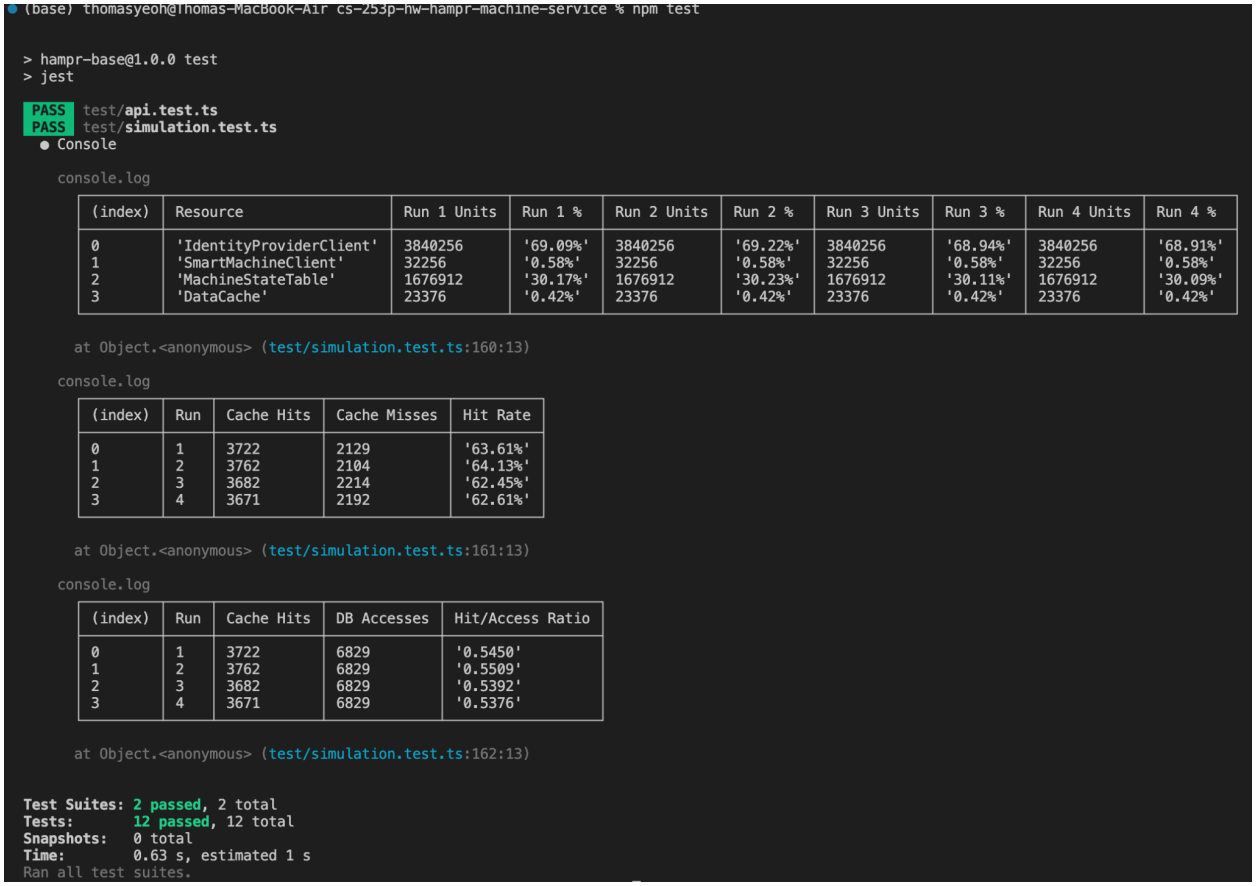
Thomas Yeoh



```
(base) thomasyeoh@Thomas-MacBook-Air cs-253p-hw-hampr-machine-service % npm test

> hampr-base@1.0.0 test
> jest

 PASS  test/api.test.ts
 PASS  test/simulation.test.ts
  ● Console

    console.log
      ┌─────────┬──────────────────────┬─────────────┬──────────┬─────────────┬──────────┬─────────────┬──────────┬─────────────┬──────────┐
      │ (index) │ Resource             │ Run 1 Units │ Run 1 %  │ Run 2 Units │ Run 2 %  │ Run 3 Units │ Run 3 %  │ Run 4 Units │ Run 4 %  │
      ├─────────┼──────────────────────┼─────────────┼──────────┼─────────────┼──────────┼─────────────┼──────────┼─────────────┼──────────┤
      │ 0       │ 'IdentityProviderClient' │ 3840256     │ '69.09%' │ 3840256     │ '69.22%' │ 3840256     │ '68.94%' │ 3840256     │ '68.91%' │
      │ 1       │ 'SmartMachineClient' │ 32256       │ '0.58%'  │ 32256       │ '0.58%'  │ 32256       │ '0.58%'  │ 32256       │ '0.58%'  │
      │ 2       │ 'MachineStateTable'  │ 1676912     │ '30.17%' │ 1676912     │ '30.23%' │ 1676912     │ '30.11%' │ 1676912     │ '30.09%' │
      │ 3       │ 'DataCache'          │ 23376       │ '0.42%'  │ 23376       │ '0.42%'  │ 23376       │ '0.42%'  │ 23376       │ '0.42%'  │
      └─────────┴──────────────────────┴─────────────┴──────────┴─────────────┴──────────┴─────────────┴──────────┴─────────────┴──────────┘

      at Object.<anonymous> (test/simulation.test.ts:160:13)

    console.log
      ┌─────────┬─────┬────────────┬──────────────┬──────────┐
      │ (index) │ Run │ Cache Hits │ Cache Misses │ Hit Rate │
      ├─────────┼─────┼────────────┼──────────────┼──────────┤
      │ 0       │ 1   │ 3722       │ 2129         │ '63.61%' │
      │ 1       │ 2   │ 3762       │ 2104         │ '64.13%' │
      │ 2       │ 3   │ 3682       │ 2214         │ '62.45%' │
      │ 3       │ 4   │ 3671       │ 2192         │ '62.61%' │
      └─────────┴─────┴────────────┴──────────────┴──────────┘

      at Object.<anonymous> (test/simulation.test.ts:161:13)

    console.log
      ┌─────────┬─────┬────────────┬──────────────┬──────────────────┐
      │ (index) │ Run │ Cache Hits │ DB Accesses  │ Hit/Access Ratio │
      ├─────────┼─────┼────────────┼──────────────┼──────────────────┤
      │ 0       │ 1   │ 3722       │ 6829         │ '0.5450'         │
      │ 1       │ 2   │ 3762       │ 6829         │ '0.5509'         │
      │ 2       │ 3   │ 3682       │ 6829         │ '0.5392'         │
      │ 3       │ 4   │ 3671       │ 6829         │ '0.5376'         │
      └─────────┴─────┴────────────┴──────────────┴──────────────────┘

      at Object.<anonymous> (test/simulation.test.ts:162:13)

Test Suites: 2 passed, 2 total
Tests:       12 passed, 12 total
Snapshots:   0 total
Time:        0.63 s, estimated 1 s
Ran all test suites.
```

Above, we can see that all test cases pass. The IdentityProviderClient uses up the most resources (~69%) with MachineStateTable coming in second (~30%). Furthermore, the hit/access ratio for the caches is around 0.54. For the different runs, we get fairly consistent stats which is predictable.