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MIGRATE Error with SQL serveur Base

Version 1.0

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1 MIGRATE Error with SQL serveur Base

1.1 The error description

The migrate command doesn't work when the base is SQL Server since the 3.1 django version.

The command migrate is working when the 3.0.14 django version is used.

In the following chapters, you will find 3 logs of the migrate command with 3 different versions:

- The correct logs with the 3.0.14 Django version
- The error logs with the 4.0.3 Django version
- The error logs with the 3.1 Django version
(not the same error as the 4.0.3 version)

```
DATABASES = {
  'default': {
    'ENGINE': 'sql_server.pyodbc',
    'NAME': 'baseName',
    'USER': 'sa',
    'PASSWORD': '*****',
    'HOST': 'DESKTOP-L4EIUHT\\SQLEXPRESS',
    'OPTIONS': {
      'use_legacy_date_fields': True,
      'provider': u'ODBC Driver 17 for SQL Server',
    }
  },
  # 'default': {
  #   'ENGINE': 'django.db.backends.sqlite3',
  #   'NAME': BASE_DIR / 'db.sqlite3',
  #   'DJANGO_SETTINGS_MODULE': 'xxx.settings',
  # }
}
```

1.2 The correct logs with the 3.0.14 Django version

PS C:\Users\acteon\PycharmProjects\test_django> **python manage.py migrate**

Operations to perform:

Apply all migrations: admin, auth, contenttypes, sessions

Running migrations:

```
Applying contenttypes.0001_initial...OK
Applying auth.0001_initial... OK
Applying admin.0001_initial... OK
Applying admin.0002_logentry_remove_auto_add... OK
Applying admin.0003_logentry_add_action_flag_choices... OK
Applying contenttypes.0002_remove_content_type_name... OK
Applying auth.0002_alter_permission_name_max_length... OK
Applying auth.0003_alter_user_email_max_length... OK
Applying auth.0004_alter_user_username_opts... OK
Applying auth.0005_alter_user_last_login_null... OK
Applying auth.0006_require_contenttypes_0002... OK
Applying auth.0007_alter_validators_add_error_messages... OK
Applying auth.0008_alter_user_username_max_length... OK
Applying auth.0009_alter_user_last_name_max_length... OK
Applying auth.0010_alter_group_name_max_length... OK
Applying auth.0011_update_proxy_permissions... OK
Applying sessions.0001_initial... OK
```

requirements.txt :

```
asgiref
Django==3.0.14
django-mssql-backend
mssql-django
pyodbc
pytz
sqlparse
tzdata
```

\$ pip install -r .\requirements.txt

\$ pip freeze

```
asgiref==3.5.0
Django==3.0.14
django-mssql-backend==2.8.1
mssql-django==1.1.2
pyodbc==4.0.32
pytz==2022.1
sqlparse==0.4.2
tzdata==2022.1
```

All the 10 tables created :

```

+ Scénarios de base de données
+ Tables
+ Tables système
+ FileTables
+ Tables externes
+ Tables graphiques
+ dbo.auth_group
+ dbo.auth_group_permissions
+ dbo.auth_permission
+ dbo.auth_user
+ dbo.auth_user_groups
+ dbo.auth_user_user_permissions
+ dbo.django_admin_log
+ dbo.django_content_type
+ dbo.django_migrations
+ dbo.django_session
+ Views
```

1.3 The error logs with the 4.0.3 Django version

```
PS C:\Users\acteon\PycharmProjects\test_django> python manage.py migrate
```

Operations to perform:

Apply all migrations: admin, auth, contenttypes, sessions

Running migrations:

Applying contenttypes.0001_initial...Traceback (most recent call last):

```
File "C:\Users\acteon\PycharmProjects\test_django\manage.py", line 22, in <module>
    main()
File "C:\Users\acteon\PycharmProjects\test_django\manage.py", line 18, in main
    execute_from_command_line(sys.argv)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\_init_.py", line 446, in execute_from_command_line
    utility.execute()
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\_init_.py", line 440, in execute
    self.fetch_command(subcommand).run_from_argv(self.argv)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\base.py", line 414, in run_from_argv
    self.execute(*args, **cmd_options)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\base.py", line 460, in execute
    output = self.handle(*args, **options)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\base.py", line 98, in wrapped
    res = handle_func(*args, **kwargs)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\commands\migrate.py", line 290, in handle
    post_migrate_state = executor.migrate(
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\executor.py", line 131, in migrate
    state = self._migrate_all_forwards(
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\executor.py", line 163, in _migrate_all_forwards
    state = self.apply_migration(
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\executor.py", line 248, in apply_migration
    state = migration.apply(state, schema_editor)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\migration.py", line 131, in apply
    operation.database_forwards(
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\operations\models.py", line 548, in database_forwards
    alter_together(
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\sql_server\
pyodbc\schema.py", line 156, in alter_unique_together
```

```
self.execute(sql)  
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\sql_server\  
pyodbc\schema.py", line 861, in execute  
sql = str(sql)  
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\  
backends\ddl_references.py", line 220, in __str__  
return self.template % self.parts  
KeyError: 'include'
```

requiments.txt :

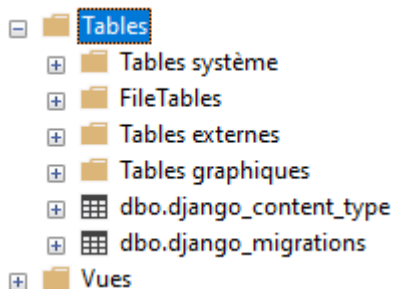
```
asgiref
Django==4.0.3
django-mssql-backend
mssql-django
pyodbc
pytz
sqlparse
tzdata
```

```
$ pip install -r .\requiments.txt
```

```
$ pip freeze
```

```
asgiref==3.5.0
Django==4.0.3
django-mssql-backend==2.8.1
mssql-django==1.1.2
pyodbc==4.0.32
pytz==2022.1
sqlparse==0.4.2
tzdata==2022.1
```

Only 2 tables created :



1.4 The error logs with the 3.1 Django version

```
PS C:\Users\acteon\PycharmProjects\test_django> python manage.py migrate
```

Operations to perform:

Apply all migrations: admin, auth, contenttypes, sessions

Running migrations:

Applying contenttypes.0001_initial... OK

Applying auth.0001_initial... OK

Applying admin.0001_initial... OK

Applying admin.0002_logentry_remove_auto_add... OK

Applying admin.0003_logentry_add_action_flag_choices... OK

Applying contenttypes.0002_remove_content_type_name... OK

Applying auth.0002_alter_permission_name_max_length... OK

Applying auth.0003_alter_user_email_max_length... OK

Applying auth.0004_alter_user_username_opts... OK

Applying auth.0005_alter_user_last_login_null... OK

Applying auth.0006_require_contenttypes_0002... OK

Applying auth.0007_alter_validators_add_error_messages... OK

Applying auth.0008_alter_user_username_max_length...Traceback (most recent call last):

```
File "C:\Users\acteon\PycharmProjects\test_django\manage.py", line 22, in <module>
    main()
File "C:\Users\acteon\PycharmProjects\test_django\manage.py", line 18, in main
    execute_from_command_line(sys.argv)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\_init_.py", line 401, in execute_from_command_line
    utility.execute()
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\_init_.py", line 395, in execute
    self.fetch_command(subcommand).run_from_argv(self.argv)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\base.py", line 330, in run_from_argv
    self.execute(*args, **cmd_options)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\base.py", line 371, in execute
    output = self.handle(*args, **options)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\base.py", line 85, in wrapped
    res = handle_func(*args, **kwargs)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\core\
management\commands\migrate.py", line 243, in handle
    post_migrate_state = executor.migrate(
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\executor.py", line 117, in migrate
    state = self._migrate_all_forwards(state, plan, full_plan, fake=fake,
fake_initial=fake_initial)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\executor.py", line 147, in _migrate_all_forwards
    state = self.apply_migration(state, migration, fake=fake, fake_initial=fake_initial)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\executor.py", line 227, in apply_migration
    state = migration.apply(state, schema_editor)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\migration.py", line 124, in apply
    operation.database_forwards(self.app_label, schema_editor, old_state, project_state)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
migrations\operations\fields.py", line 236, in database_forwards
```



```
schema_editor.alter_field(from_model, from_field, to_field)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
backends\base\schema.py", line 571, in alter_field
self._alter_field(model, old_field, new_field, old_type, new_type,
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\sql_server\
pyodbc\schema.py", line 479, in _alter_field
self.execute(self._create_unique_sql(model, columns=[old_field.column]))
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\sql_server\
pyodbc\schema.py", line 861, in execute
sql = str(sql)
File "C:\Users\acteon\PycharmProjects\test_django\venv\lib\site-packages\django\db\
backends\ddl_references.py", line 200, in __str__
return self.template % self.parts
KeyError: 'deferrable'
```

requirements.txt :

```
asgiref
Django==3.1
django-mssql-backend
mssql-django
pyodbc
pytz
sqlparse
tzdata
```

```
$ pip install -r .\requirements.txt
```

```
$ pip freeze
```

```
asgiref==3.2.10
Django==3.1
django-mssql-backend==2.8.1
mssql-django==1.1.2
pyodbc==4.0.32
pytz==2022.1
sqlparse==0.4.2
tzdata==2022.1
```

Only 9 tables created :

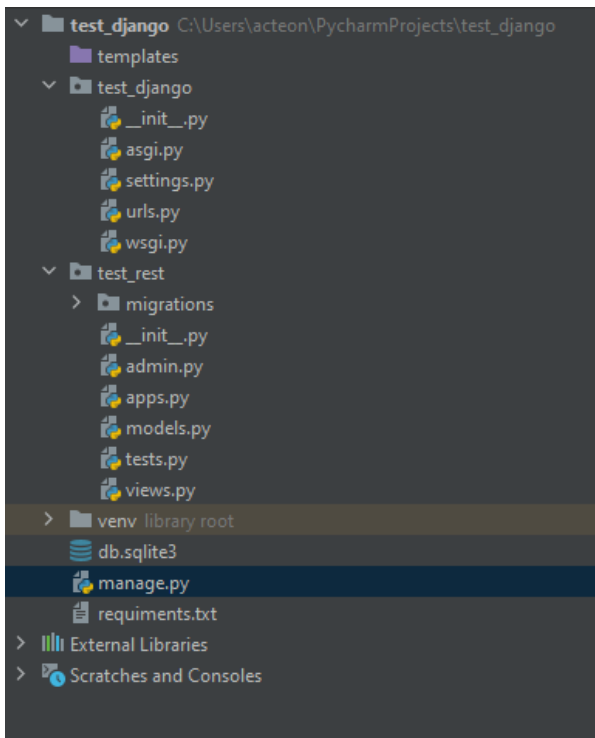
- [-] Tables
 - [+] Tables système
 - [+] FileTables
 - [+] Tables externes
 - [+] Tables graphiques
 - [+] dbo.auth_group
 - [+] dbo.auth_group_permissions
 - [+] dbo.auth_permission
 - [+] dbo.auth_user
 - [+] dbo.auth_user_groups
 - [+] dbo.auth_user_user_permissions
 - [+] dbo.django_admin_log
 - [+] dbo.django_content_type
 - [+] dbo.django_migrations
- [+] Vues

2 project description

My tests have been done on a start django project without extra files.

In the following chapters, the contents of the files :

2.1 the stucture



2.2 setting.py

```
"""
Django settings for test_django project.
Generated by 'django-admin startproject' using Django 4.0.3.
For more information on this file, see
https://docs.djangoproject.com/en/4.0/topics/settings/
For the full list of settings and their values, see
https://docs.djangoproject.com/en/4.0/ref/settings/
"""
from pathlib import Path
# Build paths inside the project like this: BASE_DIR / 'subdir'.
BASE_DIR = Path(__file__).resolve().parent.parent
# Quick-start development settings - unsuitable for production
# See https://docs.djangoproject.com/en/4.0/howto/deployment/checklist/
# SECURITY WARNING: keep the secret key used in production secret!
SECRET_KEY = 'django-insecure-p9oihd+aph%7==_n*pbjmd_8cr5xv1_q&_okhjbpmwo53h#090z'
```

```
# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True
ALLOWED_HOSTS = []
# Application definition
INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'test_rest.apps.TestRestConfig',
]
MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
]
ROOT_URLCONF = 'test_django.urls'
TEMPLATES = [
    {
        'BACKEND': 'django.template.backends.django.DjangoTemplates',
        'DIRS': [BASE_DIR / 'templates']
    },
    {
        'APP_DIRS': True,
        'OPTIONS': {
            'context_processors': [
                'django.template.context_processors.debug',
                'django.template.context_processors.request',
                'django.contrib.auth.context_processors.auth',
                'django.contrib.messages.context_processors.messages',
            ],
        },
    },
]
WSGI_APPLICATION = 'test_django.wsgi.application'
# Database
# https://docs.djangoproject.com/en/4.0/ref/settings/#databases
DATABASES = {
    'default': {
        'ENGINE': 'sql_server.pyodbc',
        'NAME': 'baseName',
        'USER': 'sa',
        'PASSWORD': '*****',
        'HOST': 'DESKTOP-L4EIUHT\\SQLEXPRESS',
        'OPTIONS': {
            'use_legacy_date_fields': True,
            'provider': u'ODBC Driver 17 for SQL Server',
        },
    },
    # 'default': {
    #     'ENGINE': 'django.db.backends.sqlite3',
    #     'NAME': BASE_DIR / 'db.sqlite3',
    #     'DJANGO_SETTINGS_MODULE': 'traceacteon2.settings',
    # }
}
```

```
# Password validation
# https://docs.djangoproject.com/en/4.0/ref/settings/#auth-password-validators
AUTH_PASSWORD_VALIDATORS = [
    {
        'NAME': 'django.contrib.auth.password_validation.UserAttributeSimilarityValidator',
    },
    {
        'NAME': 'django.contrib.auth.password_validation.MinimumLengthValidator',
    },
    {
        'NAME': 'django.contrib.auth.password_validation.CommonPasswordValidator',
    },
    {
        'NAME': 'django.contrib.auth.password_validation.NumericPasswordValidator',
    },
]

# Internationalization
# https://docs.djangoproject.com/en/4.0/topics/i18n/
LANGUAGE_CODE = 'en-us'
TIME_ZONE = 'UTC'
USE_I18N = True
USE_TZ = True

# Static files (CSS, JavaScript, Images)
# https://docs.djangoproject.com/en/4.0/howto/static-files/
STATIC_URL = 'static/'

# Default primary key field type
# https://docs.djangoproject.com/en/4.0/ref/settings/#default-auto-field
DEFAULT_AUTO_FIELD = 'django.db.models.BigAutoField'
```

2.3 asgi.py

```
"""
ASGI config for test_django project.
It exposes the ASGI callable as a module-level variable named ``application``.
For more information on this file, see
https://docs.djangoproject.com/en/4.0/howto/deployment/asgi/
"""
import os
from django.core.asgi import get_asgi_application
os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'test_django.settings')
application = get_asgi_application()
```

2.4 urls.py

```
"""test_django URL Configuration
The `urlpatterns` list routes URLs to views. For more information please see:
    https://docs.djangoproject.com/en/4.0/topics/http/urls/
Examples:
Function views
    1. Add an import: from my_app import views
    2. Add a URL to urlpatterns: path("", views.home, name='home')
Class-based views
    1. Add an import: from other_app.views import Home
    2. Add a URL to urlpatterns: path("", Home.as_view(), name='home')
Including another URLconf
    1. Import the include() function: from django.urls import include, path
    2. Add a URL to urlpatterns: path('blog/', include('blog.urls'))
"""
from django.contrib import admin
from django.urls import path
urlpatterns = [
    path('admin/', admin.site.urls),
]
```

2.5 wsgi.py

```
"""
WSGI config for test_django project.
It exposes the WSGI callable as a module-level variable named ``application``.
For more information on this file, see
    https://docs.djangoproject.com/en/4.0/howto/deployment/wsgi/
"""
import os
from django.core.wsgi import get_wsgi_application
os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'test_django.settings')
application = get_wsgi_application()
```

2.6 manage.py

```
#!/usr/bin/env python
"""Django's command-line utility for administrative tasks."""
import os
import sys
def main():
    """Run administrative tasks."""
    os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'test_django.settings')
    try:
        from django.core.management import execute_from_command_line
    except ImportError as exc:
        raise ImportError(
            "Couldn't import Django. Are you sure it's installed and "
            "available on your PYTHONPATH environment variable? Did you "
            "forget to activate a virtual environment?"
        ) from exc
    execute_from_command_line(sys.argv)
if __name__ == '__main__':
    main()
```

2.7 apps.py

```
from django.apps import AppConfig
class TestRestConfig(AppConfig):
    default_auto_field = 'django.db.models.BigAutoField'
    name = 'test_rest'
```

2.8 Empty files

The empty files list :

- *admin.py*
- *models.py*
- *views.py*

