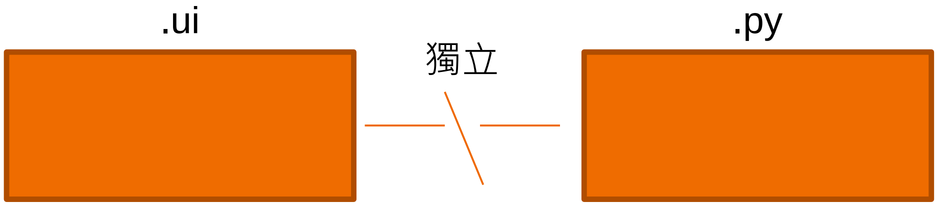
Python 類別寫法補充

.ui與.py檔案獨立



好處
ui介面有改變，不會重寫.py的程式, 兩者互相獨立, 程式的結構性增加

PyQt

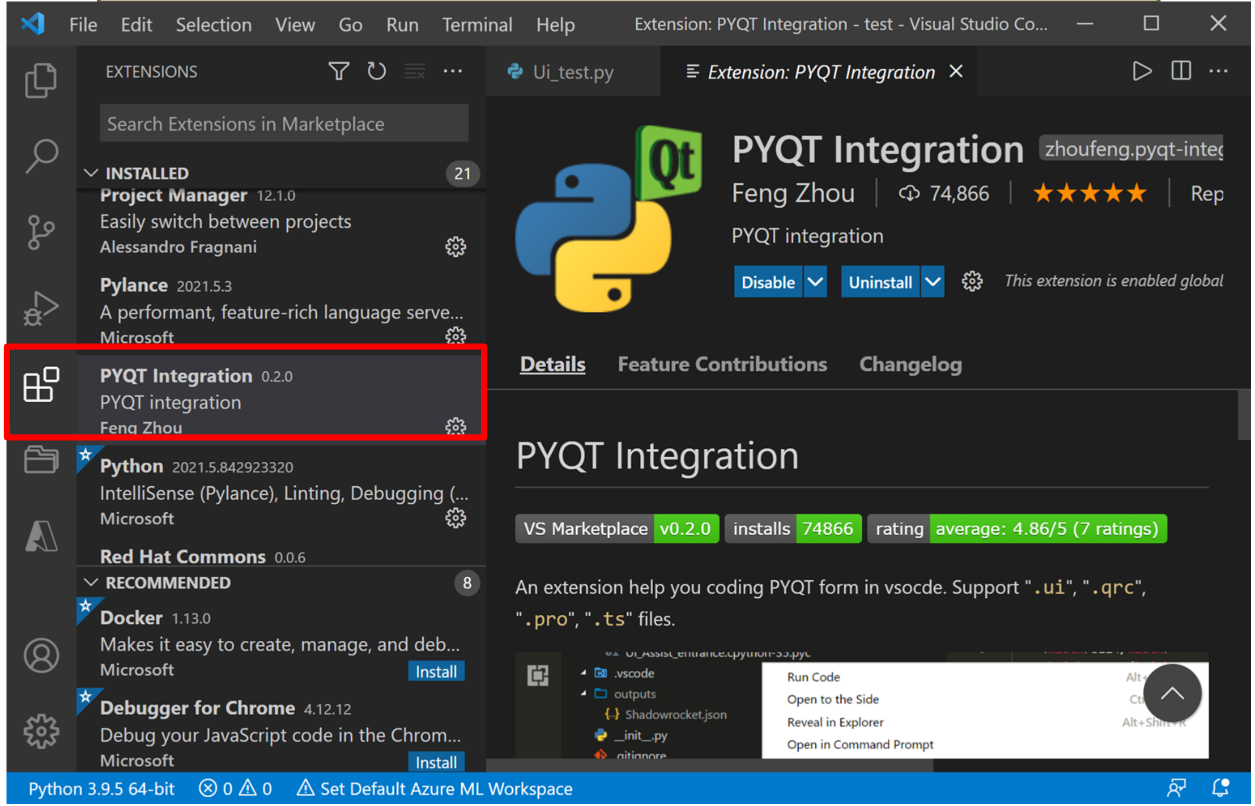
- 非常好用的 GUI 界面框架

PyQt 安裝

- pip install PyQt5: 安裝PyQt
- pip install pyqt5-tools: 安裝相關工具，包含QtDesigner.exe

VS Code 設定 PyQt 環境

(1) 在Extensions中安装pyqt integration



Project Manager 12.1.0
Easily switch between projects
Alessandro Fragnani

Pylance 2021.5.3
A performant, feature-rich language serve...
Microsoft

PYQT Integration 0.2.0
PYQT integration
Feng Zhou

Python 2021.5.842923320
IntelliSense (Pylance), Linting, Debugging (...
Microsoft

Red Hat Commons 0.0.6

Docker 1.13.0
Makes it easy to create, manage, and deb...
Microsoft

Debugger for Chrome 4.12.12
Debug your JavaScript code in the Chrom...
Microsoft

PYQT Integration zhoufeng.pyqt-integ
Feng Zhou | 74,866 | ★★★★★ | Rep
PYQT integration
This extension is enabled global

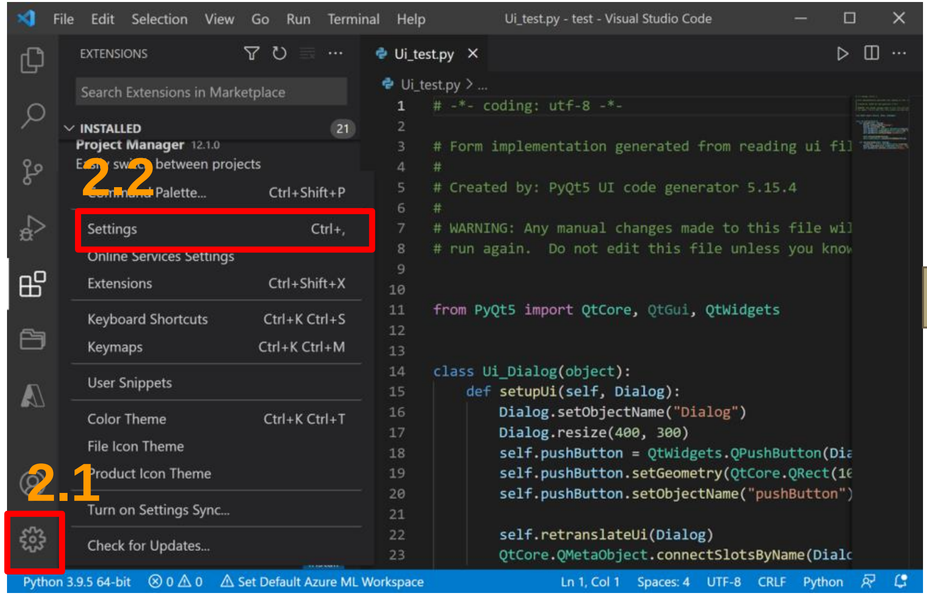
PYQT Integration

VS Marketplace v0.2.0 | installs 74866 | rating average: 4.86/5 (7 ratings)

An extension help you coding PYQT form in vsocde. Support ".ui", ".qrc", ".pro", ".ts" files.

VS Code 設定 PyQt 環境

(2) 設定QT designer與pyuic5的路徑



2.1

2.2

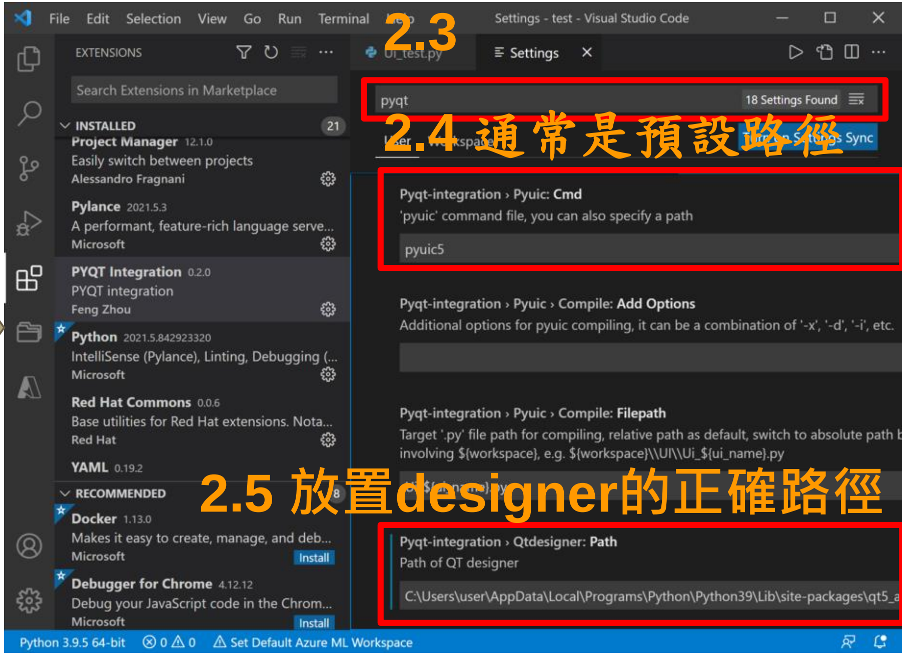
```python
# -*- coding: utf-8 -*-

# Form implementation generated from reading ui fil
#
# Created by: PyQt5 UI code generator 5.15.4
#
# WARNING: Any manual changes made to this file wil
# run again.  Do not edit this file unless you know


from PyQt5 import QtCore, QtGui, QtWidgets


class Ui_Dialog(object):
    def setupUi(self, Dialog):
        Dialog.setObjectName("Dialog")
        Dialog.resize(400, 300)
        self.pushButton = QtWidgets.QPushButton(Dia
        self.pushButton.setGeometry(QtCore.QRect(1e
        self.pushButton.setObjectName("pushButton")

        self.retranslateUi(Dialog)
        QtCore.QMetaObject.connectSlotsByName(Dialc
```



2.3

2.4 通常是預設路徑

2.5 放置designer的正確路徑

pyqt

Pyqt-integration › Pyuic: Cmd
'pyuic' command file, you can also specify a path
pyuic5

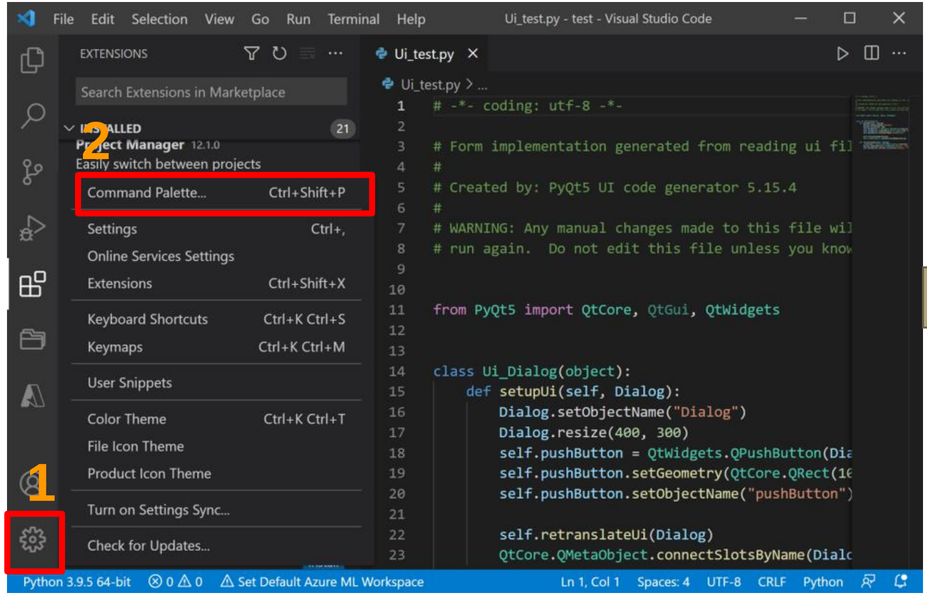
Pyqt-integration › Pyuic › Compile: Add Options
Additional options for pyuic compiling, it can be a combination of '-x', '-d', '-i', etc.

Pyqt-integration › Pyuic › Compile: Filepath
Target '.py' file path for compiling, relative path as default, switch to absolute path b
involving ${workspace}, e.g. ${workspace}\\UI\\Ui_${ui_name}.py
UI\${ui_name}.py

Pyqt-integration › Qtdesigner: Path
Path of QT designer
C:\Users\user\AppData\Local\Programs\Python\Python39\Lib\site-packages\qt5_a

★ 通常在上述安裝路徑下的Lib\site-packages\qt5_applications\Qt\bin
ex: C:\Users\user\AppData\Local\Programs\Python\Python39\Lib\site-packages\qt5_applications\Qt\bin\designer.exe

開啟 Qt Designer 編輯


File Edit Selection View Go Run Terminal Help
Ui_test.py - test - Visual Studio Code
EXTENSIONS
Search Extensions in Marketplace
INSTALLED 21
Project Manager 12.1.0
Easily switch between projects
Command Palette... Ctrl+Shift+P
Settings Ctrl+,
Online Services Settings
Extensions Ctrl+Shift+X
Keyboard Shortcuts Ctrl+K Ctrl+S
Keymaps Ctrl+K Ctrl+M
User Snippets
Color Theme Ctrl+K Ctrl+T
File Icon Theme
Product Icon Theme
Turn on Settings Sync...
Check for Updates...
Ui_test.py
Ui_test.py > ...
1
2
Python 3.9.5 64-bit ⊗ 0 ⚠ 0 ⚠ Set Default Azure ML Workspace Ln 1, Col 1 Spaces: 4 UTF-8 CRLF Python

```
# -*- coding: utf-8 -*-

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#
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#
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        Dialog.resize(400, 300)
        self.pushButton = QtWidgets.QPushButton(Dia
        self.pushButton.setGeometry(QtCore.QRect(16
        self.pushButton.setObjectName("pushButton")

        self.retranslateUi(Dialog)
        QtCore.QMetaObject.connectSlotsByName(Dialo
```

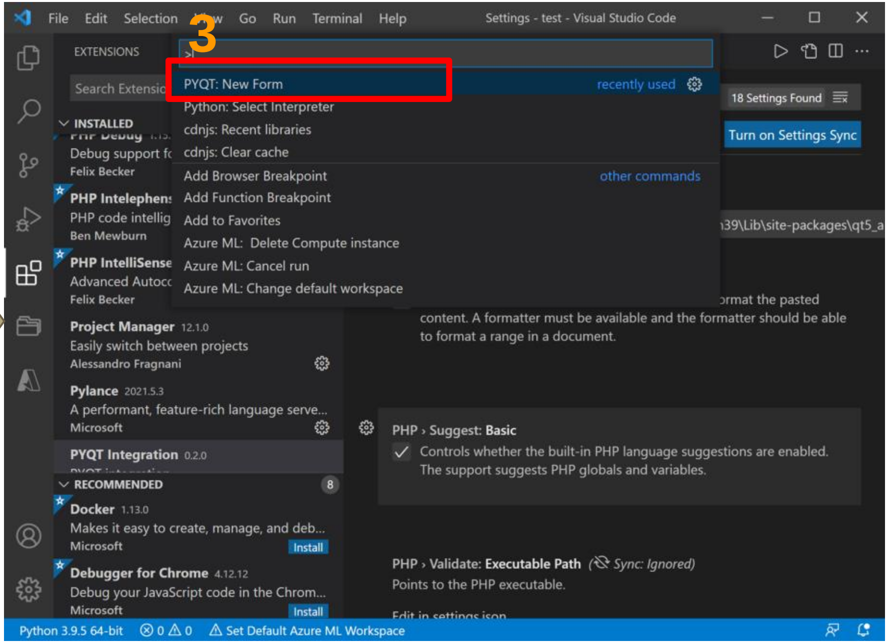
File Edit Selection View Go Run Terminal Help
Settings - test - Visual Studio Code
3
EXTENSIONS
Search Extensio
>
PYQT: New Form recently used
Python: Select Interpreter
cdnjs: Recent libraries
cdnjs: Clear cache
Add Browser Breakpoint other commands
Add Function Breakpoint
Add to Favorites
Azure ML: Delete Compute instance
Azure ML: Cancel run
Azure ML: Change default workspace
INSTALLED
PHP Debug
Debug support fo
Felix Becker
PHP Intelephens
PHP code intellig
Ben Mewburn
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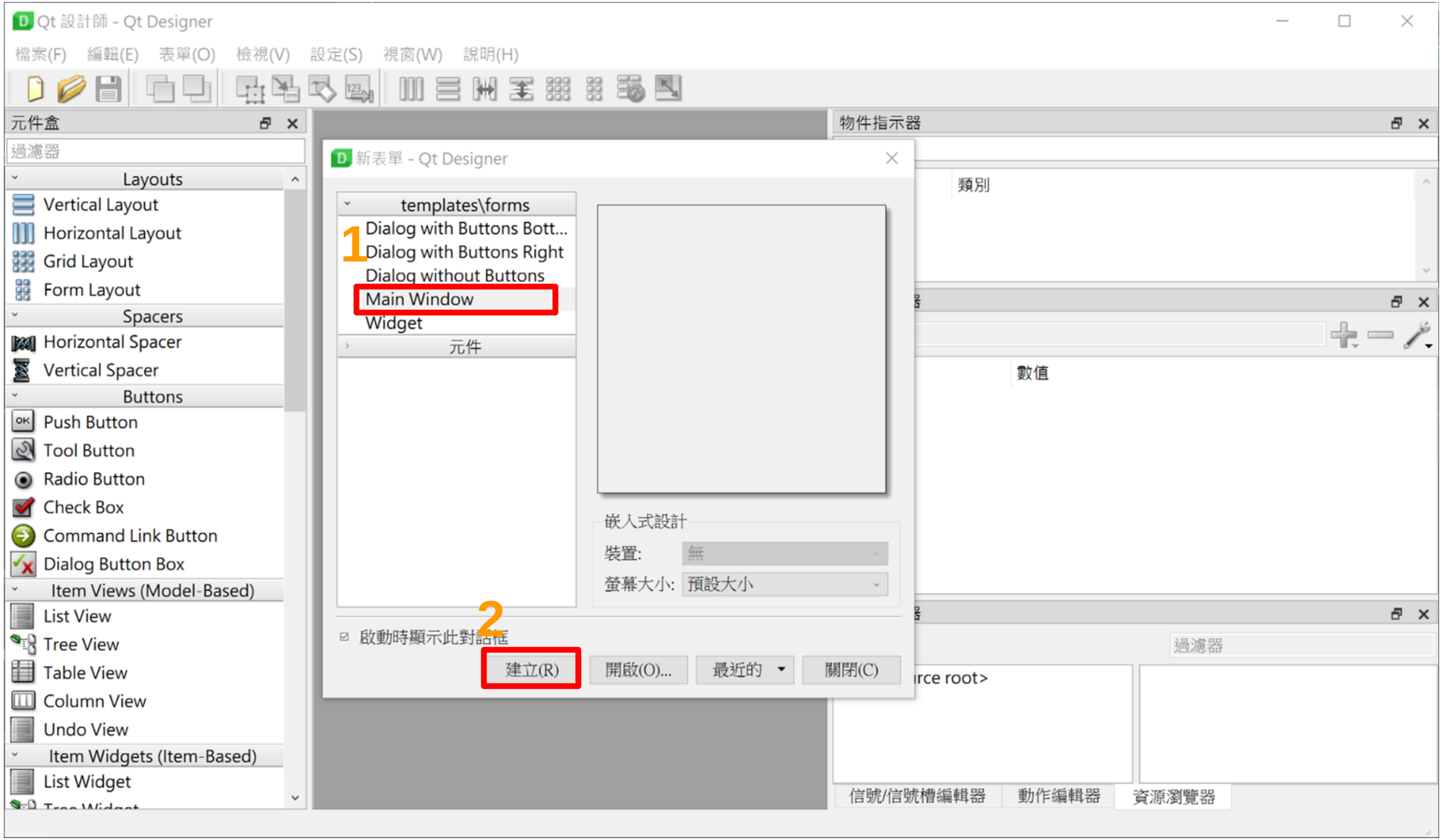
RECOMMENDED 8
Docker 1.13.0
Makes it easy to create, manage, and deb...
Microsoft
Install
Debugger for Chrome 4.12.12
Debug your JavaScript code in the Chrom...
Microsoft
Install
18 Settings Found
Turn on Settings Sync
39\Lib\site-packages\qt5_a
PHP › Suggest: Basic
PHP › Validate: Executable Path (Sync: Ignored)
Edit in settings.json
Python 3.9.5 64-bit ⊗ 0 ⚠ 0 ⚠ Set Default Azure ML Workspace

ormat the pasted content. A formatter must be available and the formatter should be able to format a range in a document.

✓ Controls whether the built-in PHP language suggestions are enabled. The support suggests PHP globals and variables.

Points to the PHP executable.

開啟 Qt Designer 編輯



1 Main Window

2 建立(R)

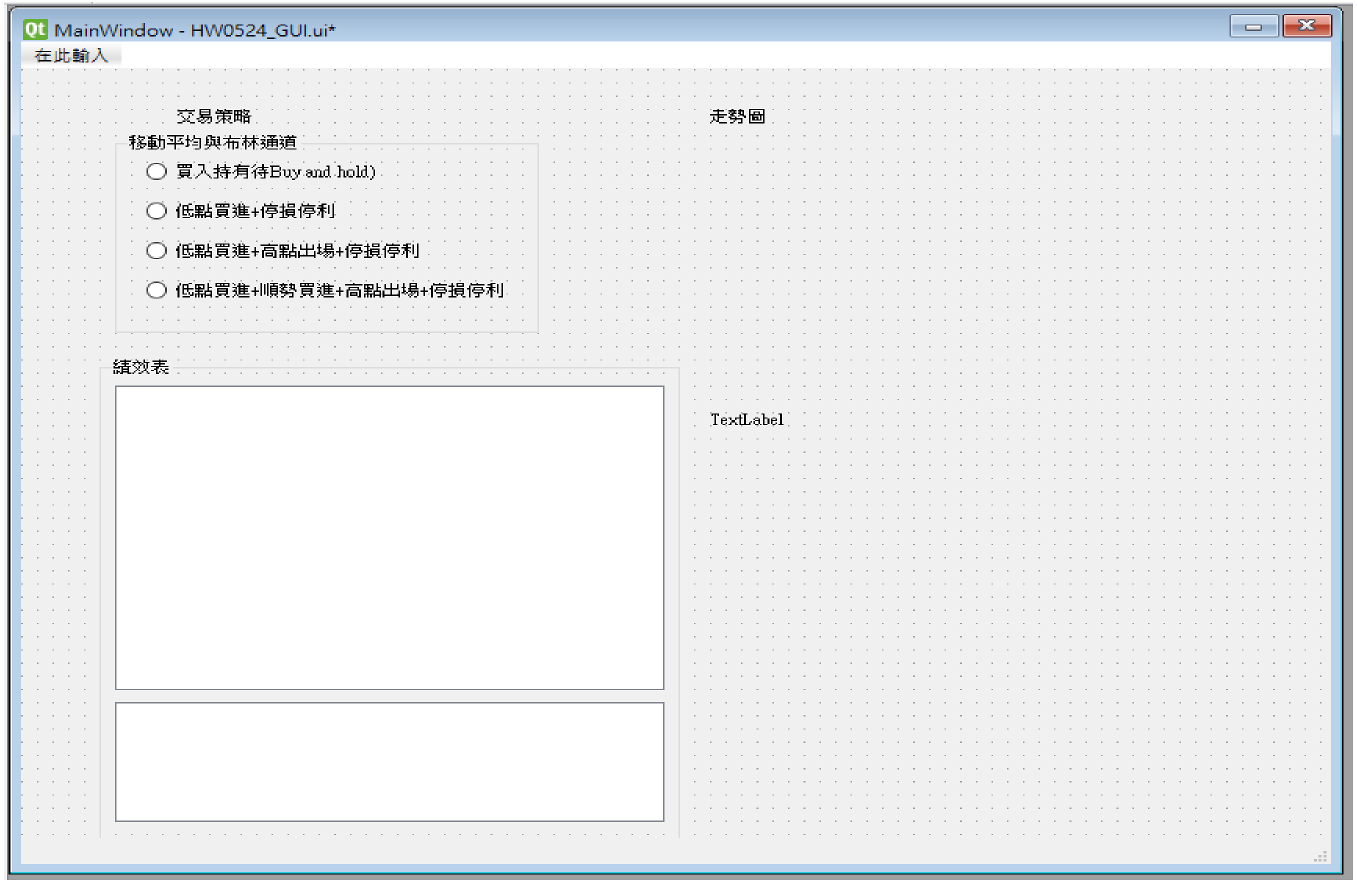
裝置: 無

螢幕大小: 預設大小

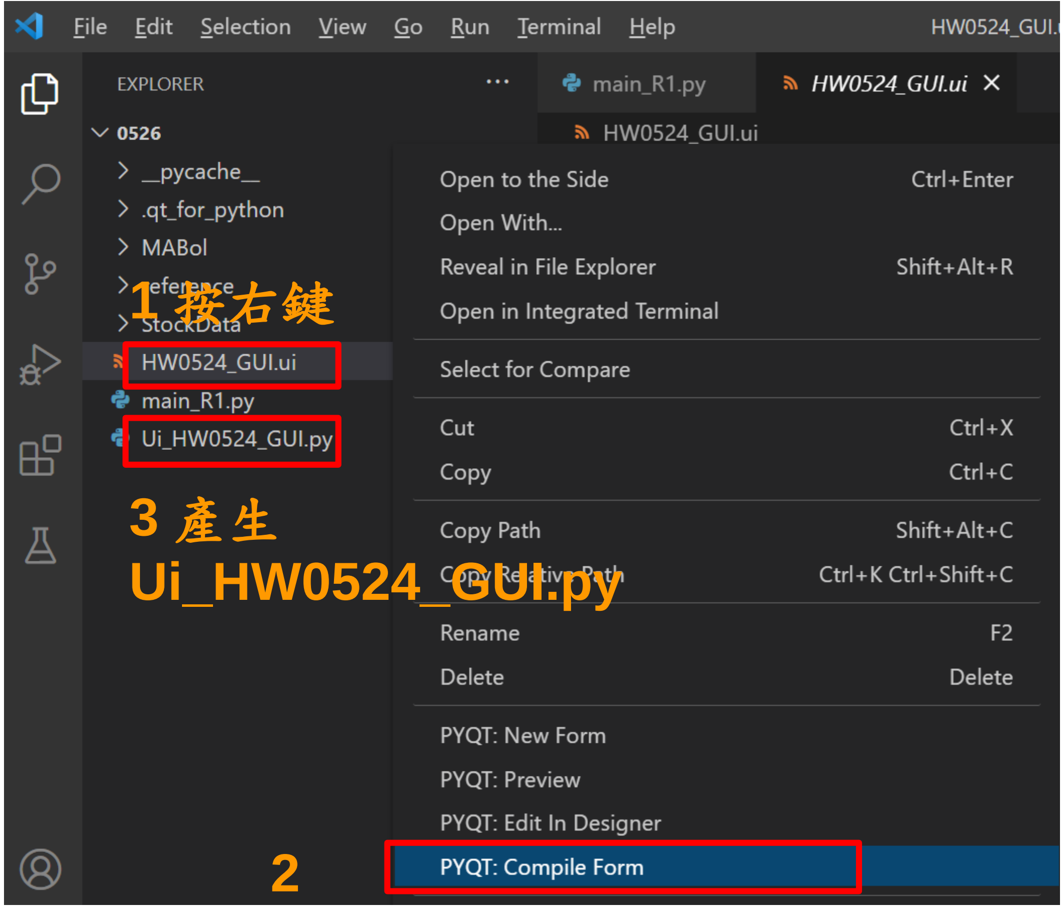
☑ 啟動時顯示此對話框

開啟 Qt Designer 編輯

1. 隨意拖幾個物件
2. 儲存檔案成 HW0524_GUI.ui


MainWindow - HW0524_GUI.ui*
在此輸入
交易策略
移動平均與布林通道
○ 買入持有待Buy and hold)
○ 低點買進+停損停利
○ 低點買進+高點出場+停損停利
○ 低點買進+順勢買進+高點出場+停損停利
走勢圖
績效表
TextLabel

將 .ui 檔轉化成 .py



1 按右鍵

2

3 產生 Ui_HW0524_GUI.py

執行 .py 檔的畫面檔

由於生成的Ui_HW0524_GUI.py 只是一個class，所以必需建置主程式新檔案獨立執行

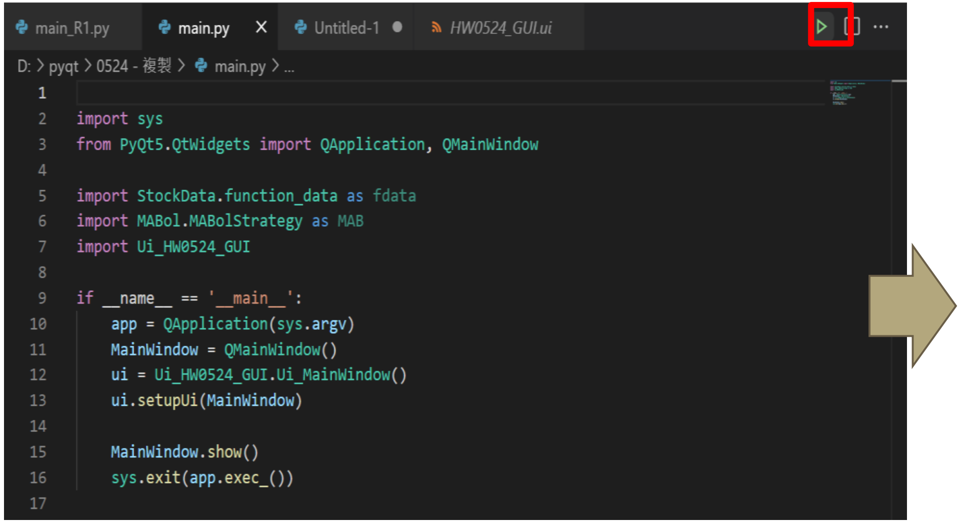
main.py

```
import sys
from PyQt5.QtWidgets import QApplication, QMainWindow

import Ui_HW0524_GUI

if __name__ == '__main__':
    app = QApplication(sys.argv)
    MainWindow = QMainWindow()
    ui = Ui_HW0524_GUI.Ui_MainWindow()
    ui.setupUi(MainWindow)
    MainWindow.show()
    sys.exit(app.exec_())
```

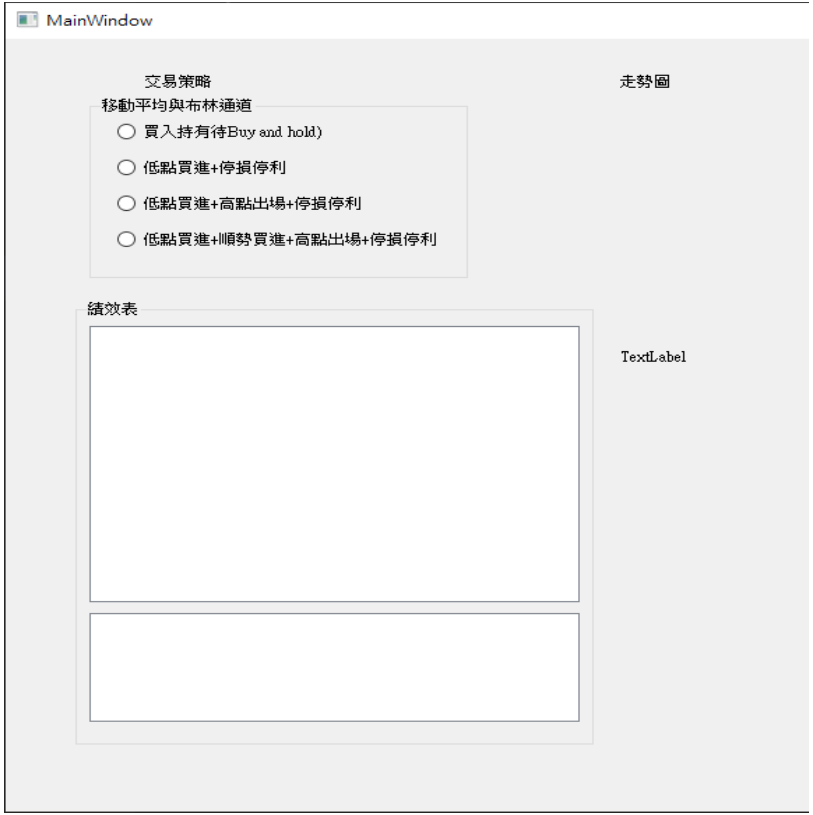
執行 .py 檔的畫面檔

2 產生視窗畫面

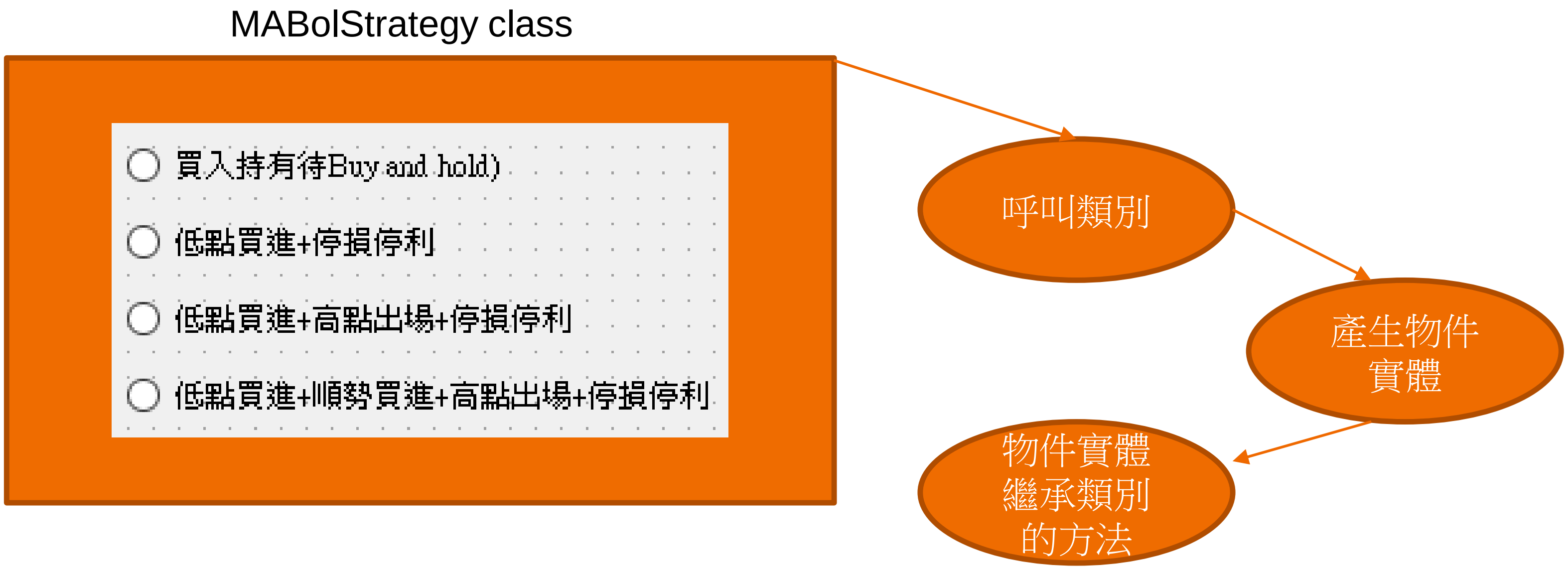
1



```python

import sys
from PyQt5.QtWidgets import QApplication, QMainWindow

import StockData.function_data as fdata
import MABol.MABolStrategy as MAB
import Ui_HW0524_GUI

if __name__ == '__main__':
    app = QApplication(sys.argv)
    MainWindow = QMainWindow()
    ui = Ui_HW0524_GUI.Ui_MainWindow()
    ui.setupUi(MainWindow)

    MainWindow.show()
    sys.exit(app.exec_())

```


MainWindow
交易策略
走勢圖
移動平均與布林通道
○ 買入持有待Buy and hold)
○ 低點買進+停損停利
○ 低點買進+高點出場+停損停利
○ 低點買進+順勢買進+高點出場+停損停利
績效表
TextLabel

把程式交易策略寫成類別



○ 買入持有待Buy and hold)

○ 低點買進+停損停利

○ 低點買進+高點出場+停損停利

○ 低點買進+順勢買進+高點出場+停損停利

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