

# Coverage for app/repositories/csv\_repository.py: 97%



31 statements    30 run    1 missing    0 excluded

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```
1 import csv
2 import os
3 import threading
4 from typing import List, Dict
5 from app.repositories.base_repository import BaseRepository
6
7 class CSVRepository(BaseRepository):
8     """Thread-safe CSV handler shared across all models."""
9     _locks: Dict[str, threading.Lock] = {}
10
11    def _get_lock(self, path: str) -> threading.Lock:
12        if path not in self._locks:
13            self._locks[path] = threading.Lock()
14        return self._locks[path]
15
16    def read_all(self, path: str) -> List[Dict]:
17        """
18            Reads all rows from a CSV file and returns them as a list of dictionaries.
19        """
20
21        if not os.path.exists(path):
22            return []
23        lock = self._get_lock(path)
24        with lock, open(path, 'r', newline='', encoding='utf-8') as f:
25            return list(csv.DictReader(f))
26
27    def write_all(self, path: str, fieldnames: List[str], rows: List[Dict]):
28        """
29            Overwrites the entire CSV file with the given rows.
30        """
31
32        lock = self._get_lock(path)
33        with lock, open(path, 'w', newline='', encoding='utf-8') as f:
34            writer = csv.DictWriter(f, fieldnames=fieldnames)
35            writer.writeheader()
36            writer.writerows(rows)
37
38    def append_row(self, path: str, fieldnames: List[str], row: Dict):
39        """
40            Add a single row to the CSV file safely.
41        """
42
43        file_exists = os.path.exists(path)
44        lock = self._get_lock(path)
45        with lock, open(path, 'a', newline='', encoding='utf-8') as f:
46            writer = csv.DictWriter(f, fieldnames=fieldnames)
```

```
44     if not file_exists:  
45         writer.writeheader()  
46     writer.writerow(row)
```

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