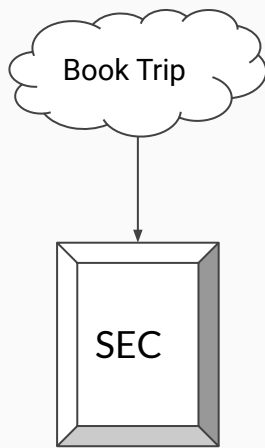
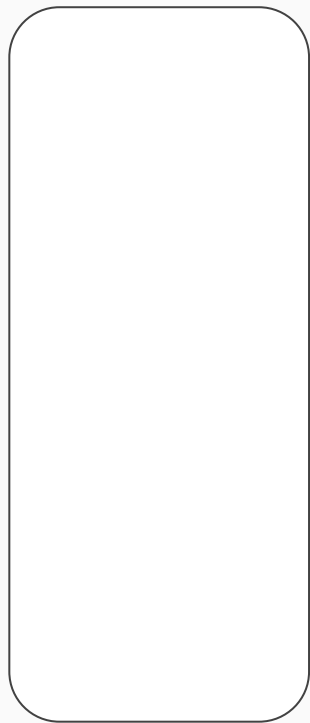


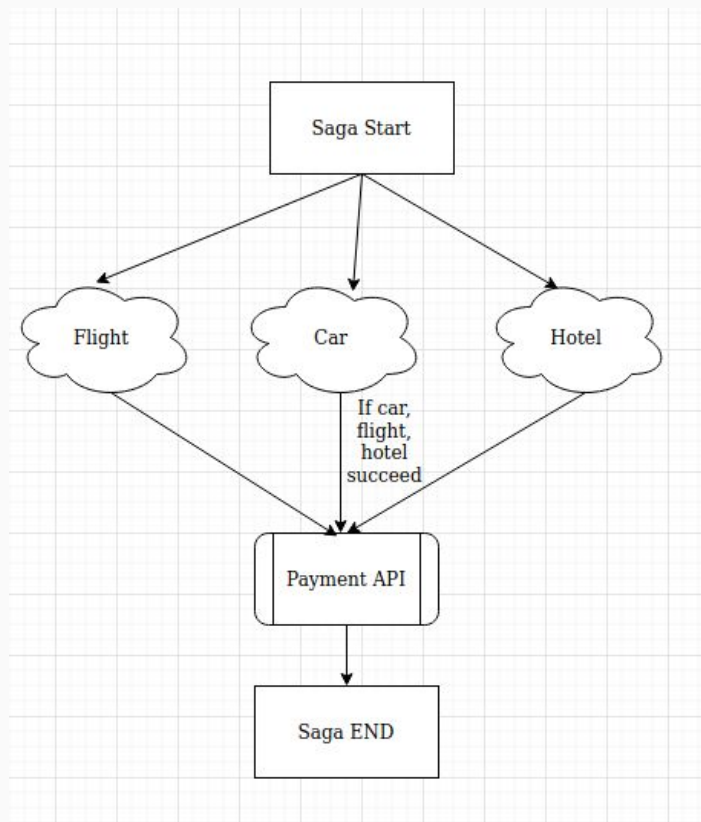
Distributed sagas

Let's look at a trip booking
example

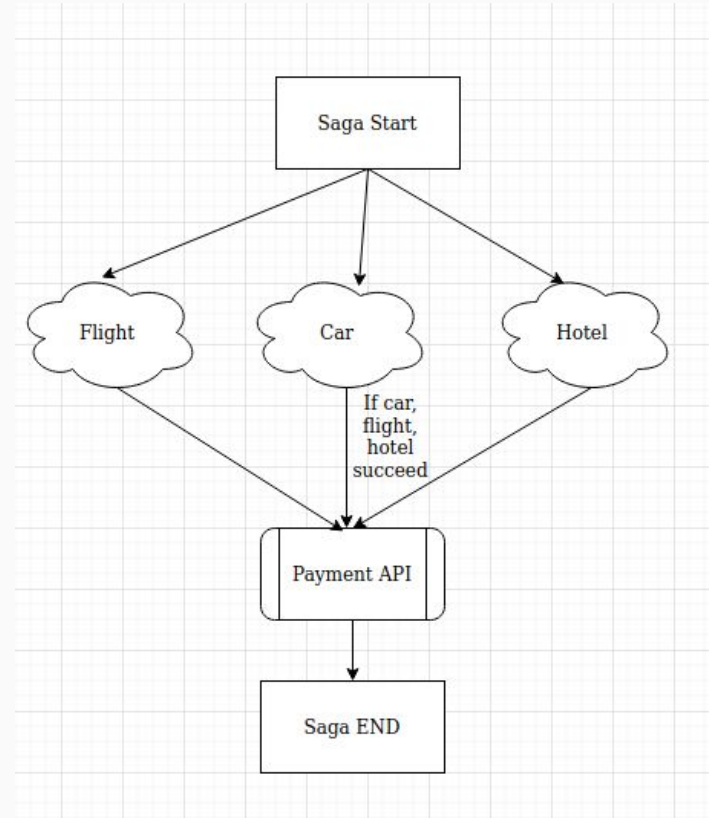
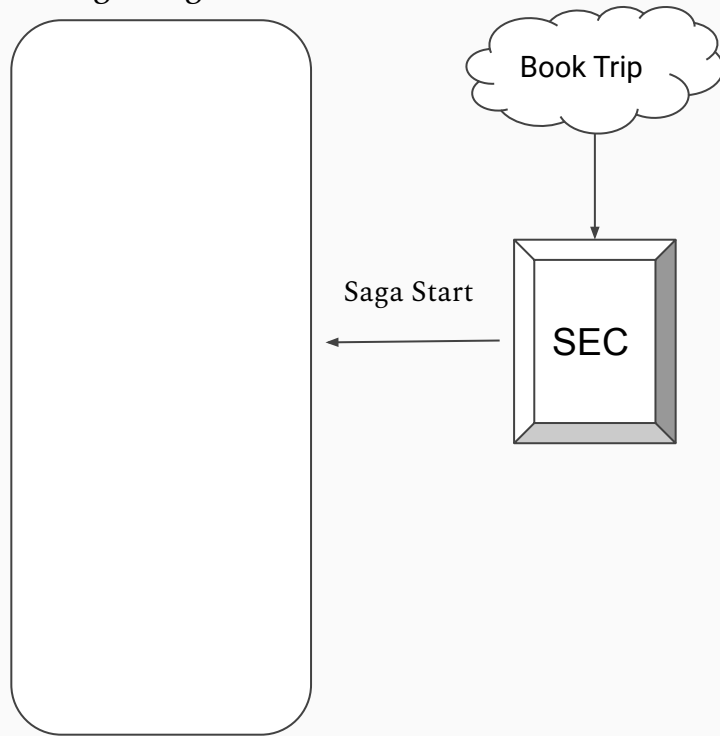
Saga Log



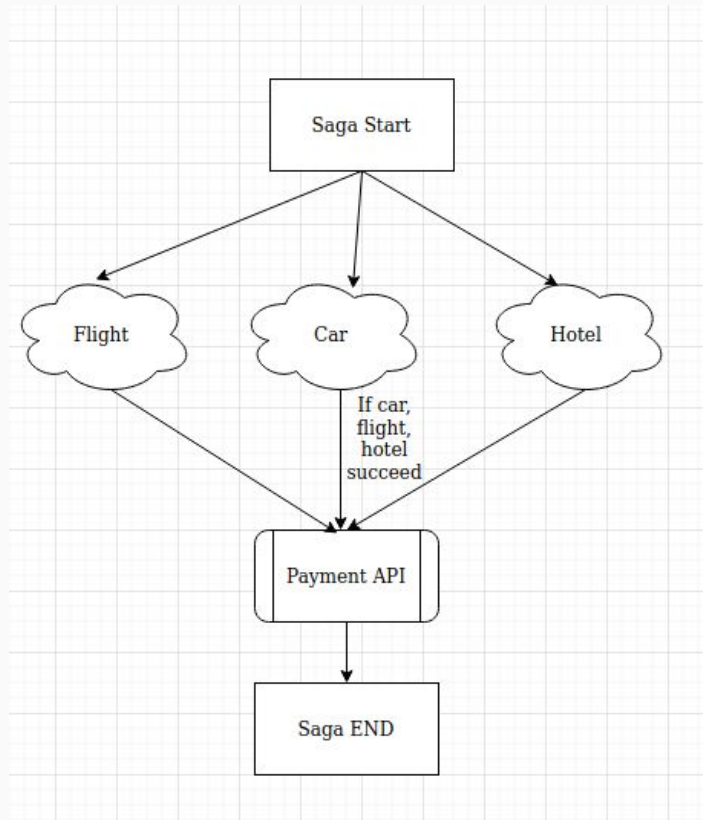
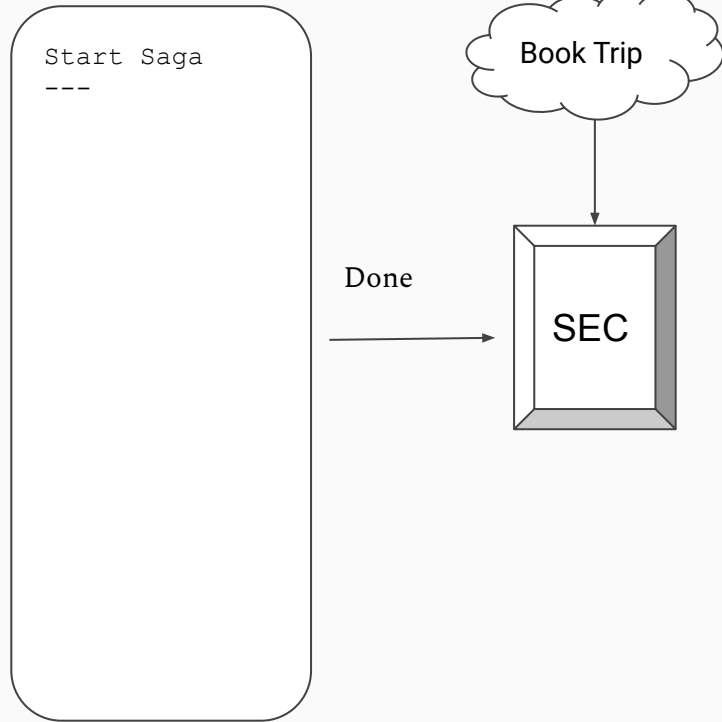
Saga Execution
Coordinator



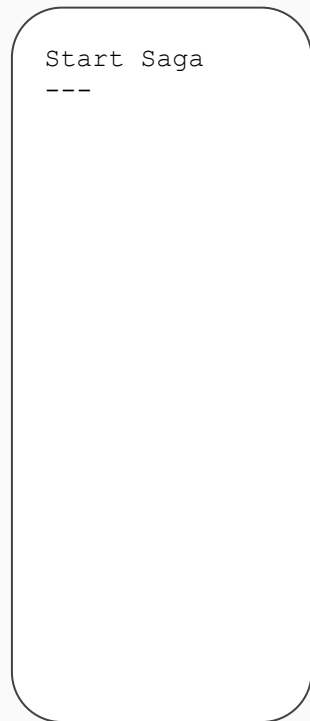
Saga Log



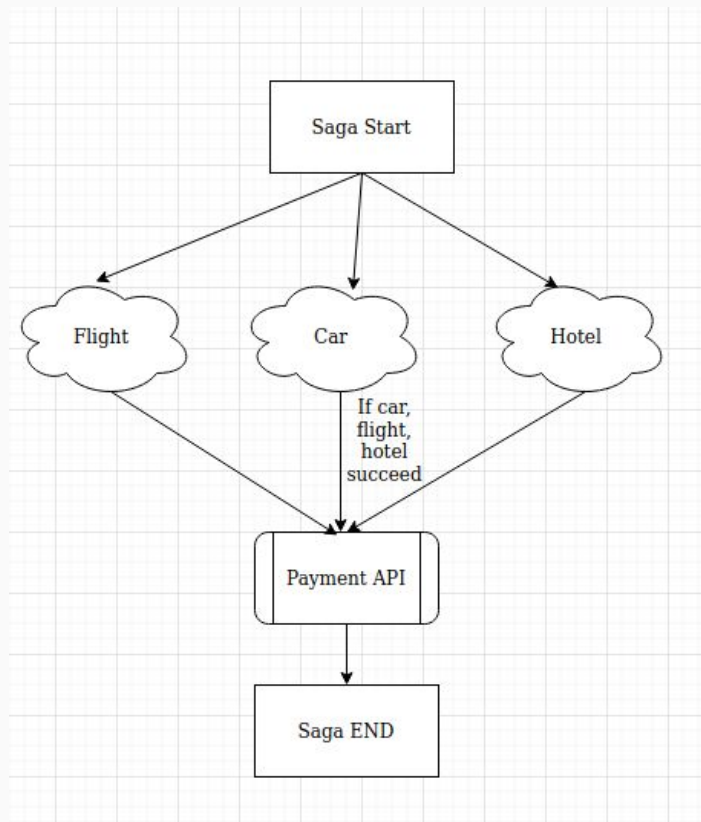
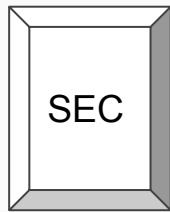
Saga Log



Saga Log



Hotel book
start



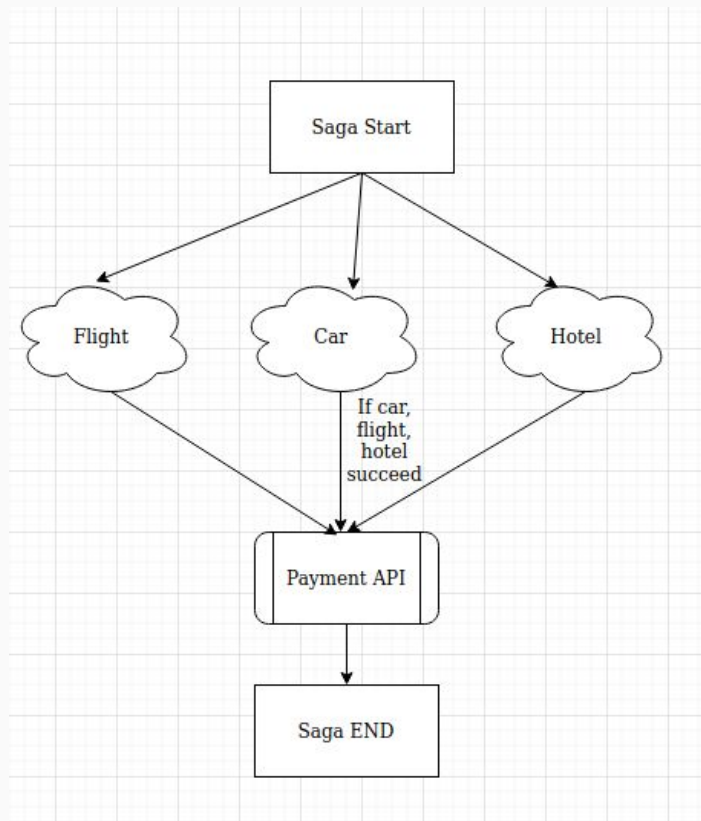
Saga Log

Start Saga

Start Hotel

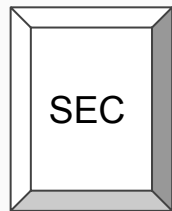
Done

SEC

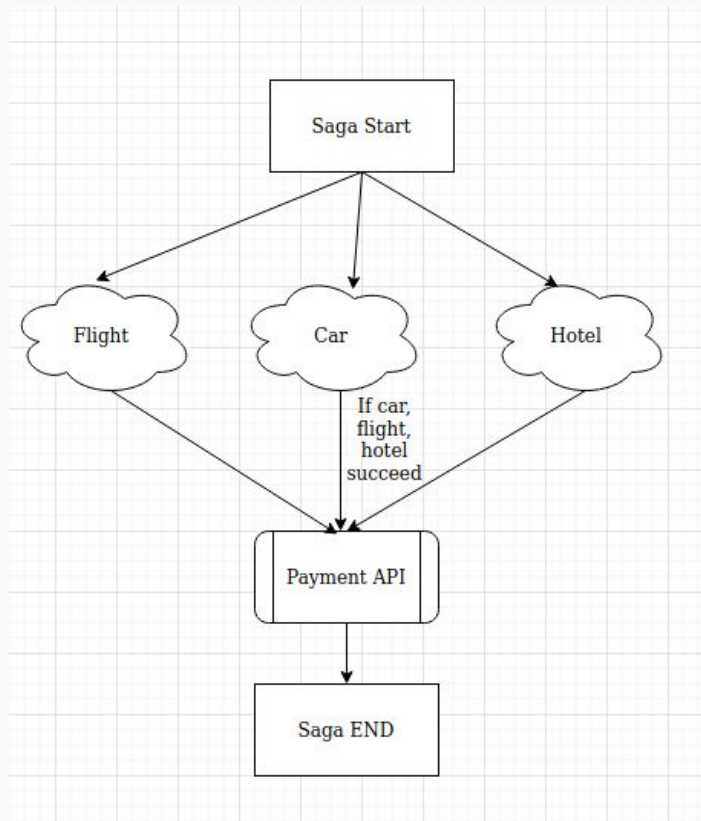


Saga Log

```
Start Saga  
---  
Start Hotel  
---
```

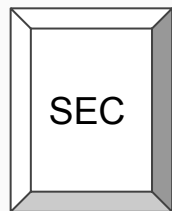


Book Hotel
Request

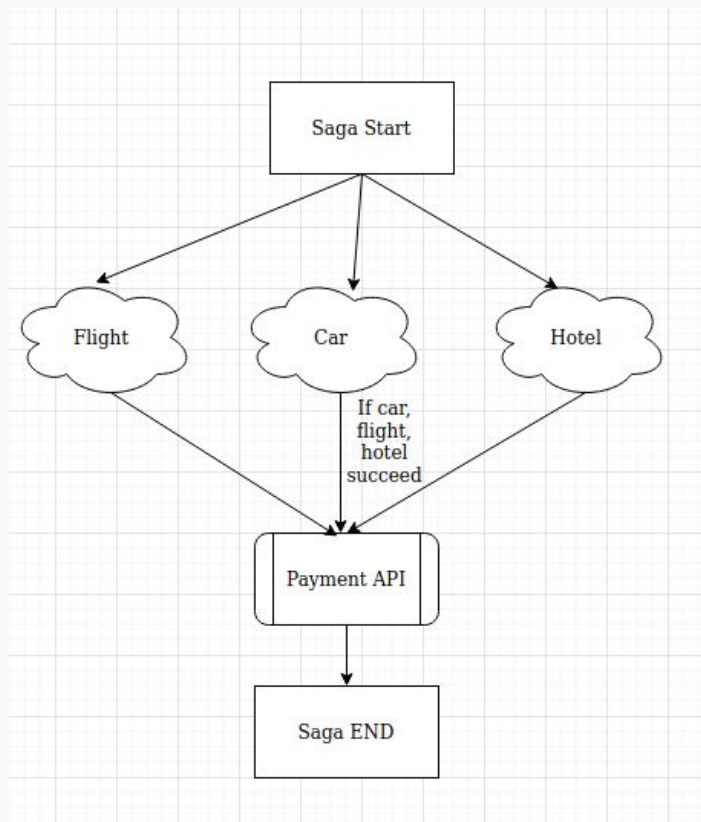


Saga Log

```
Start Saga  
---  
Start Hotel  
---
```



Success



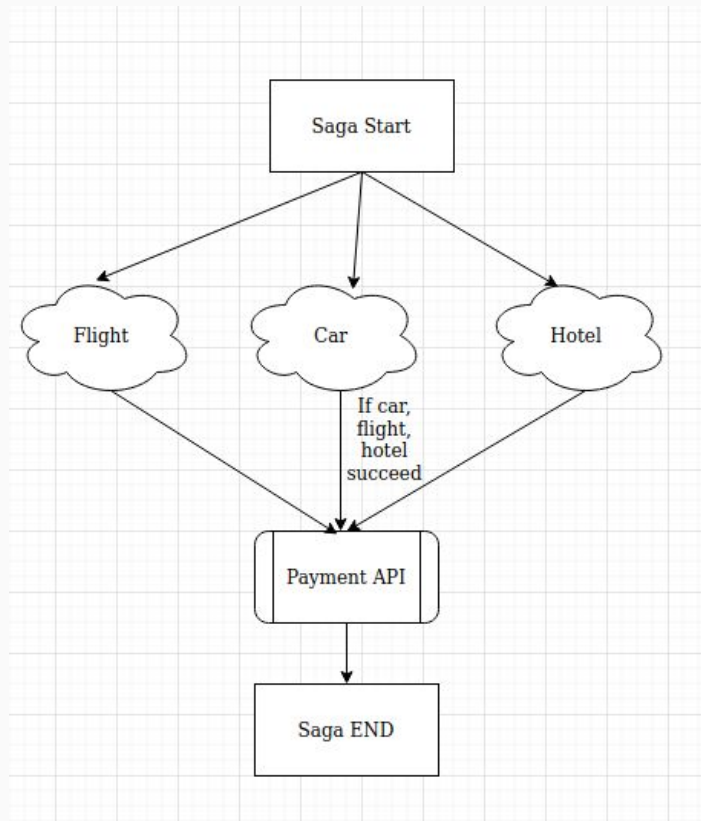
Saga Log

Start Saga

Start hotel

End Hotel

SEC

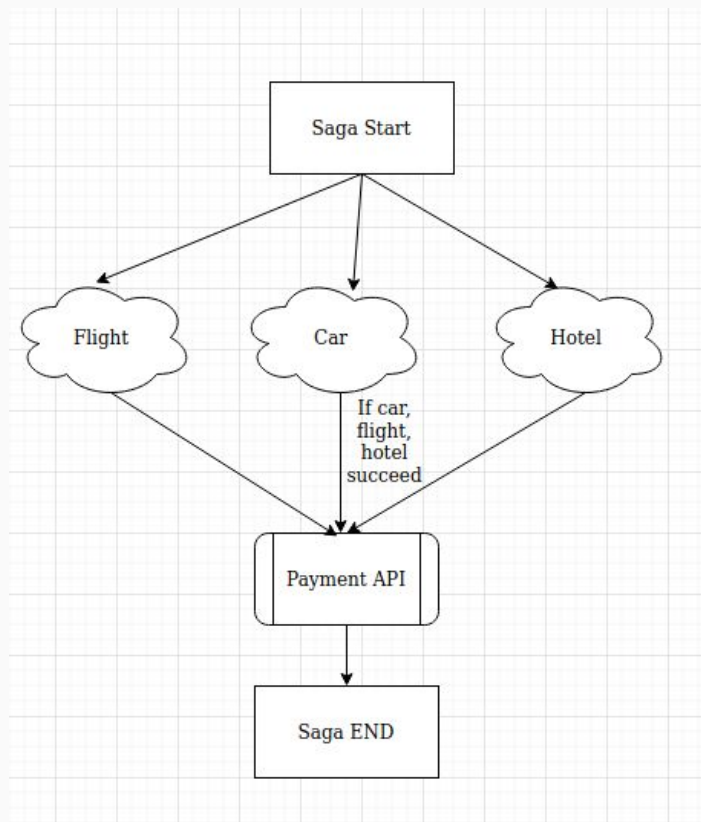


Saga Log

```
Start Saga  
---  
Start hotel  
---  
End Hotel  
---
```

Done

SEC

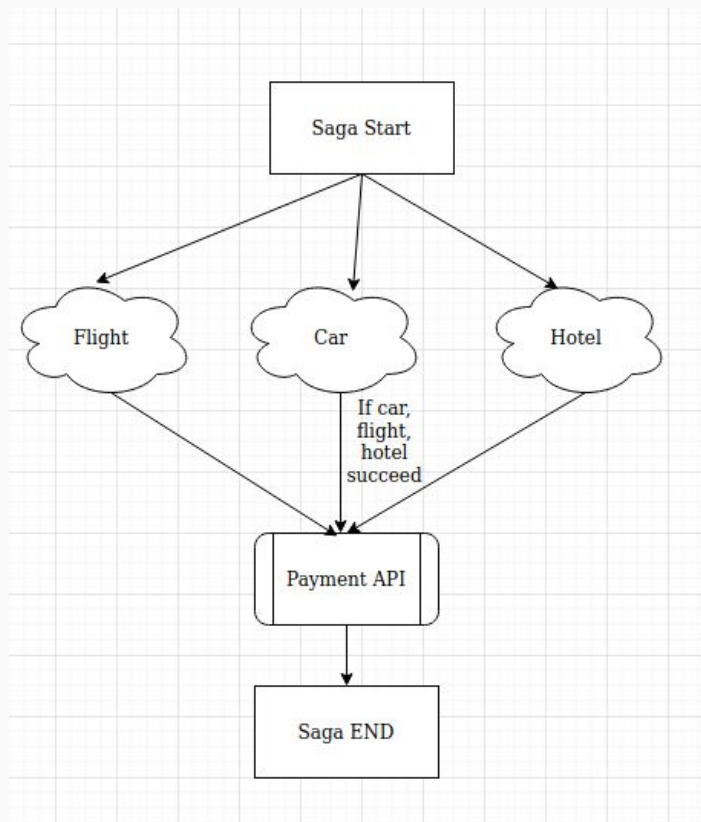


Saga Log

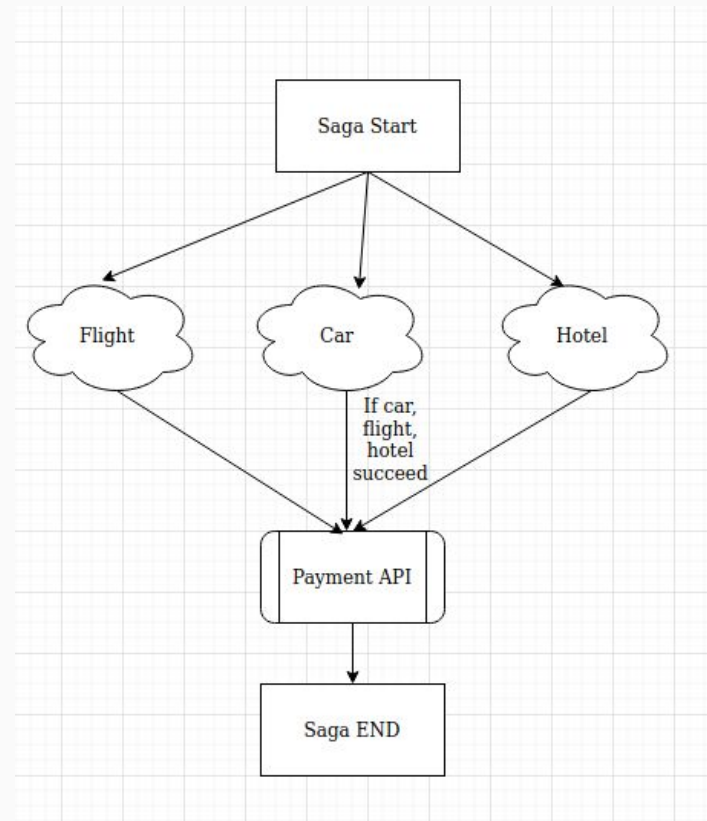
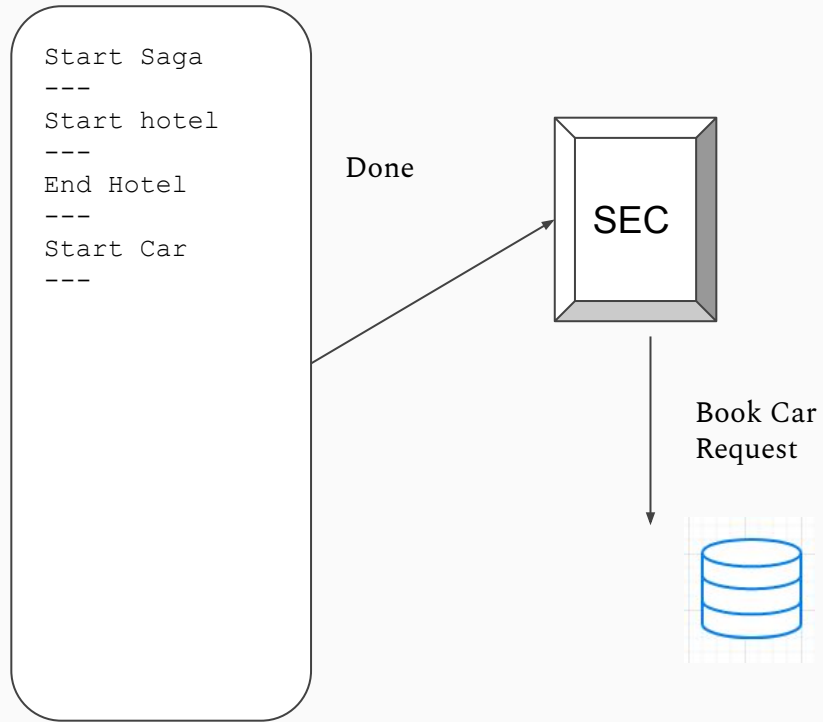
```
Start Saga  
---  
Start hotel  
---  
End Hotel  
---
```

Start Car

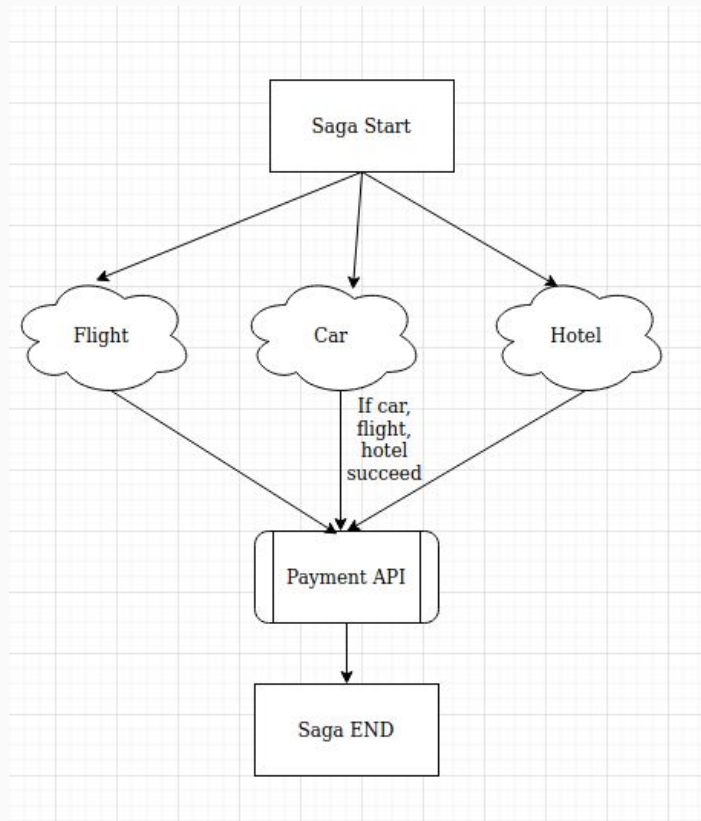
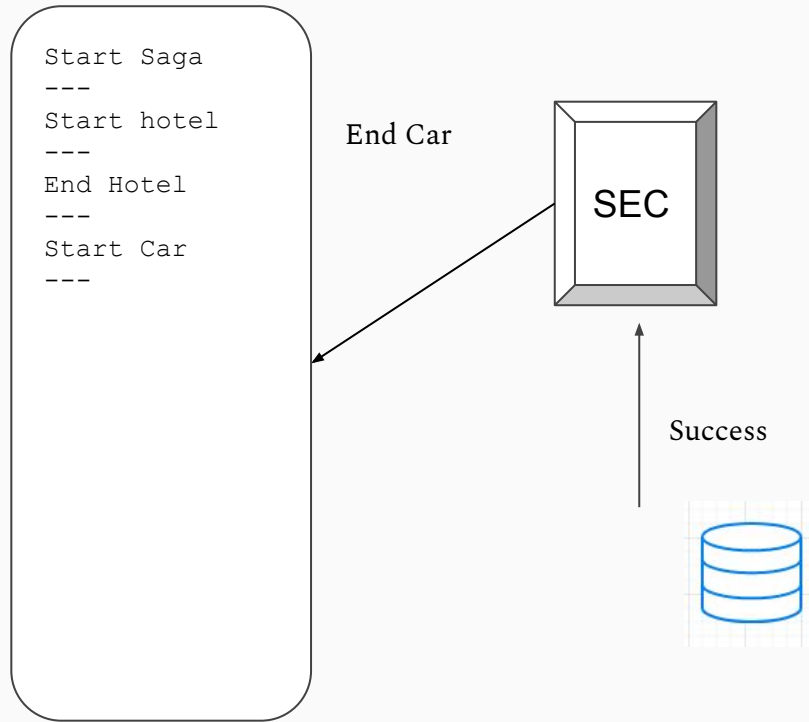
SEC



Saga Log



Saga Log

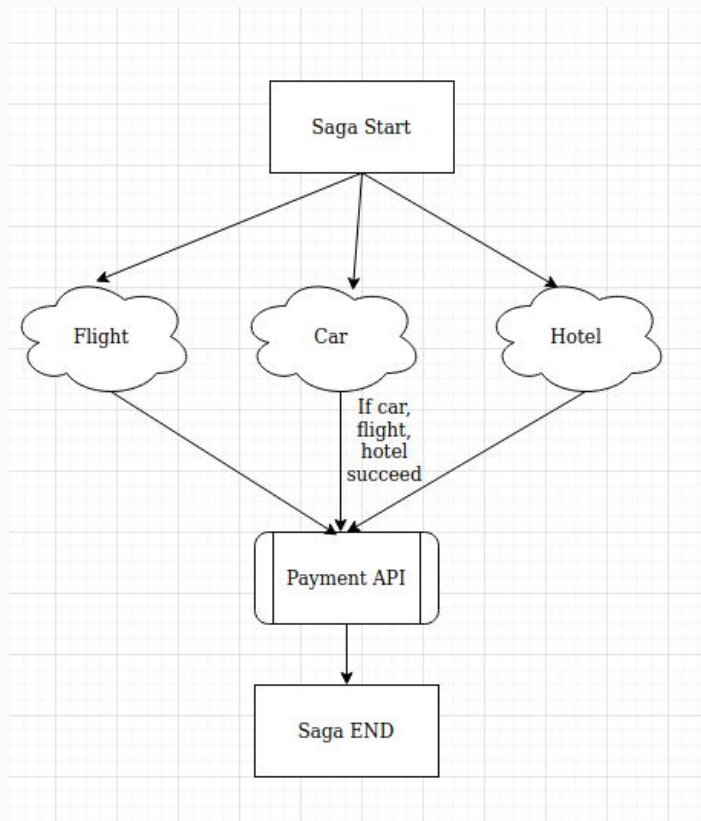


Saga Log

```
Start Saga  
---  
Start hotel  
---  
End Hotel  
---  
Start Car  
---  
End Car  
---
```

Done

SEC

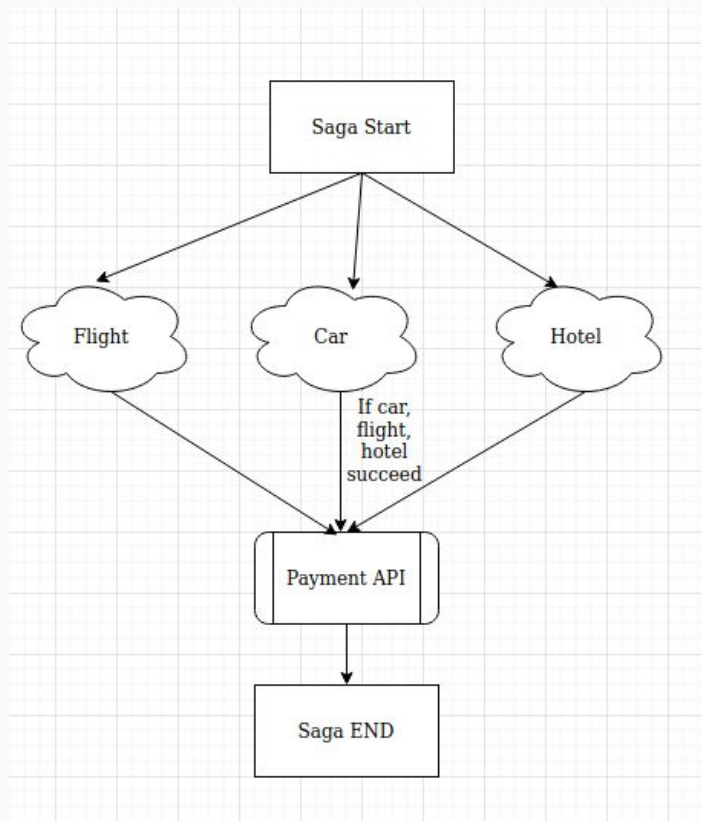


Saga Log

```
Start Saga  
---  
Start hotel  
---  
End Hotel  
---  
Start Car  
---  
End Car  
---
```

Book Flight

SEC



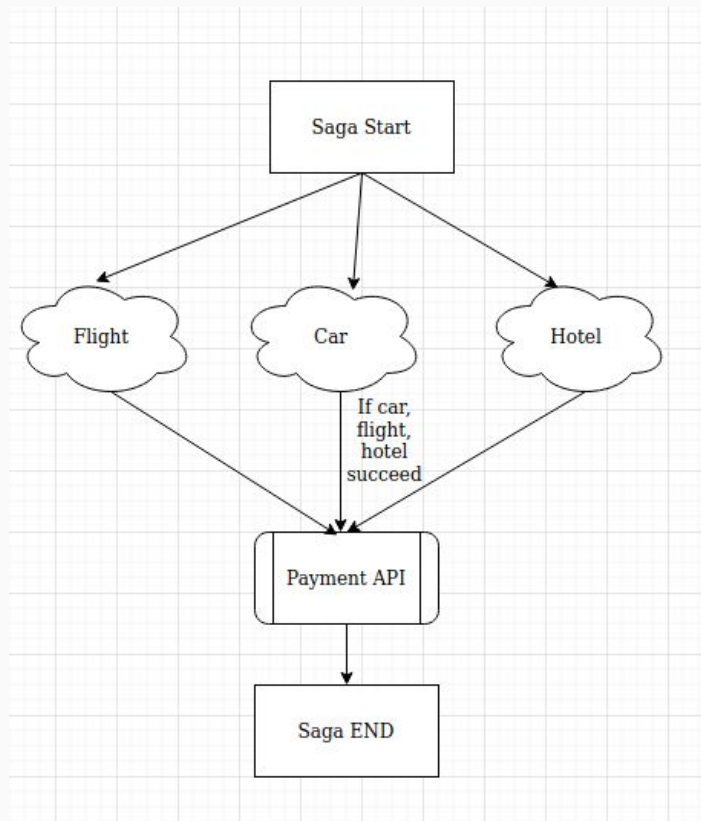
Saga Log

```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
End Car
---
Start Flight
---
```

Done

SEC

Book Flight
Request



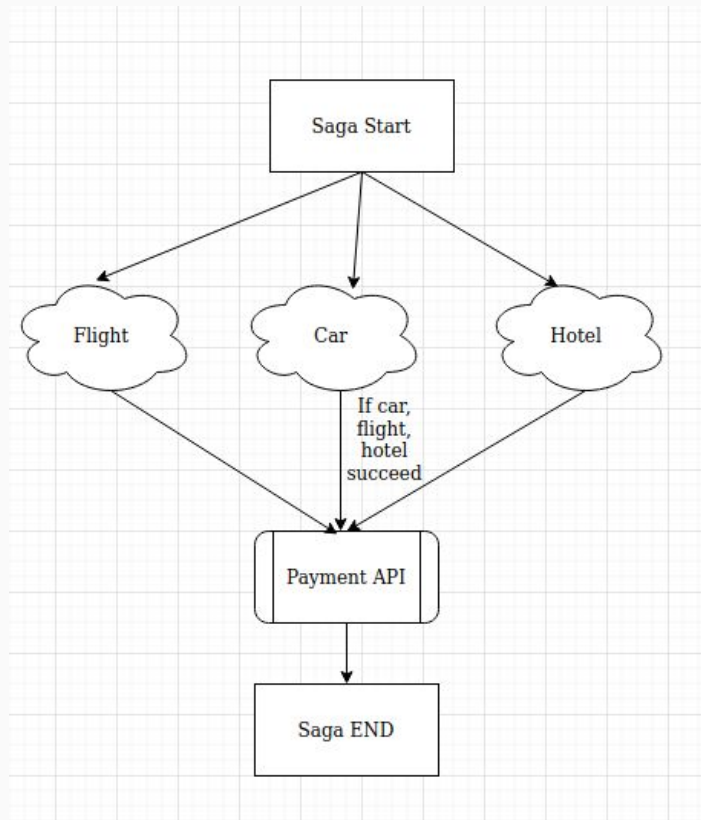
Saga Log

```
Start Saga  
---  
Start hotel  
---  
End Hotel  
---  
Start Car  
---  
End Car  
---  
Start Flight  
---
```

End Flight

SEC

Success

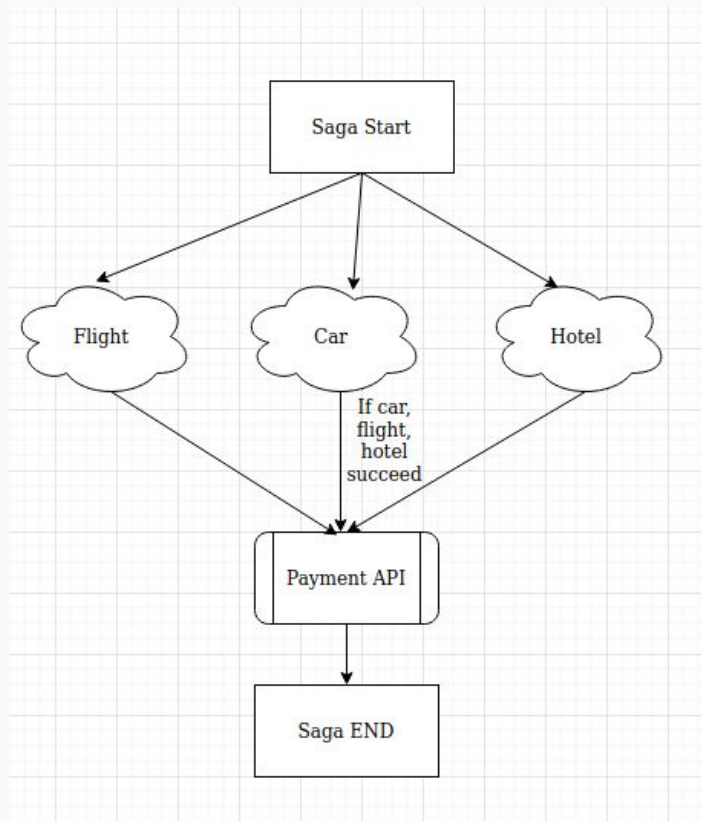


Saga Log

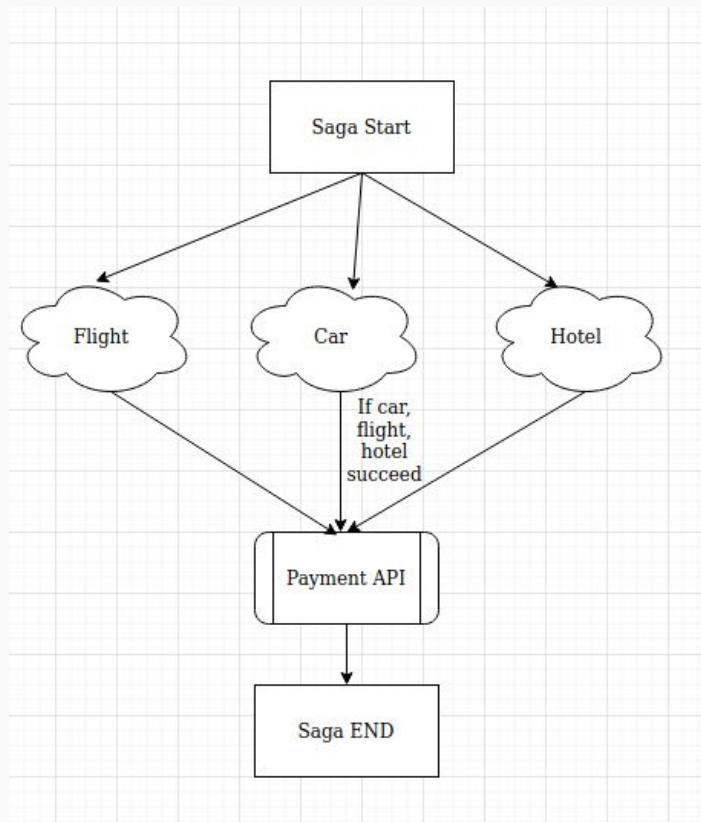
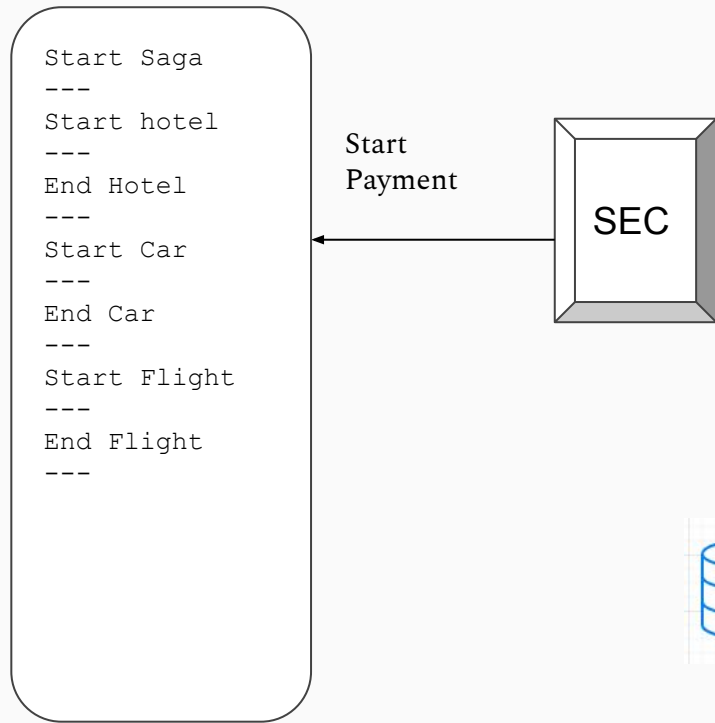
```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
End Car
---
Start Flight
---
End Flight
---
```

Done

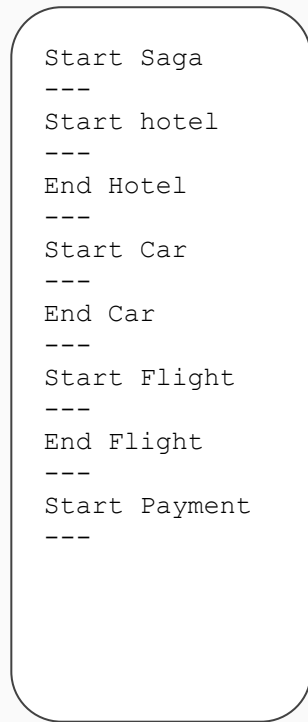
SEC



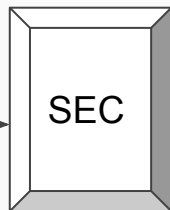
Saga Log



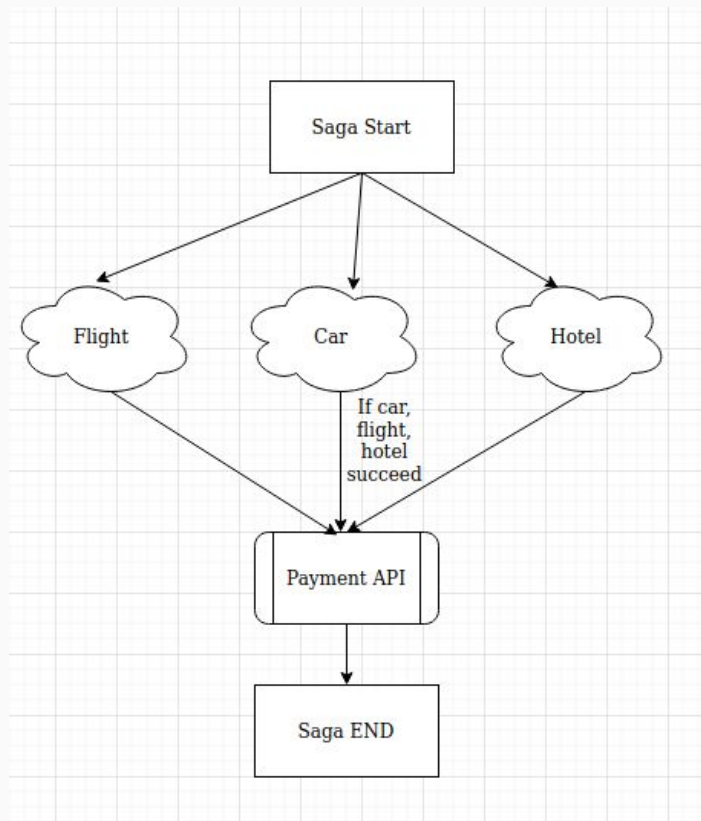
Saga Log



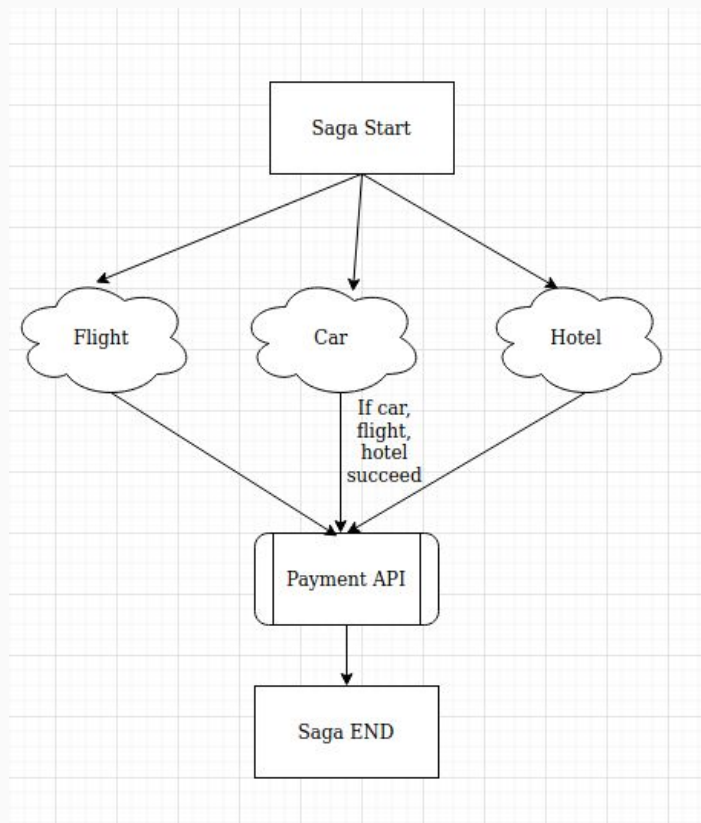
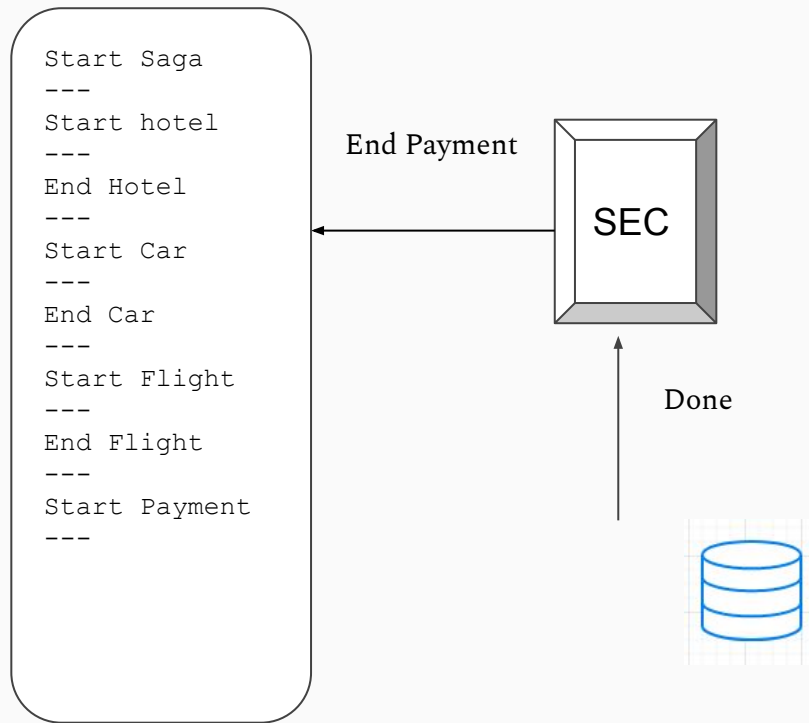
Done



Payment Request



Saga Log

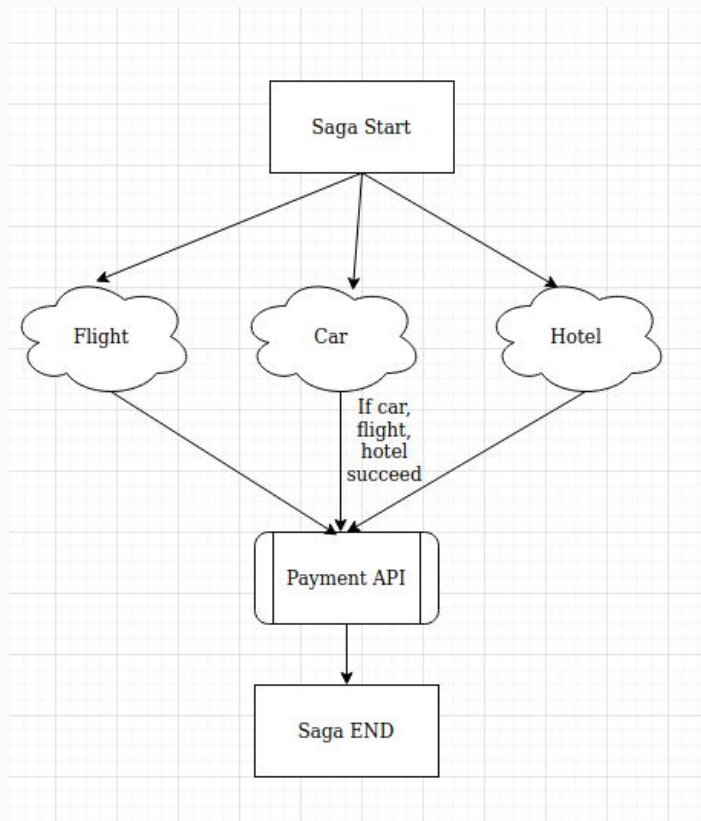


Saga Log

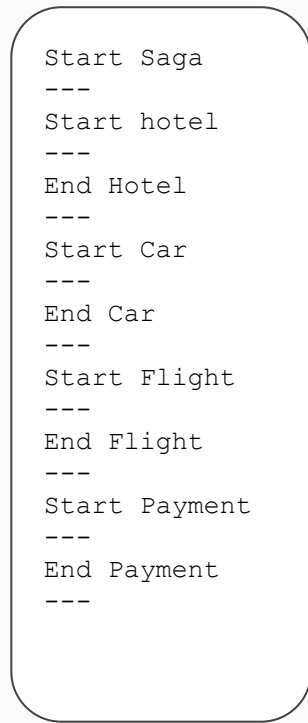
```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
End Car
---
Start Flight
---
End Flight
---
Start Payment
---
End Payment
---
```

Done

SEC

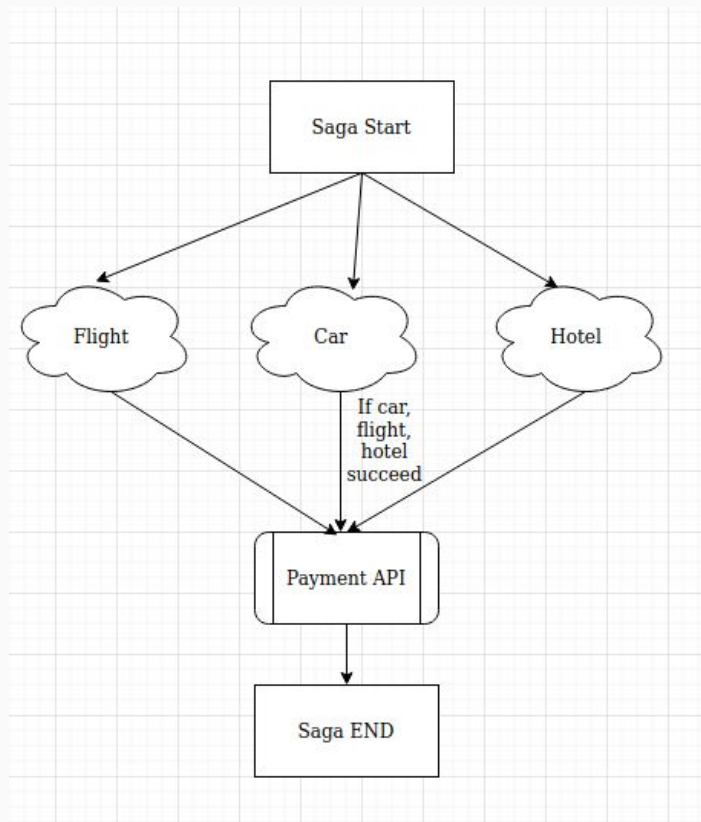


Saga Log



End Saga

SEC

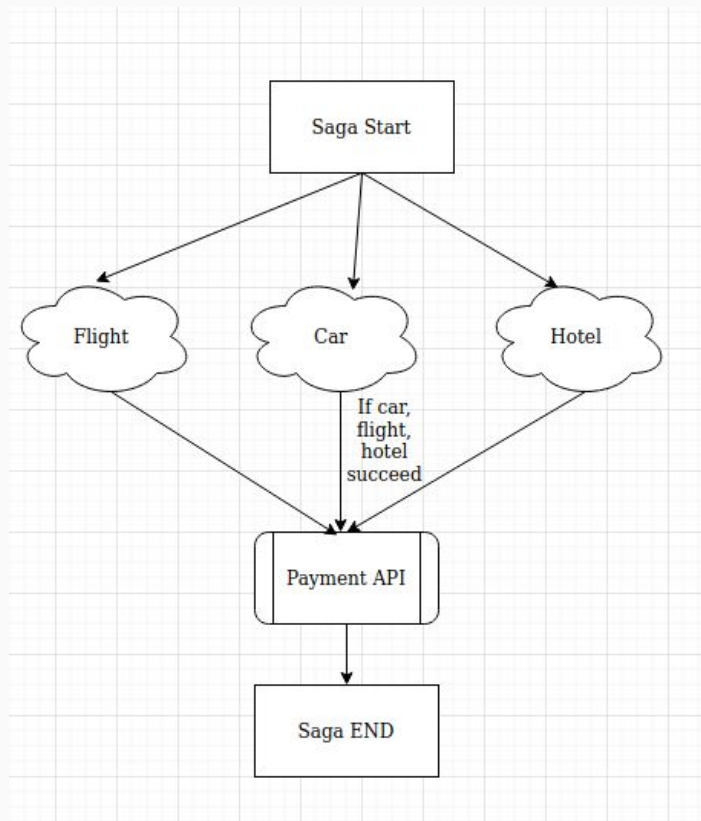


Saga Log

```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
End Car
---
Start Flight
---
End Flight
---
Start Payment
---
End Payment
---
End Saga
```

Done

SEC



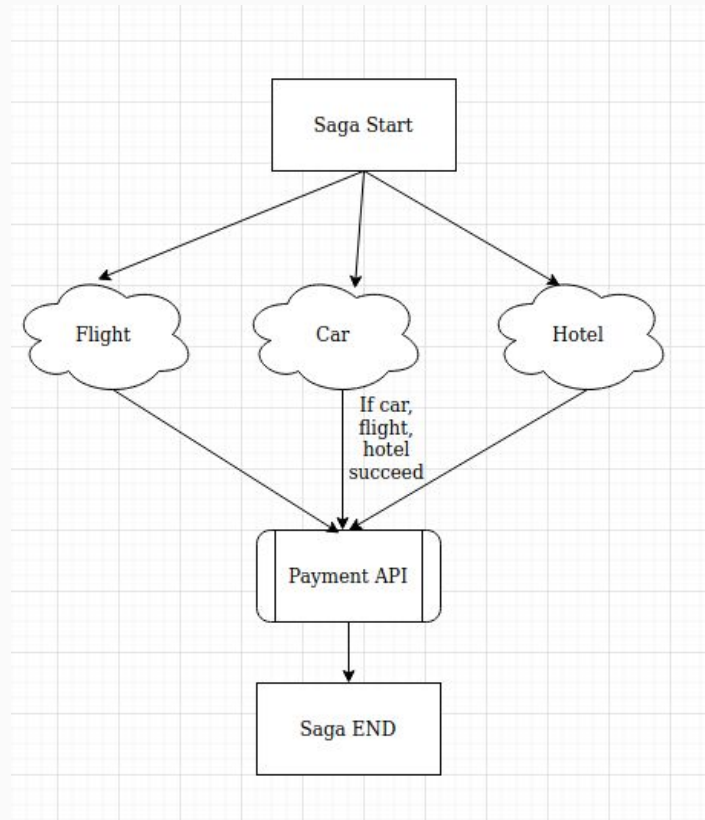
Now, what if a request
fails?

Saga Log

```
Start Saga  
---  
Start hotel  
---  
End Hotel  
---  
Start Car  
---
```

Book Flight

SEC



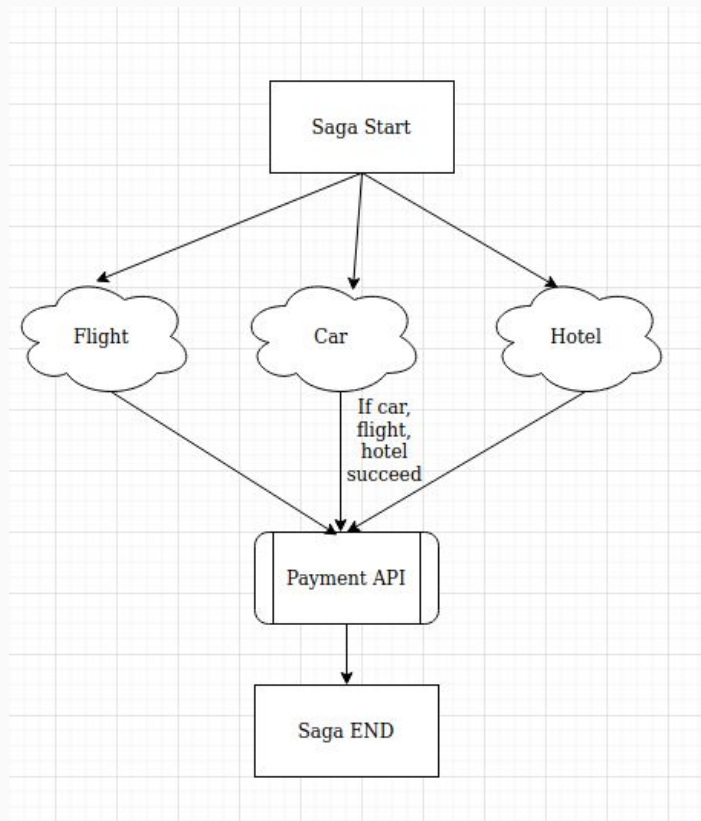
Saga Log

```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
Start Flight
---
```

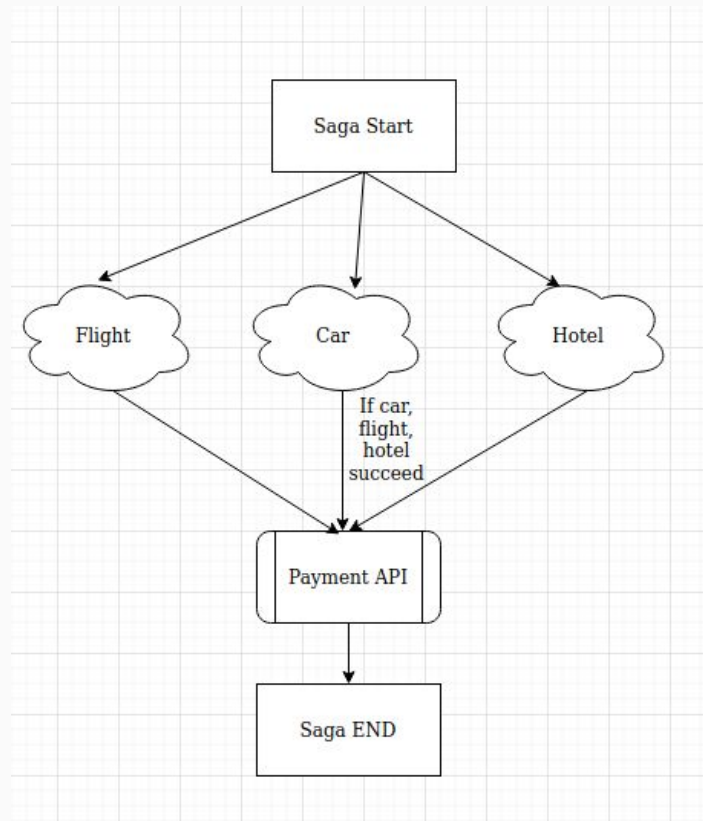
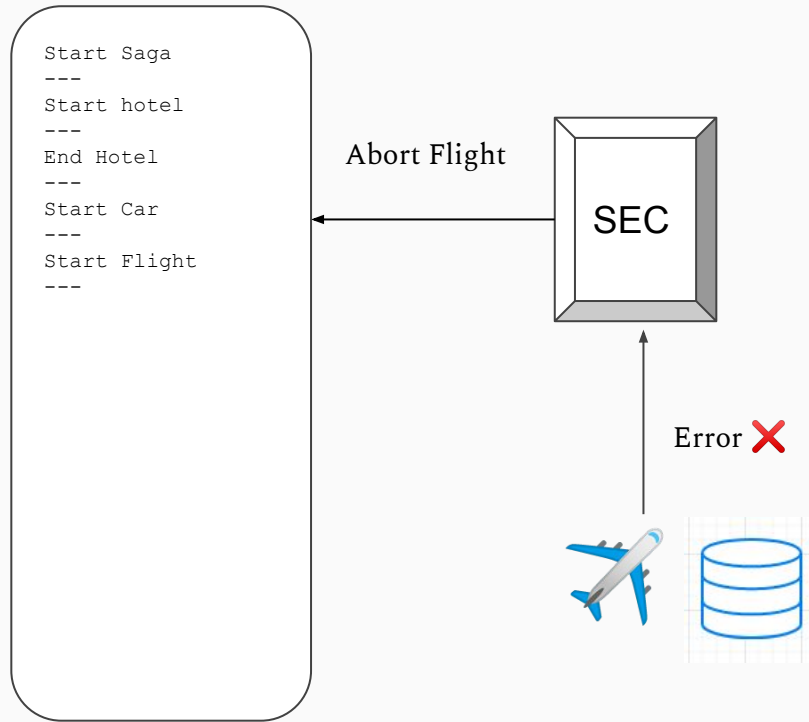
Done

SEC

Book Flight
Request



Saga Log



Saga Log

Start Saga

Start hotel

End Hotel

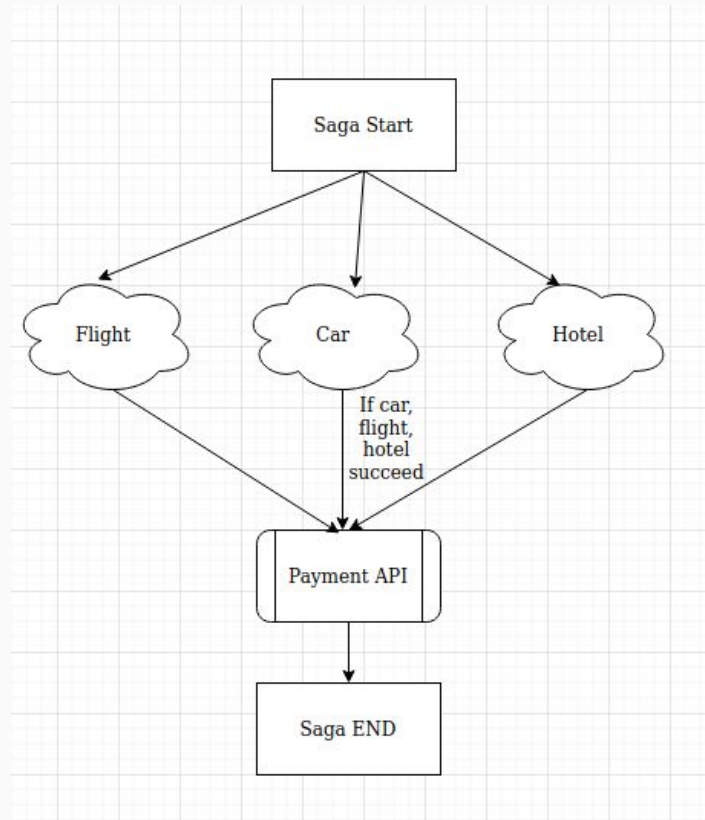
Start Car

Start Flight

Abort Flight

Done

SEC



Saga Log

```
Start Saga  
---  
Start hotel  
---  
End Hotel  
---  
Start Car  
---  
Start Flight  
---  
Abort Flight
```

Rollback

Saga END

Hotel

Saga Log

Start Saga

Start hotel

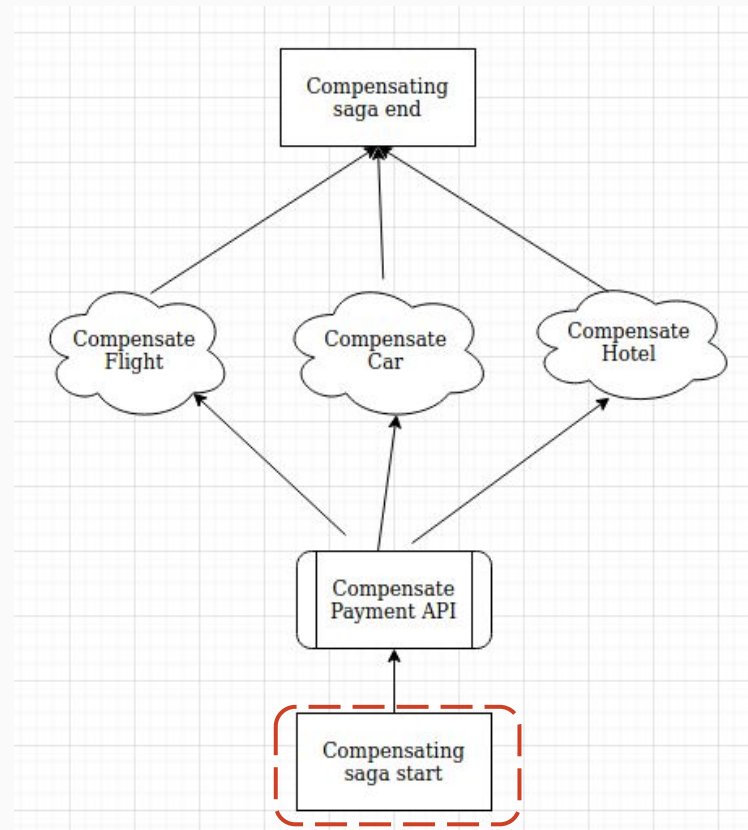
End Hotel

Start Car

Start Flight

Abort Flight

SEC



Saga Log

Start Saga

Start hotel

End Hotel

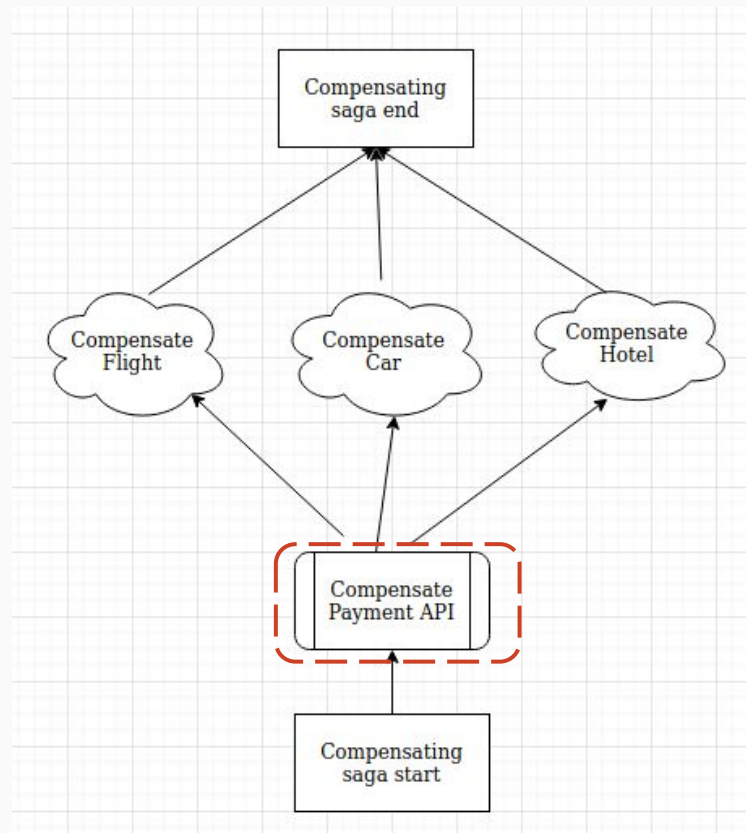
Start Car

Start Flight

Abort Flight

Payment log ?

SEC



Saga Log

Start Saga

Start hotel

End Hotel

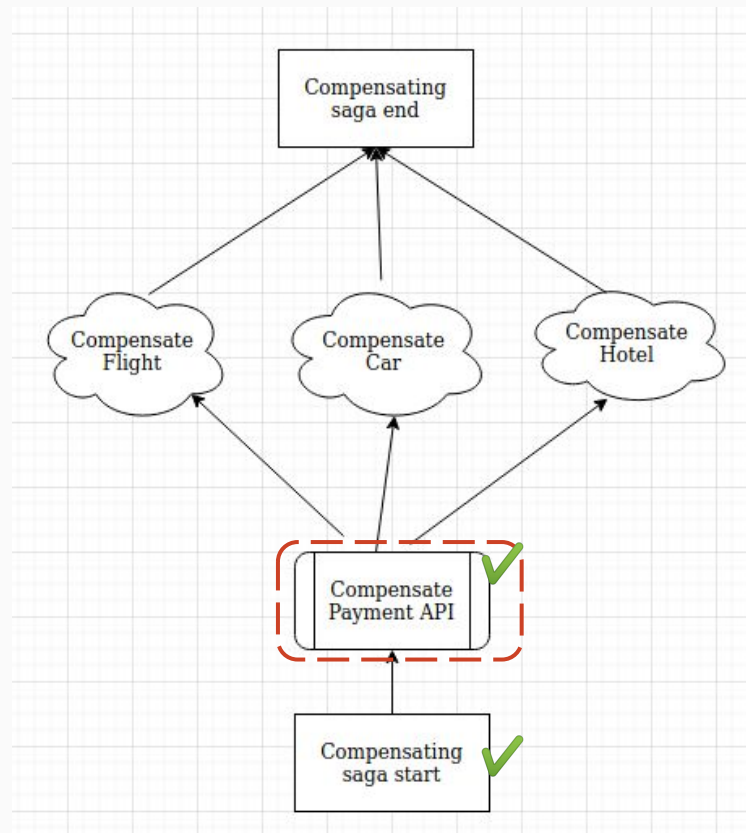
Start Car

Start Flight

Abort Flight

}}

SEC



Saga Log

Start Saga

Start hotel

End Hotel

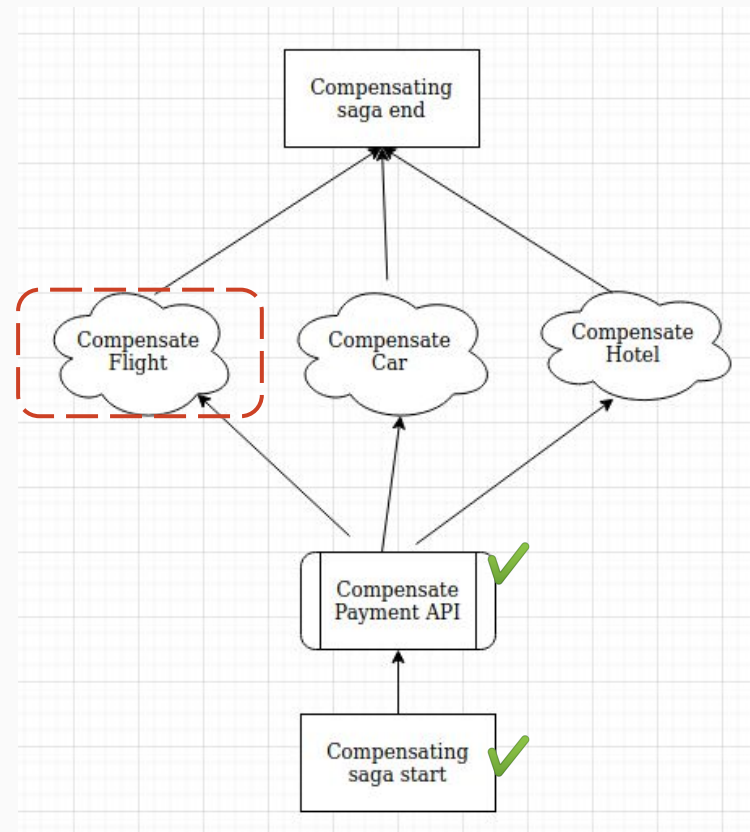
Start Car

Start Flight

Abort Flight

Flight log?

SEC



Saga Log

Start Saga

Start hotel

End Hotel

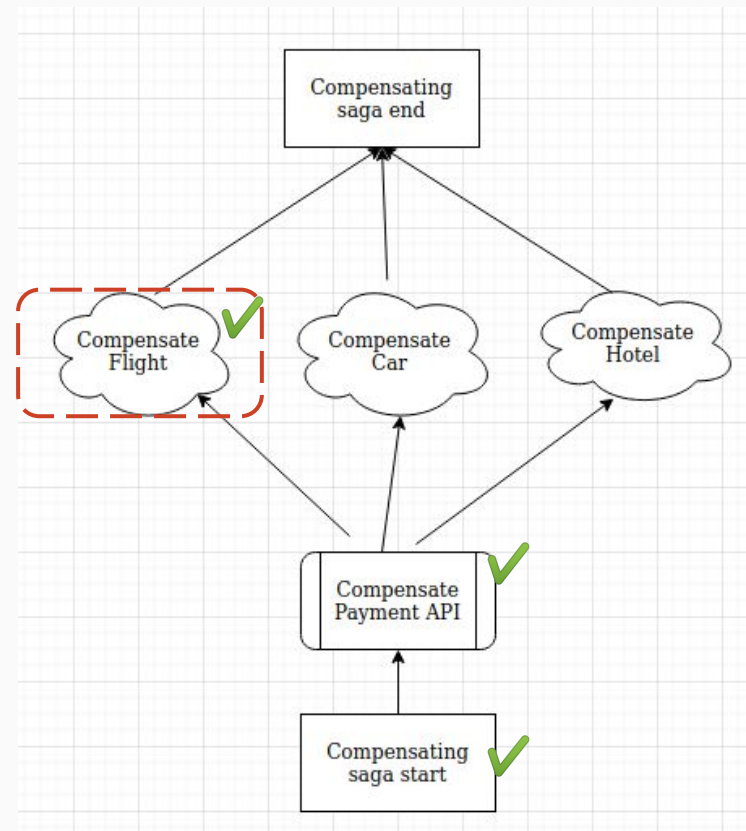
Start Car

Start Flight

Abort Flight

{Start, Abort}

SEC



Saga Log

Start Saga

Start hotel

End Hotel

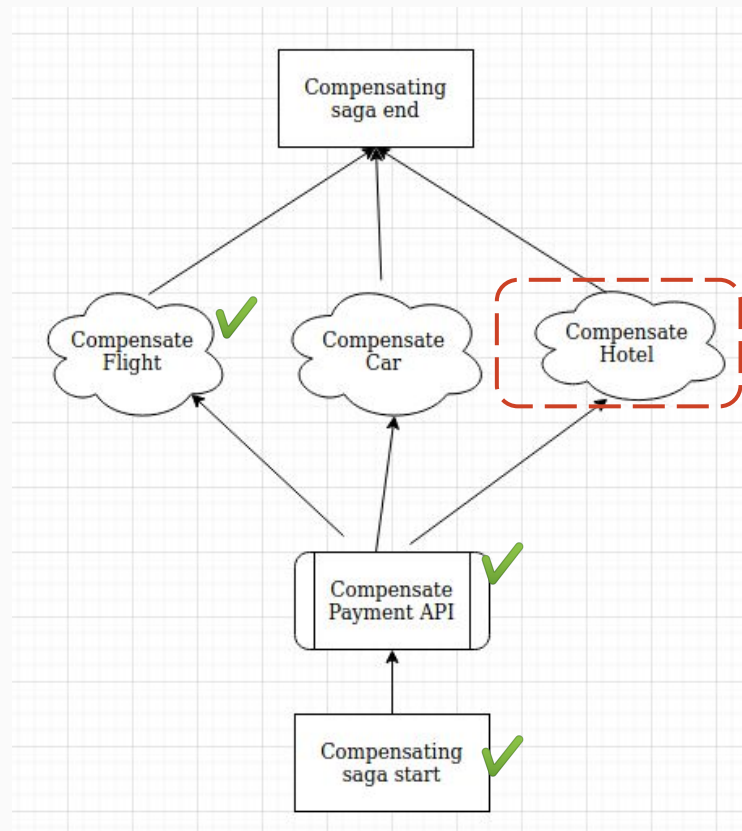
Start Car

Start Flight

Abort Flight

Hotel log?

SEC



Saga Log

Start Saga

Start hotel

End Hotel

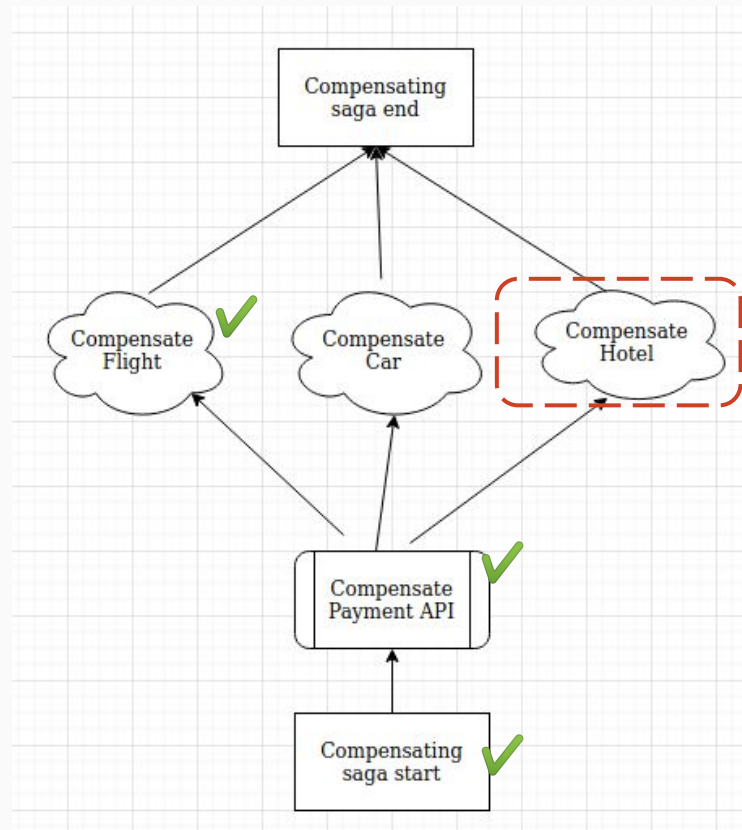
Start Car

Start Flight

Abort Flight

{ Start, End }

SEC



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

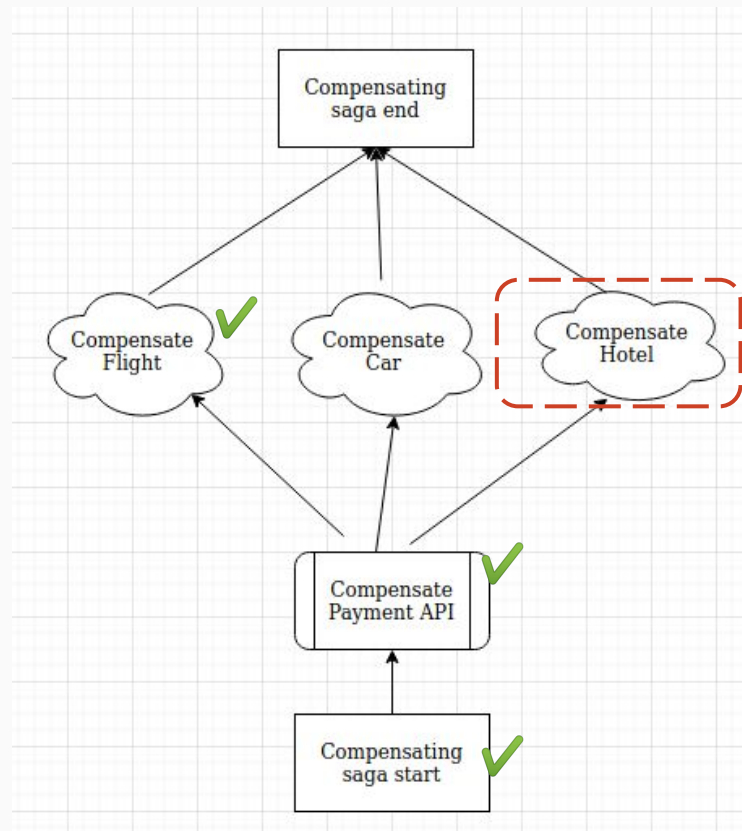
Start Flight

Abort Flight

{ Start, End }

SEC

Cancel hotel
reservation



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

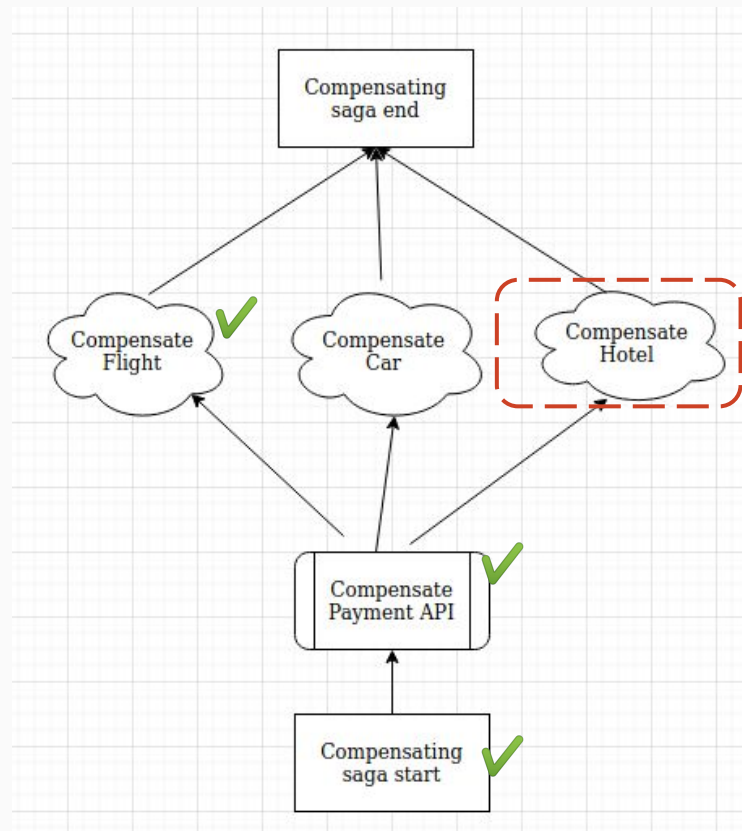
Start Flight

Abort Flight

Comp Hotel

SEC

Success



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

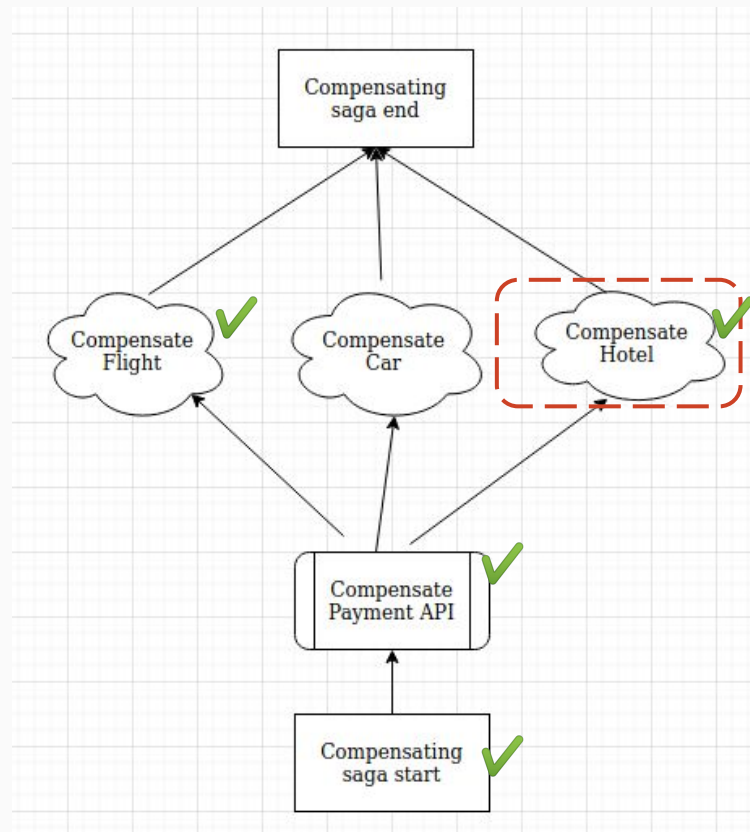
Start Flight

Abort Flight

Comp Hotel

Done

SEC



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

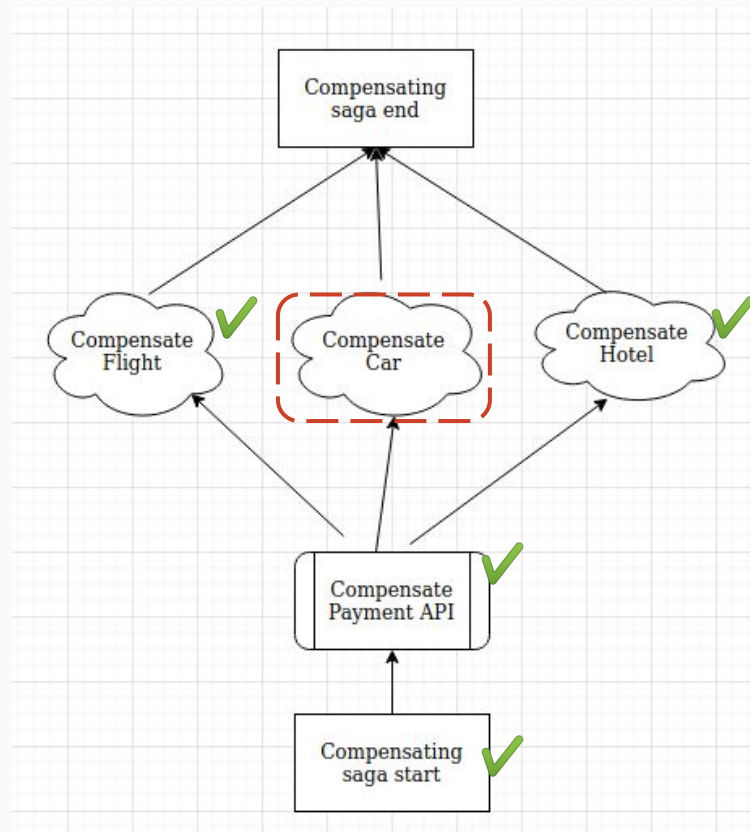
Start Flight

Abort Flight

Comp Hotel

Car log?

SEC



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

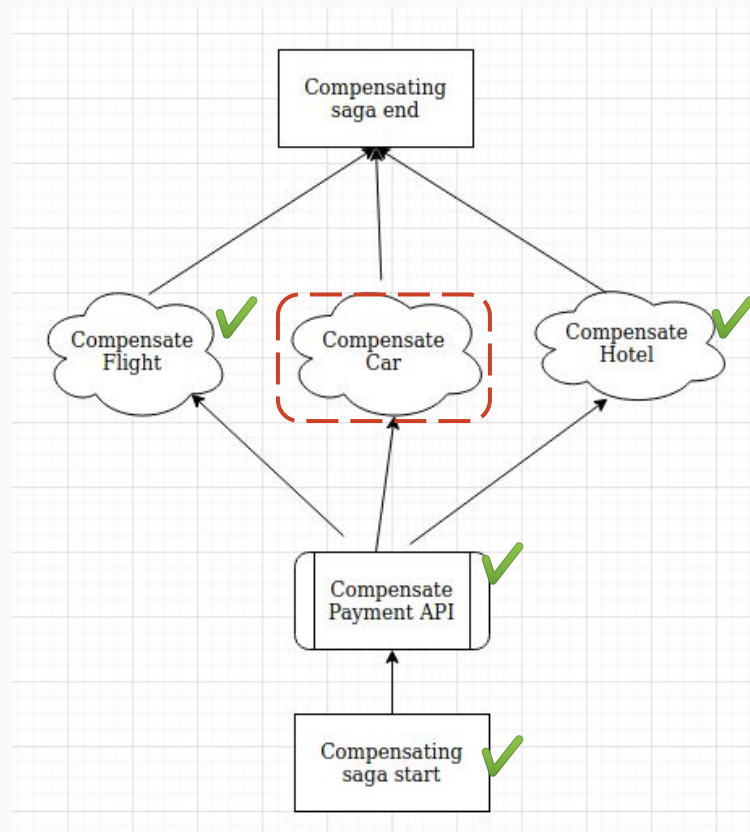
Start Flight

Abort Flight

Comp Hotel

{ Start }

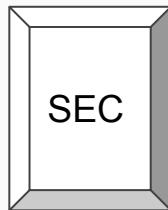
SEC



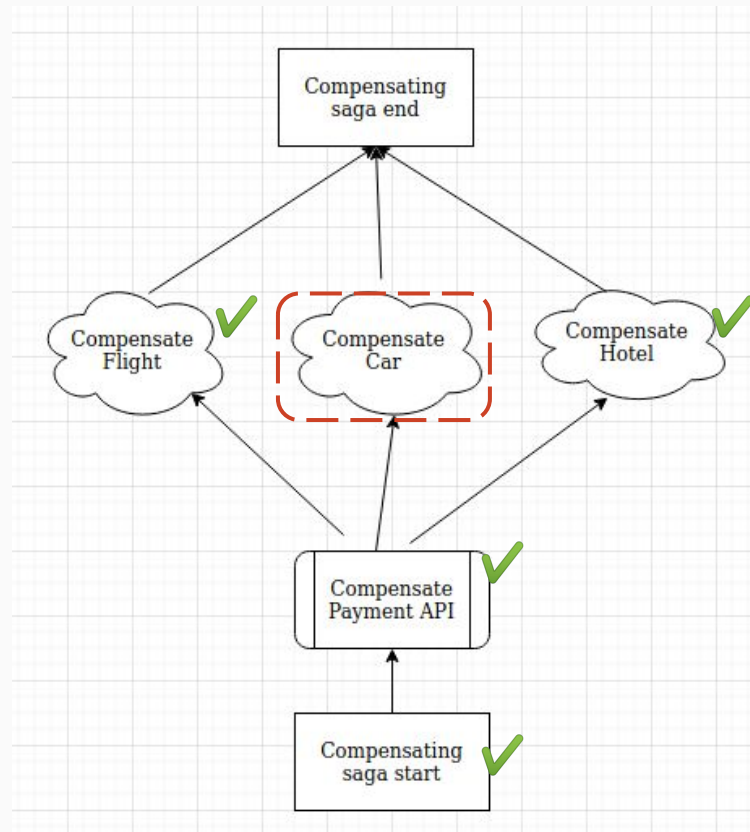
Saga Log



{ Start }



Book Car
Request



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

Start Flight

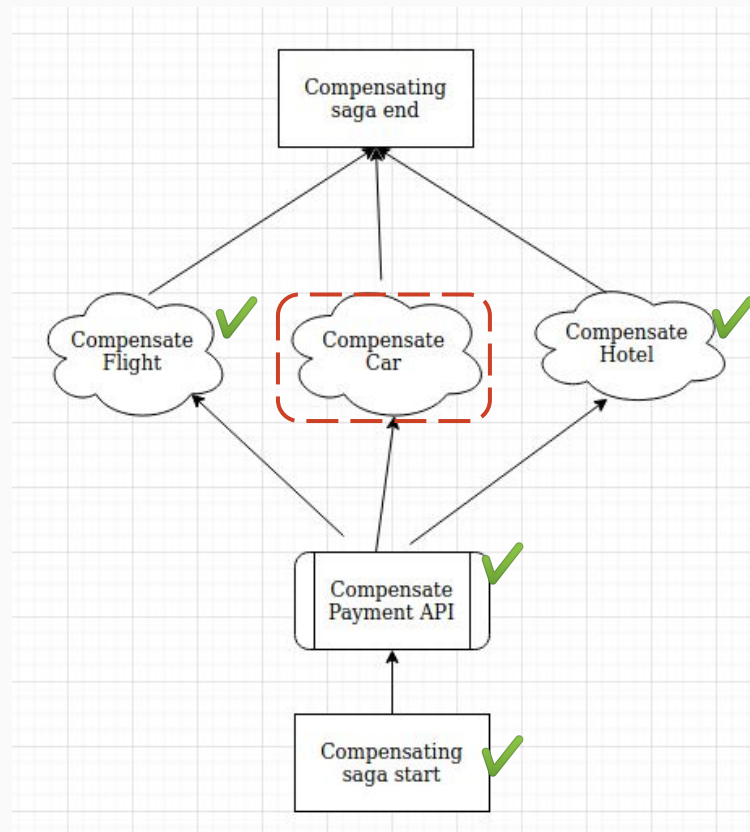
Abort Flight

Comp Hotel

End Car

SEC

Success



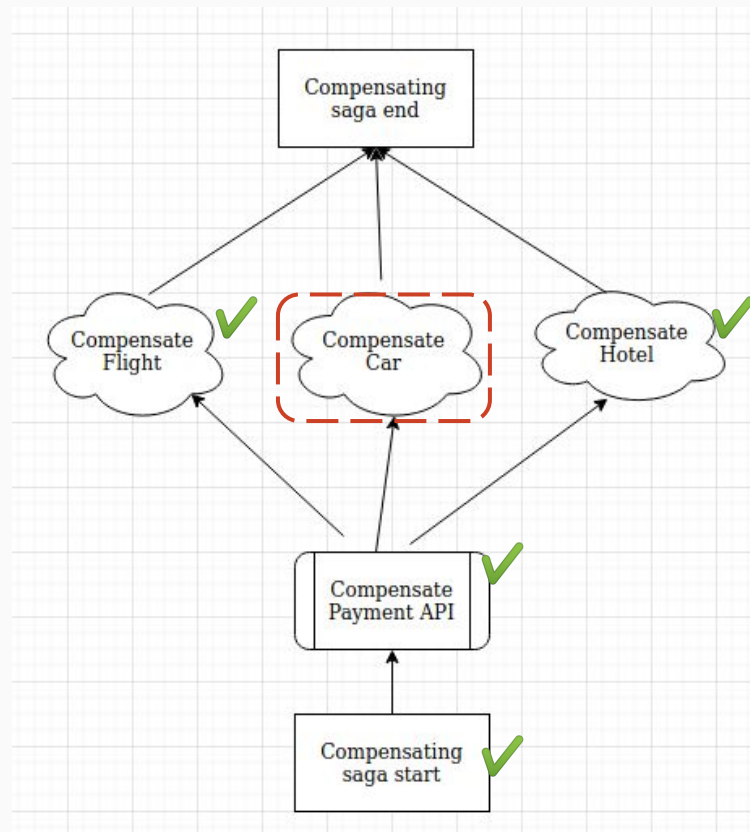
Saga Log

```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
Start Flight
---
Abort Flight
---
Comp Hotel
---
End Car
---
```

Done

SEC

Cancel Car
Reservation



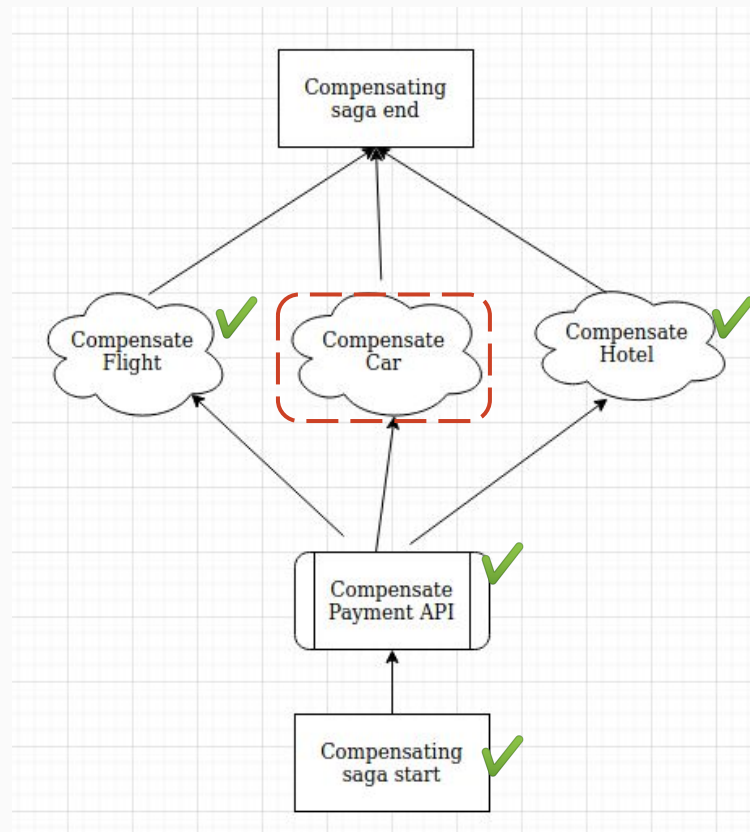
Saga Log

```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
Start Flight
---
Abort Flight
---
Comp Hotel
---
End Car
---
```

Comp Car

SEC

Cancel
Success

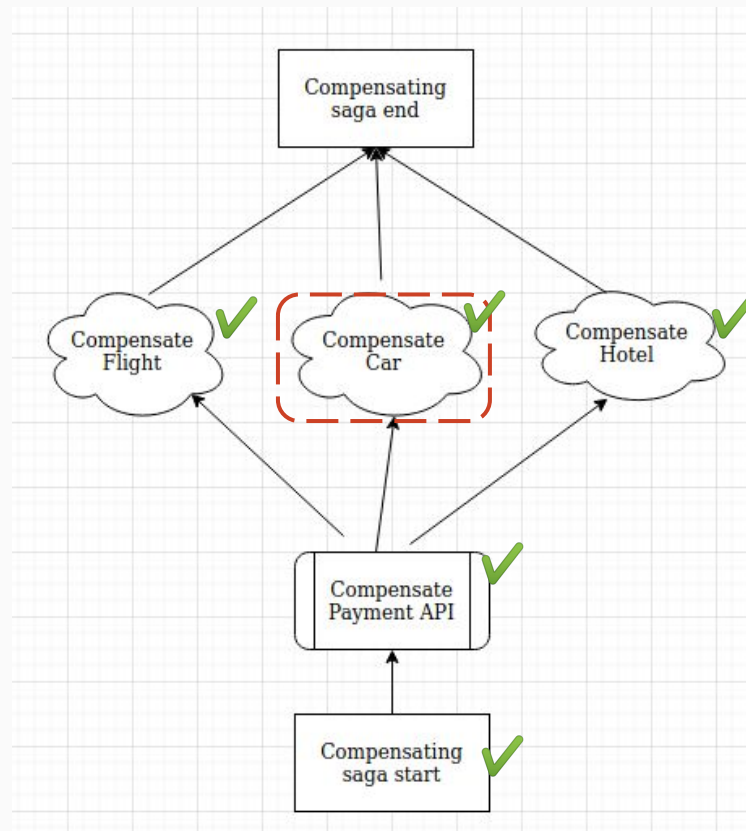


Saga Log

```
Start Saga
---
Start hotel
---
End Hotel
---
Start Car
---
Start Flight
---
Abort Flight
---
Comp Hotel
---
End Car
---
Comp Car
```

Done

SEC



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

Start Flight

Abort Flight

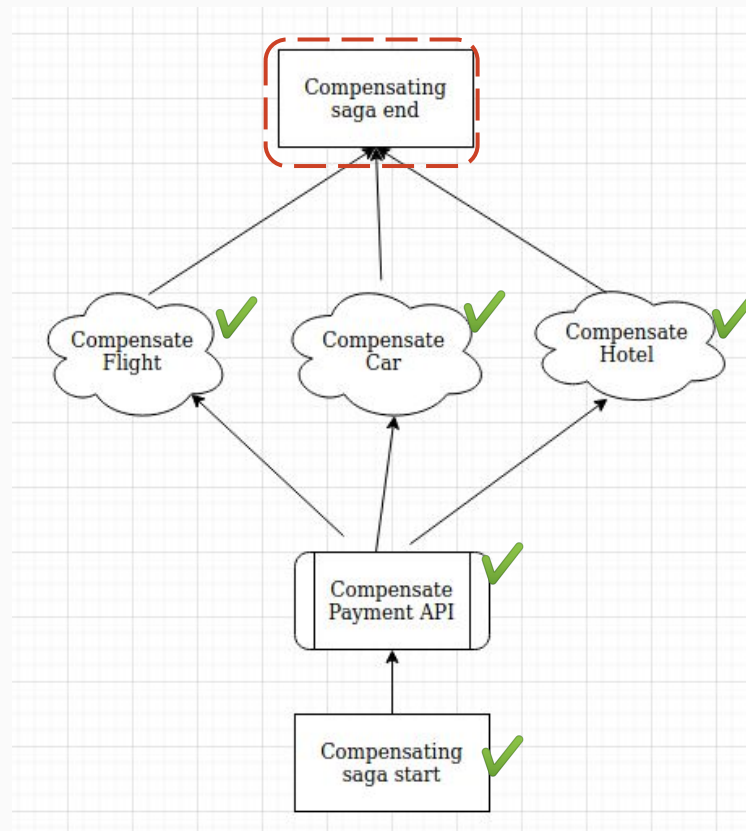
Comp Hotel

End Car

Comp Car

End Saga

SEC



Saga Log

Start Saga

Start hotel

End Hotel

Start Car

Start Flight

Abort Flight

Comp Hotel

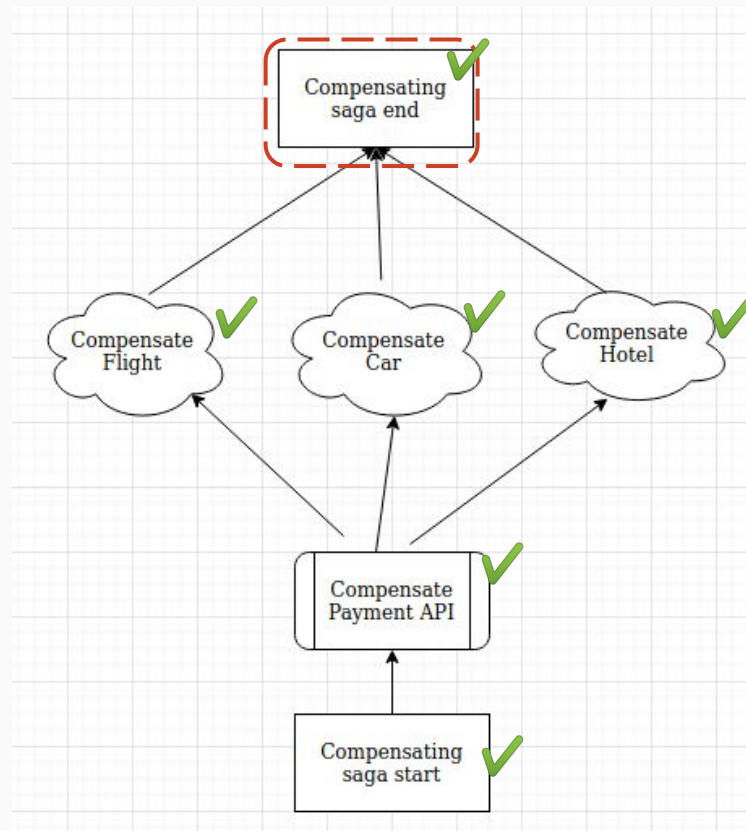
End Car

Comp Car

End Saga

Done

SEC



Guarantees

- All requests were completed successfully
- Or a subset of requests and their corresponding compensating requests were executed