

## Software Quality Assurance & Testing

CA2

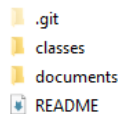
30%

6<sup>th</sup> November 2020

1 hour & 30 mins

### Instructions

1. Sign in to your DevOps Azure organization: `https://dev.azure.com/{yourOrganizationName}`
2. Create a new project called CA2.
  - This should be private
  - Invite me ([karen.nolan@TUDublin.ie](mailto:karen.nolan@TUDublin.ie)) to the project.
3. Initialize an empty Remote Repo, with a ReadMe file.
4. Open Git CMD application on your desktop
5. Change directory (**cd**) into **C:\Users\X00000000\source\**
6. Run a Git clone command from Git CMD to clone your remote repo in AzureDevOps down into your desktop into your **C:\Users\X00000000\source\** folder
7. Using File Explorer go to **C:\Users\X00000000\source\CA2**
  - Create a folder called documents
  - Create a Word document called CA2\_StudentNum and save this into your new C2A\documents folder
  - Screenshot your above git clone command line (and its output) and paste it into the word document with the title Task 1.
8. Download "CA2 Classes" from Moodle onto your PC and extract these files directly into your local repo **C:\Users\X00000000\source\SampleCA** so that its contents look like this:


9. Using Git CMD, check the **status** of your local Git repo.
  - Use snipping tool to screenshot this command AND it's output.
  - Copy the screenshot into your Word document under the title "Part 2".
10. Using Git CMD, **add** these untracked files into your staging area.
  - Use snipping tool to screenshot this command AND it's output.

- Copy the screenshot into your Word document under the title “**Part 3**”.
11. Using Git CMD, **commit** these changes into your local Git repo.
    - Use snipping tool to screenshot this command AND it’s output.
    - Copy the screenshot into your Word document under the title “**Part 4**”.
  12. Using Git CMD, check the **status** of your local Git repo again, to ensure all the previous steps worked correctly.
    - Use snipping tool to screenshot this command AND it’s output.
    - Copy the screenshot into your Word document under the title “**Part 5**”.
  13. Using Git CMD, **show/display a list of your remote** servers/repos
    - Use snipping tool to screenshot this command AND it’s output.
    - Copy the screenshot into your Word document under the title “**Part 6**”.
  14. Using Git CMD, **rename** your remote repo’s alias that is listed in step 13 as **origin** to **myRemoteRepo**.
    - Use snipping tool to screenshot this command AND it’s output.
    - Copy the screenshot into your Word document under the title “**Part 7**”.
  15. Using Git CMD, **push** your local commits/snapshots up to your remote repo.
    - Use snipping tool to screenshot this command AND it’s output.
    - Copy it into your Word document under the title “**Part 8**”.
  16. Visit your remote repo CA2 on AzureDevOps and confirm the project has been pushed up successfully.
  17. Open the CA2 folder using Visual Studio Code.
  18. Create a Python Package for your **tests**.
  19. Create a Python Class to store the unit tests for the Python class Hotel.
    - Ensure this is created as a valid unittest class
  20. For the **Hotel.set\_star\_rating** method
    - Look at the blocks of code inside this method
    - How many corresponding test methods do you need?
    - Create the required number of test methods inside your **test** class
    - Ensure you name your methods using the recommended unit testing method name conventions.
    - Ensure your tests pass (rather than fail)
  21. For the **Hotel.book\_rooms** method
    - Look at the blocks of code inside this method

- How many corresponding test methods do you need?
- Create the required number of test methods inside your **test** class
- Ensure you name your methods using the recommended unit testing method name conventions.
- Ensure your tests pass (rather than fail)

22. Refactor your code to ensure your test data/variables are initialized and cleaned up within the `setUp()` and `tearDown()` methods where possible:

- Use the `setUp()` method to initialize the variable(s)
- Use the `tearDown()` method to clean the variable(s)

23. Create a parameterized unit test for the **Hotel.cost\_of\_hotel\_insurance** method for the following test data:

Base Price	Year	Num Rooms	Expected Outcome
5000	1998	500	6400
5000	2020	300	5950
1900	1900	200	4800
1000	0	150	3900
4000	1950	100	6650
5000	1950	50	7400

- **There maybe bugs in this method**
- If you can detect them with your unit tests, try to resolve them in the source code.

24. When complete, you need to go back to steps 9-12 and step 15 and push these new changes up to your remote repo.

**IMPORTANT!!**

**DO NOT** make any changes or edits to your DevOps Azure project CA2 after the in lab CA cutoff of 3.30pm.

If you do, this will result in an automatic **FAIL**