

--- AvailabilityEntity.py ---

```
import asyncio
```

```
from utils.exportUtils import ExportUtils
```

```
from entity.BrowserEntity import BrowserEntity
```

```
from utils.css_selectors import Selectors
```

```
from selenium.webdriver.common.by import By
```

```
from selenium.webdriver.support.ui import WebDriverWait
```

```
from selenium.webdriver.support import expected_conditions as EC
```

```
class AvailabilityEntity:
```

```
    def __init__(self):
```

```
        self.browser_entity = BrowserEntity()
```

```
    async def check_availability(self, url: str, date_str=None, timeout=5):
```

```
        # Use BrowserEntity to navigate to the URL
```

```
        self.browser_entity.navigate_to_website(url)
```

```
        # Get selectors for the given URL
```

```
        selectors = Selectors.get_selectors_for_url(url)
```

```
        if not selectors:
```

```
            return "No valid selectors found for this URL."
```

```
        # Perform date and time selection (optional)
```

```
        if date_str:
```

```
            try:
```

```
                date_field = self.browser_entity.driver.find_element(By.CSS_SELECTOR,
```

```
selectors['date_field'])
```

```

        date_field.click()

        await asyncio.sleep(1)

        date_button = self.browser_entity.driver.find_element(By.CSS_SELECTOR,
f"{selectors['select_date']} button[aria-label*='{date_str}']")

        date_button.click()

    except Exception as e:

        return f"Failed to select the date: {str(e)}"

    await asyncio.sleep(2) # Wait for updates (adjust this time based on page response)

# Initialize flags for select_time and no_availability elements
select_time_seen = False
no_availability_seen = False

try:

    # Check if 'select_time' is available within the given timeout
    WebDriverWait(self.browser_entity.driver, timeout).until(

        EC.presence_of_element_located((By.CSS_SELECTOR, selectors['select_time']))

    )

    select_time_seen = True # If found, set the flag to True
except:

    select_time_seen = False # If not found within timeout

try:

    # Check if 'no_availability' is available within the given timeout
    WebDriverWait(self.browser_entity.driver, timeout).until(

        lambda driver: len(driver.find_elements(By.CSS_SELECTOR,
selectors['show_next_available_button'])) > 0

    )

```

```

        no_availability_seen = True # If found, set the flag to True

except:

    no_availability_seen = False # If not found within timeout

# Logic to determine availability

if select_time_seen:

    return f"Selected or default date {date_str if date_str else 'current date'} is available for
booking."

elif no_availability_seen:

    return "No availability for the selected date."

else:

    return "Unable to determine availability. Please try again."


def export_data(self, dto):

    """Export price data to both Excel and HTML using ExportUtils.

    dto: This is a Data Transfer Object (DTO) that contains the command, URL, result, date, and
time.

    """

    # Extract the data from the DTO

    command = dto.get('command')

    url = dto.get('url')

    result = dto.get('result')

    entered_date = dto.get('entered_date') # Optional, could be None

    entered_time = dto.get('entered_time') # Optional, could be None

```

```
# Call the Excel export method from ExportUtils

excelResult = ExportUtils.log_to_excel(

    command=command,

    url=url,

    result=result,

    entered_date=entered_date, # Pass the optional entered_date

    entered_time=entered_time # Pass the optional entered_time

)

print(excelResult)
```

```
# Call the HTML export method from ExportUtils

htmlResult = ExportUtils.export_to_html(

    command=command,

    url=url,

    result=result,

    entered_date=entered_date, # Pass the optional entered_date

    entered_time=entered_time # Pass the optional entered_time

)

print(htmlResult)
```

--- BrowserEntity.py ---

```
import asyncio

from selenium.webdriver.common.by import By

from selenium.webdriver.support.ui import WebDriverWait
```

```
from selenium.webdriver.support import expected_conditions as EC
```

```
from selenium import webdriver
```

```
from selenium.webdriver.chrome.service import Service
```

```
from utils.css_selectors import Selectors
```

```
class BrowserEntity:
```

```
    _instance = None
```

```
    def __new__(cls, *args, **kwargs):
```

```
        if not cls._instance:
```

```
            cls._instance = super(BrowserEntity, cls).__new__(cls, *args, **kwargs)
```

```
        return cls._instance
```

```
    def __init__(self):
```

```
        self.driver = None
```

```
        self.browser_open = False
```

```
    def set_browser_open(self, is_open: bool):
```

```
        self.browser_open = is_open
```

```
    def is_browser_open(self) -> bool:
```

```
        return self.browser_open
```

```
    def launch_browser(self):
```

```
        if not self.browser_open:
```

```
options = webdriver.ChromeOptions()

options.add_argument("--remote-debugging-port=9222")

options.add_experimental_option("excludeSwitches", ["enable-automation"])

options.add_experimental_option('useAutomationExtension', False)

options.add_argument("--start-maximized")

options.add_argument("--disable-notifications")

options.add_argument("--disable-popup-blocking")

options.add_argument("--disable-infobars")

options.add_argument("--disable-extensions")

options.add_argument("--disable-webgl")

options.add_argument("--disable-webrtc")

options.add_argument("--disable-rtc-smoothing")
```

```
self.driver = webdriver.Chrome(service=Service(), options=options)
```

```
self.browser_open = True
```

```
result = "Browser launched."
```

```
print(result)
```

```
return result
```

```
else:
```

```
result = "Browser is already running."
```

```
print(result)
```

```
return result
```

```
def close_browser(self):
```

```
    if self.browser_open and self.driver:
```

```
        self.driver.quit()
```

```
self.browser_open = False
```

```
result = "Browser closed."
```

```
print(result)
```

```
return result
```

```
else:
```

```
result = "No browser is currently open."
```

```
print(result)
```

```
return result
```

```
def navigate_to_website(self, url):
```

```
    # Ensure the browser is launched before navigating
```

```
    if not self.is_browser_open():
```

```
        self.launch_browser()
```

```
    # Navigate to the URL if browser is open
```

```
    if self.driver:
```

```
        self.driver.get(url)
```

```
        result = f"Navigated to {url}"
```

```
        print(result)
```

```
        return result
```

```
    else:
```

```
        result = "Failed to open browser."
```

```
        print(result)
```

```
        return result
```

```

async def perform_login(self, url, username, password):

    # Navigate to the website

    self.navigate_to_website(url)

    await asyncio.sleep(3)


    # Enter the username

    email_field = self.driver.find_element(By.CSS_SELECTOR,
Selectors.get_selectors_for_url(url)['email_field'])

    email_field.send_keys(username)

    await asyncio.sleep(3)


    # Enter the password

    password_field = self.driver.find_element(By.CSS_SELECTOR,
Selectors.get_selectors_for_url(url)['password_field'])

    password_field.send_keys(password)

    await asyncio.sleep(3)


    # Click the login button

    sign_in_button = self.driver.find_element(By.CSS_SELECTOR,
Selectors.get_selectors_for_url(url)['SignIn_button'])

    sign_in_button.click()

    await asyncio.sleep(5)


    # Wait for the homepage to load

    try:

WebDriverWait(self.driver,

30).until(EC.presence_of_element_located((By.CSS_SELECTOR,

```



```
Selectors.get_selectors_for_url(url)['homePage'])))
```

```
    result = f"Logged in to {url} successfully with username: {username}"
```

```
    print(result)
```

```
    return result
```

```
except Exception as e:
```

```
    result = f"Failed to log in: {str(e)}"
```

```
    print(result)
```

```
    return result
```

```
--- PriceEntity.py ---
```

```
from selenium.webdriver.common.by import By
```

```
from entity.BrowserEntity import BrowserEntity
```

```
from utils.exportUtils import ExportUtils # Import ExportUtils for handling data export
```

```
from utils.css_selectors import Selectors # Import selectors to get CSS selectors for the browser
```

```
class PriceEntity:
```

```
    """PriceEntity is responsible for interacting with the system (browser) to fetch prices  
    and handle the exporting of data to Excel and HTML."""
```

```
    def __init__(self):
```

```
        self.browser_entity = BrowserEntity()
```

```
    def get_price_from_page(self, url: str):
```

```
        # Navigate to the URL using BrowserEntity
```

```

self.browser_entity.navigate_to_website(url)

selectors = Selectors.get_selectors_for_url(url)

try:

    # Find the price element on the page using the selector

        price_element = self.browser_entity.driver.find_element(By.CSS_SELECTOR,
selectors['price'])

        result = price_element.text

        print(f"Price found: {result}")

        return result

except Exception as e:

    return f"Error fetching price: {str(e)}"


def export_data(self, dto):

    """Export price data to both Excel and HTML using ExportUtils.

    dto: This is a Data Transfer Object (DTO) that contains the command, URL, result, date, and
time.

    """

    # Extract the data from the DTO

    command = dto.get('command')

    url = dto.get('url')

    result = dto.get('result')

    entered_date = dto.get('entered_date') # Optional, could be None

    entered_time = dto.get('entered_time') # Optional, could be None


    # Call the Excel export method from ExportUtils

```

```
excelResult = ExportUtils.log_to_excel(  
    command=command,  
    url=url,  
    result=result,  
    entered_date=entered_date, # Pass the optional entered_date  
    entered_time=entered_time # Pass the optional entered_time  
)  
print(excelResult)
```

# Call the HTML export method from ExportUtils

```
htmlResult = ExportUtils.export_to_html(  
    command=command,  
    url=url,  
    result=result,  
    entered_date=entered_date, # Pass the optional entered_date  
    entered_time=entered_time # Pass the optional entered_time  
)  
print(htmlResult)
```

--- \_\_init\_\_.py ---

#empty init file