

Report of Optimization Methods:

1. Naive Method:

If we insert the record separately, only 300 records will take 367 ms.

```
Movie{id='H2', title='Number Thirteen', year=1922, director='Hitchcock'}
Star{id='Jean Adair', name='Jean Adair', birthYear=1872}
StarInMovie{starId='Iris Hoey', movieId='AA13'}
cost time: 367
```

2. Using Batch

For the batch process, it takes much less time with the same 300 records.

```
StarInMovie{starId='Jane Fonda', movieId='AMy3'}
StarInMovie{starId='Eric Brown', movieId='AMy10'}
StarInMovie{starId='David Graf', movieId='AMy18'}
StarInMovie{starId='Buck Young', movieId='AMz5'}
StarInMovie{starId='Ray Danton', movieId='AN10'}
StarInMovie{starId='John Garko', movieId='AnA10'}
StarInMovie{starId='James Caan', movieId='AnB5'}
cost time: 158
```

3. Using Load Data

```
Size of star in movies8829
Movie{id='H2', title='Number Thirteen', year=1922, director='Hitchcock'}
Star{id='Jean Adair', name='Jean Adair', birthYear=1872}
StarInMovie{starId='Iris Hoey', movieId='AA13'}
load data local infile '/Users/wang/Documents/Code/Project3/MovieServer/temp1.txt' into table movies fields terminated by ',' enclosed by '"' lines terminated by '\r\n'
load data local infile '/Users/wang/Documents/Code/Project3/MovieServer/temp2.txt' into table stars fields terminated by ',' enclosed by '"' lines terminated by '\r\n'
load data local infile '/Users/wang/Documents/Code/Project3/MovieServer/temp3.txt' into table stars_in_movies fields terminated by ',' enclosed by '"' lines terminated by '\r\n'
Result set representing update count of 8829
cost time: 280
```

Using load data is the most efficient, and it gives significant performance improvement. Since it input the data directly from the file within one transaction