whitespace)

***** Module grupos.models

grupos\models.py:281:0: C0304: Final newline missing (missing-final-newline)
grupos\models.py:11:0: W0611: Unused timezone imported from django.utils
(unused-import)

***** Module grupos.serializers

grupos\serializers.py:24:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:36:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:48:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:52:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:69:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:73:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:77:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:89:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:92:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:108:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:113:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:126:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:128:36: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:132:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:150:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:158:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:166:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:171:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:177:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:191:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:193:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:204:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:219:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:221:0: C0303: Trailing whitespace (trailing-whitespace)

grupos\serializers.py:232:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:248:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:260:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:269:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:285:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:291:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:308:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:315:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:328:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:334:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:347:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:354:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\serializers.py:116:8: C0415: Import outside toplevel (django.utils.timezone)
(import-outside-toplevel)
grupos\serializers.py:153:8: W0621: Redefining name 'ParticipacionUsuario' from outer
scope (line 11) (redefined-outer-name)
grupos\serializers.py:153:8: C0415: Import outside toplevel (models.ParticipacionUsuario)
(import-outside-toplevel)
grupos\serializers.py:237:12: C0415: Import outside toplevel (models.UsuarioNotificacion)
(import-outside-toplevel)
grupos\serializers.py:318:8: C0415: Import outside toplevel
(django.core.exceptions.ObjectDoesNotExist) (import-outside-toplevel)
grupos\serializers.py:322:12: W0707: Consider explicitly re-raising using 'except
ObjectDoesNotExist as exc' and 'raise serializers.ValidationError('El evento no existe') from
exc' (raise-missing-from)
grupos\serializers.py:337:8: C0415: Import outside toplevel
(django.core.exceptions.ObjectDoesNotExist) (import-outside-toplevel)
grupos\serializers.py:341:12: W0707: Consider explicitly re-raising using 'except
ObjectDoesNotExist as exc' and 'raise serializers.ValidationError('El usuario no existe') from
exc' (raise-missing-from)
***** Module grupos.services *****
grupos\services.py:17:42: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:43:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:53:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:98:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:106:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:109:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:116:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:133:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:136:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:175:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:178:28: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:182:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:224:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:236:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:264:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:268:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:283:0: C0303: Trailing whitespace (trailing-whitespace)

grupos\services.py:286:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:309:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:311:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:326:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:336:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:360:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:366:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:413:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:418:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:421:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:427:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:433:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:476:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:480:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:485:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:492:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:499:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:504:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:533:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:543:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\services.py:310:9: W0511: TODO: Enviar notificaciones a participantes (fixme)
grupos\services.py:487:8: C0415: Import outside toplevel (models.UsuarioComentario)
(import-outside-toplevel)
grupos\services.py:535:8: C0415: Import outside toplevel (models.UsuarioNotificacion)
(import-outside-toplevel)
grupos\services.py:549:8: C0415: Import outside toplevel (models.UsuarioNotificacion)
(import-outside-toplevel)
grupos\services.py:560:8: C0415: Import outside toplevel (models.UsuarioNotificacion)
(import-outside-toplevel)
grupos\services.py:16:0: W0611: Unused Rol imported from models (unused-import)
grupos\services.py:21:0: W0611: Unused timezone imported from django.utils
(unused-import)
***** Module grupos.singletons
grupos\singletons.py:11:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\singletons.py:18:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\singletons.py:23:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\singletons.py:39:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\singletons.py:41:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\singletons.py:47:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\singletons.py:56:0: C0304: Final newline missing (missing-final-newline)
grupos\singletons.py:26:12: C0415: Import outside toplevel (models.Grupo)
(import-outside-toplevel)
***** Module grupos.views
grupos\views.py:67:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:70:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:76:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:89:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:95:0: C0303: Trailing whitespace (trailing-whitespace)


```
grupos\views.py:427:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:436:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:441:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:446:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:452:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:468:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:474:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:479:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:493:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:509:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:512:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:515:0: C0303: Trailing whitespace (trailing-whitespace)
grupos\views.py:206:12: C0415: Import outside toplevel (models.UsuarioGrupo)
(import-outside-toplevel)
grupos\views.py:19:0: W0611: Unused timezone imported from django.utils (unused-import)
grupos\views.py:21:0: W0611: Unused Participacion imported from models (unused-import)
grupos\views.py:21:0: W0611: Unused Rol imported from models (unused-import)
***** Module project.settings
project\settings.py:33:0: C0303: Trailing whitespace (trailing-whitespace)
project\settings.py:39:0: C0303: Trailing whitespace (trailing-whitespace)
project\settings.py:152:0: C0303: Trailing whitespace (trailing-whitespace)
project\settings.py:158:0: C0303: Trailing whitespace (trailing-whitespace)
project\settings.py:163:0: C0303: Trailing whitespace (trailing-whitespace)
project\settings.py:169:0: C0303: Trailing whitespace (trailing-whitespace)
project\settings.py:245:0: C0305: Trailing newlines (trailing-newlines)
project\settings.py:8:0: W0611: Unused import os (unused-import)
project\settings.py:9:0: W0611: Unused timedelta imported from datetime (unused-import)
***** Module project.singleton
project\singleton.py:13:0: C0303: Trailing whitespace (trailing-whitespace)
project\singleton.py:21:0: C0303: Trailing whitespace (trailing-whitespace)
project\singleton.py:31:0: C0303: Trailing whitespace (trailing-whitespace)
project\singleton.py:39:0: C0303: Trailing whitespace (trailing-whitespace)
project\singleton.py:44:0: C0303: Trailing whitespace (trailing-whitespace)
project\singleton.py:52:0: C0303: Trailing whitespace (trailing-whitespace)
project\singleton.py:56:0: C0303: Trailing whitespace (trailing-whitespace)
project\singleton.py:66:0: C0304: Final newline missing (missing-final-newline)
project\singleton.py:61:19: C0201: Consider iterating the dictionary directly instead of calling
.keys() (consider-iterating-dictionary)
***** Module project.urls
project"urls.py:19:0: C0304: Final newline missing (missing-final-newline)
```

Report

=====

854 statements analysed.

Statistics by type

| type | number | old number | %difference | %documented | %badname |
|----------|--------|------------|-------------|-------------|----------|
| module | 15 | 5 | +10.00 | 66.67 | 0.00 |
| class | 78 | 1 | +77.00 | 70.51 | 0.00 |
| method | 88 | 6 | +82.00 | 100.00 | 2.27 |
| function | 1 | 1 | = | 0.00 | 0.00 |

2741 lines have been analyzed

Raw metrics

| type | number | % | previous | %difference |
|-----------|--------|-------|----------|-------------|
| code | 1404 | 51.22 | 127 | +1277.00 |
| docstring | 750 | 27.36 | 102 | +648.00 |
| comment | 156 | 5.69 | 57 | +99.00 |
| empty | 431 | 15.72 | 60 | +371.00 |

Duplication

| | how | previous | %difference |
|--------------------------|-------|----------|-------------|
| nb duplicated lines | 0 | 0 | 0 |
| percent duplicated lines | 0.000 | 0.000 | = |

Messages by category

| type | number | previous | difference | |
|------------|--------|----------|------------|--|
| convention | 190 | 17 | 17 | |
| refactor | 0 | 0 | 0 | |
| warning | 12 | 2 | 2 | |
| error | 0 | 0 | 0 | |

% errors / warnings by module

| module | error | warning | refactor | convention | |
|--------------------|-------|---------|----------|------------|--|
| grupos.views | 0.00 | 25.00 | 0.00 | 34.74 | |
| grupos.services | 0.00 | 25.00 | 0.00 | 21.58 | |
| grupos.serializers | 0.00 | 25.00 | 0.00 | 21.58 | |
| project.settings | 0.00 | 16.67 | 0.00 | 3.68 | |
| grupos.models | 0.00 | 8.33 | 0.00 | 0.53 | |
| grupos.admin | 0.00 | 0.00 | 0.00 | 8.42 | |
| project.singleton | 0.00 | 0.00 | 0.00 | 4.74 | |
| grupos.singletons | 0.00 | 0.00 | 0.00 | 4.21 | |
| project.urls | 0.00 | 0.00 | 0.00 | 0.53 | |

Messages

| message id | occurrences |
|------------|-------------|
| | |

| trailing-whitespace | 173 | |
|-------------------------------|-----|--|
| +-----+-----+ | | |
| import-outside-toplevel | 11 | |
| +-----+-----+ | | |
| unused-import | 8 | |
| +-----+-----+ | | |
| missing-final-newline | 4 | |
| +-----+-----+ | | |
| raise-missing-from | 2 | |
| +-----+-----+ | | |
| trailing-newlines | 1 | |
| +-----+-----+ | | |
| redefined-outer-name | 1 | |
| +-----+-----+ | | |
| fixme | 1 | |
| +-----+-----+ | | |
| consider-iterating-dictionary | 1 | |
| +-----+-----+ | | |

Your code has been rated at 7.63/10 (previous run: 7.65/10, -0.02)

pylint_despues.txt

Report

=====

841 statements analysed.

Statistics by type

| type | number | old number | difference | %documented | %badname |
|----------|--------|------------|------------|-------------|----------|
| module | 15 | 5 | +10.00 | 66.67 | 0.00 |
| class | 78 | 1 | +77.00 | 70.51 | 0.00 |
| method | 88 | 6 | +82.00 | 100.00 | 2.27 |
| function | 1 | 1 | = | 0.00 | 0.00 |

2730 lines have been analyzed

Raw metrics

| type | number | % | previous | difference |
|-----------|--------|-------|----------|------------|
| code | 1394 | 51.06 | 125 | +1269.00 |
| docstring | 750 | 27.47 | 102 | +648.00 |

| | | | | | |
|---------|---------|---------|---------|---------|--|
| comment | 155 | 5.68 | 57 | +98.00 | |
| +-----+ | +-----+ | +-----+ | +-----+ | +-----+ | |
| empty | 431 | 15.79 | 59 | +372.00 | |
| +-----+ | +-----+ | +-----+ | +-----+ | +-----+ | |

Duplication

```
+-----+-----+-----+
|           |now   |previous |difference |
+=====+=====+=====+=====+
+
|nb duplicated lines    |0     |0       |0        |
+-----+-----+-----+
|percent duplicated lines|0.000 |0.000   |=      |
+-----+-----+-----+
```

Messages by category

| type | number | previous | difference | |
|------------|--------|----------|------------|--|
| convention | 0 | 0 | 0 | |
| refactor | 0 | 0 | 0 | |
| warning | 0 | 0 | 0 | |
| error | 0 | 0 | 0 | |

Messages

| message id | occurrences |
|------------|-------------|
| | |

Your code has been rated at 10.00/10 (previous run: 10.00/10, +0.00)