

Leveraging table partitioning for query performance and data archiving





Derk van Veen

Database specialist

Adyen



adyen

engineered
for ambition

Why?

Why?

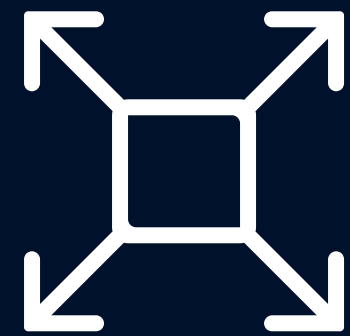


Table size limitation



Easier maintenance



Data life cycle management





Dates





2025-01-01



2025-02-01

2025-02-01

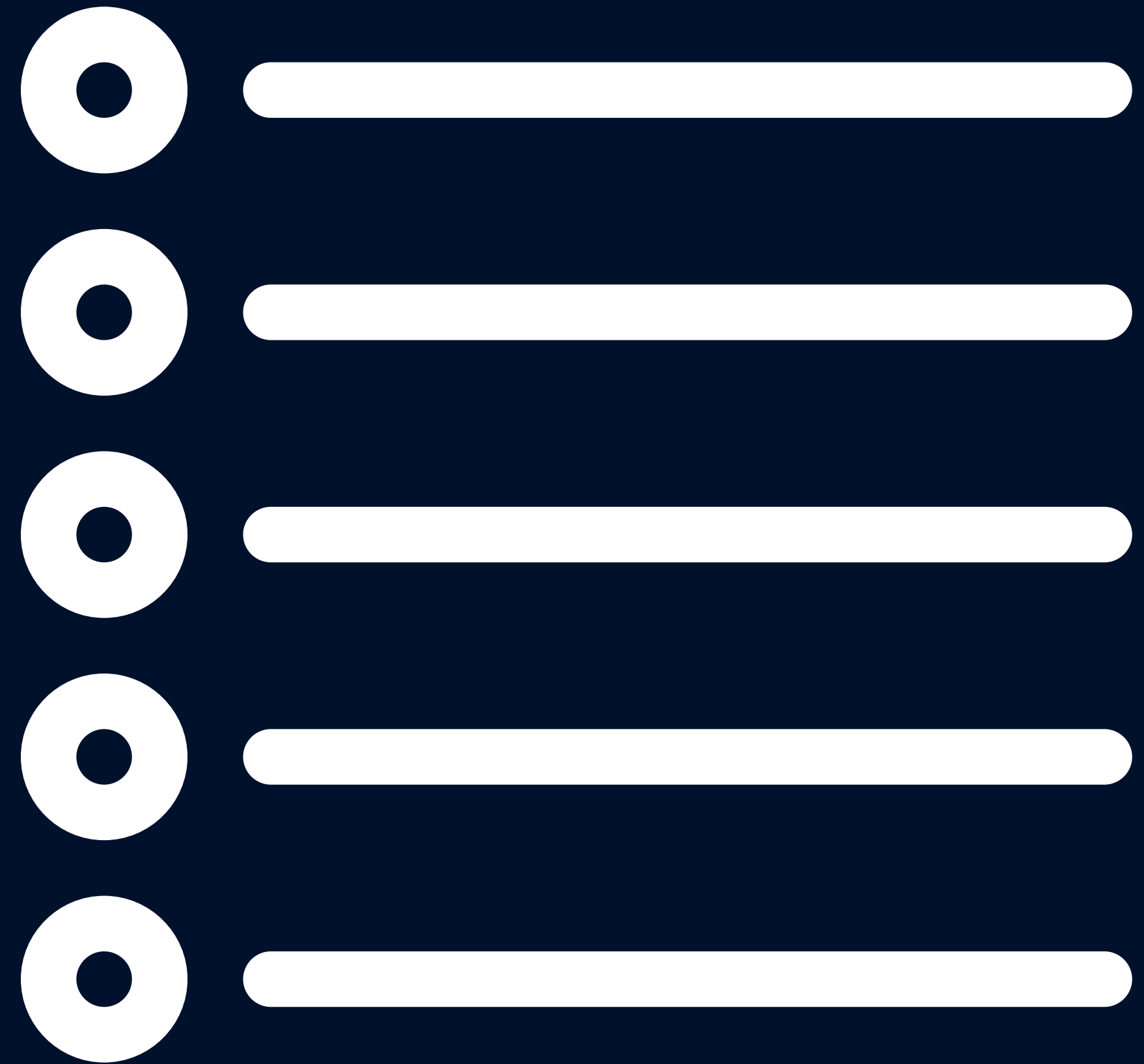


2025-03-01

2025-03-01

2025-04-01

Integer





0000



1000

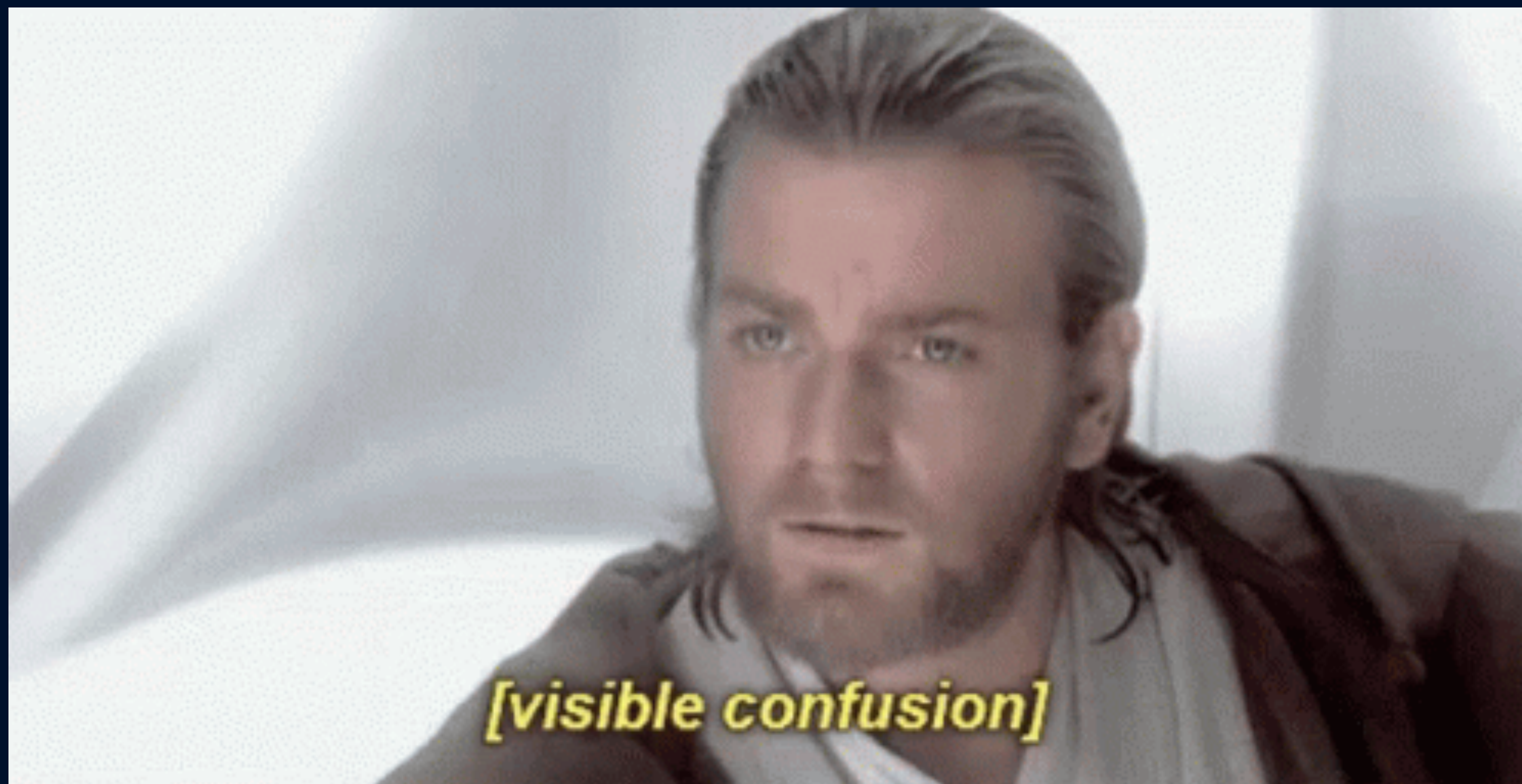


2000

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uuidv7





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Timestamp in ms

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Mostly randomness



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2025-02-01 00:00



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2025-04-01 00:00

Joining tables

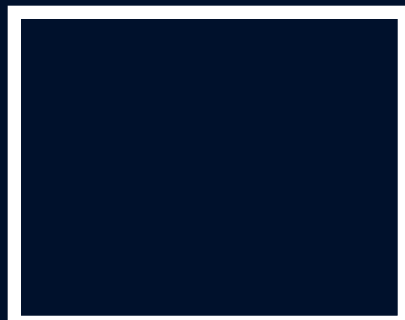
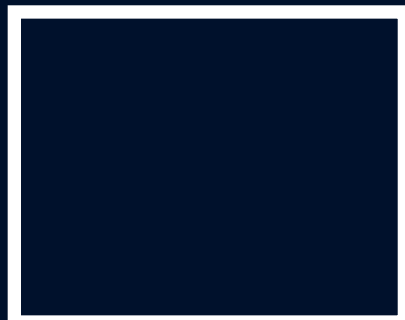
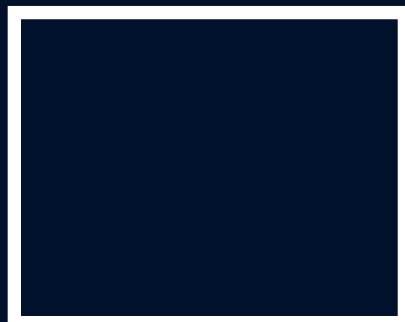
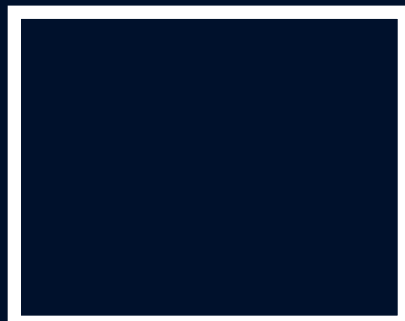


<https://news.wine.co.za/>

Payment

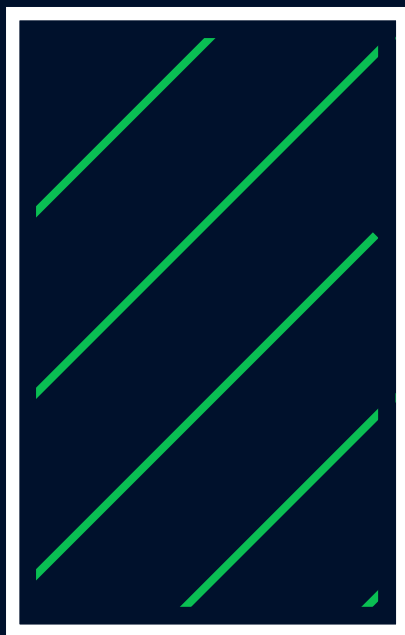


Ledger

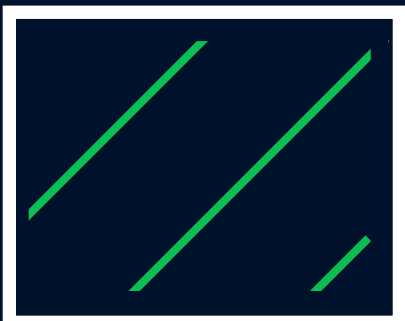


```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 = 500
```


Payment

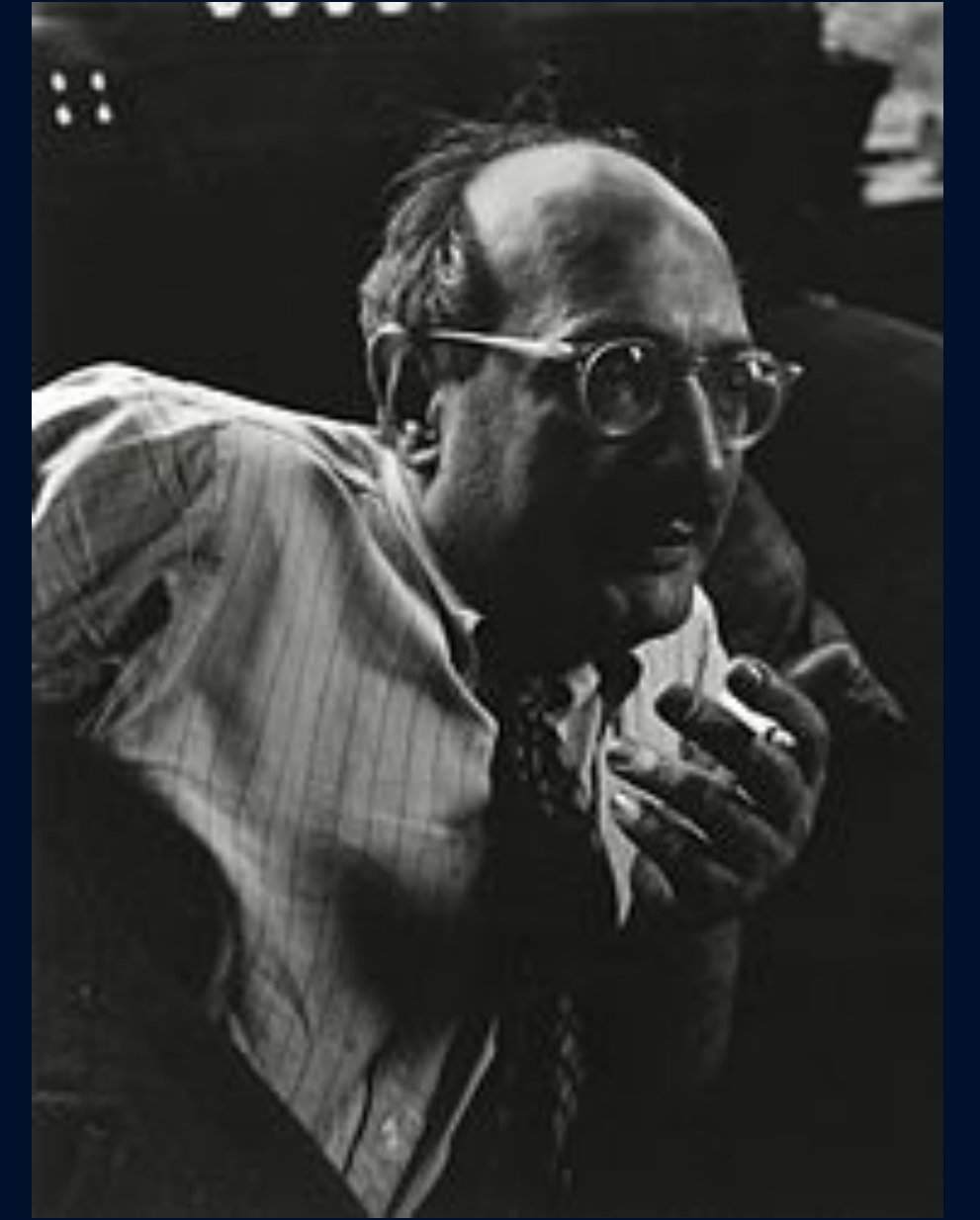


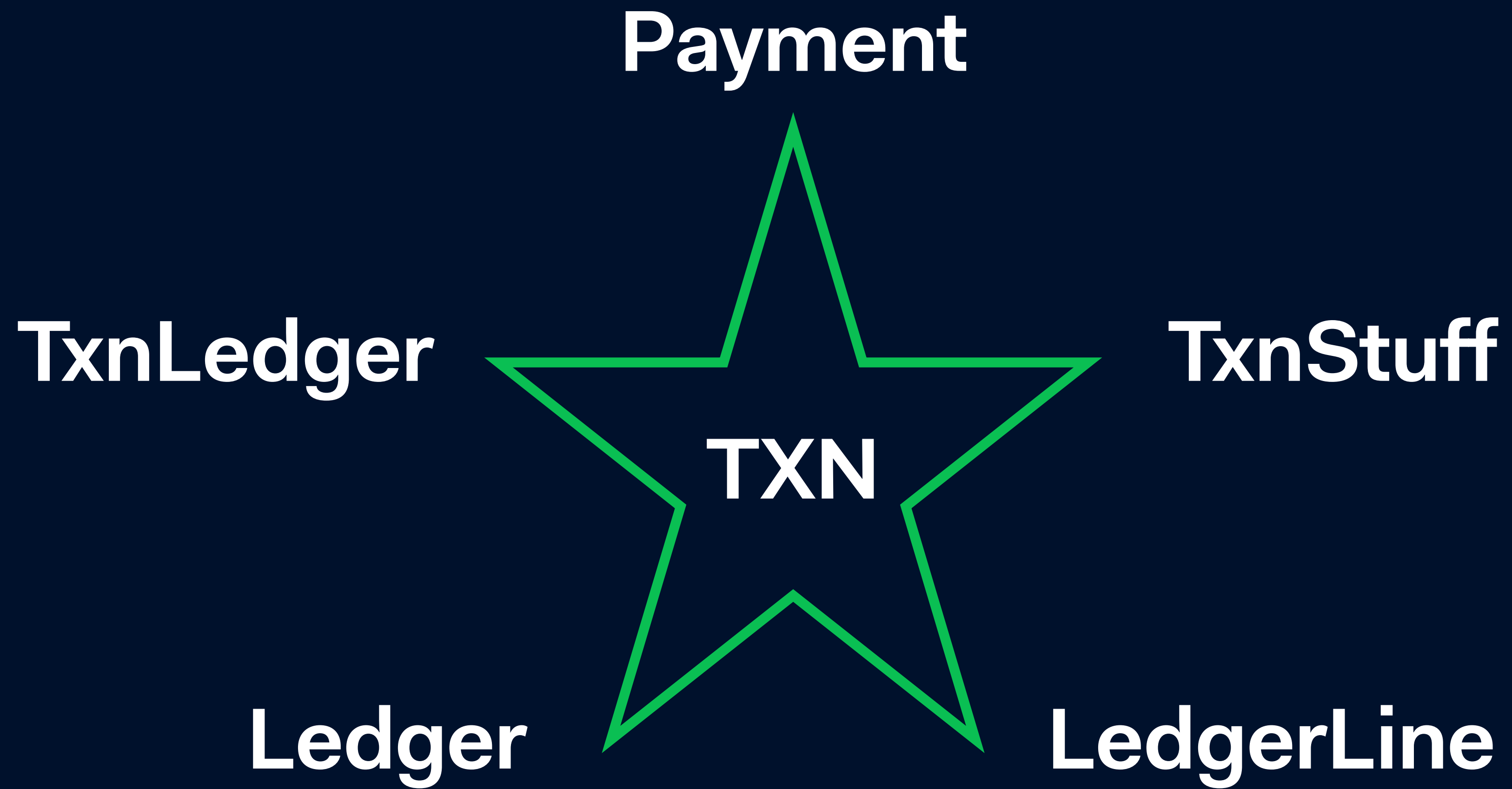
Ledger



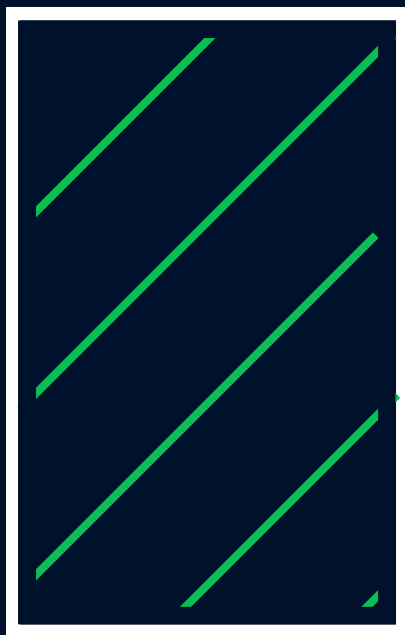
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Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
```

Align your partitions
Around your
leading figure

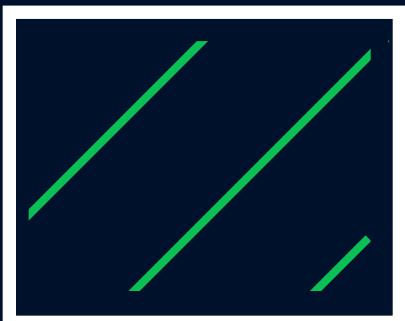
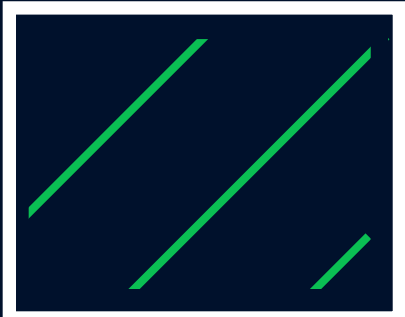




Payment



Ledger



```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
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Payment

Ledger

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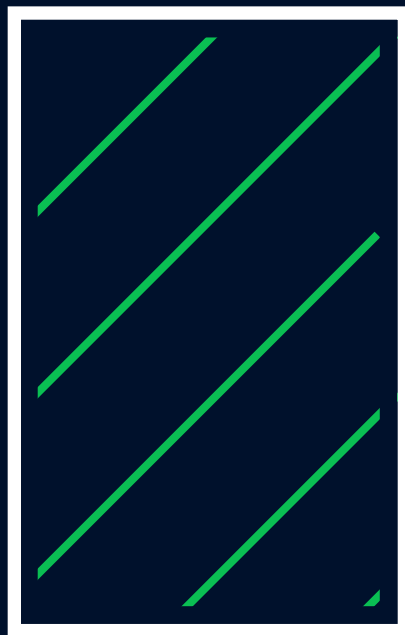
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[illegible]

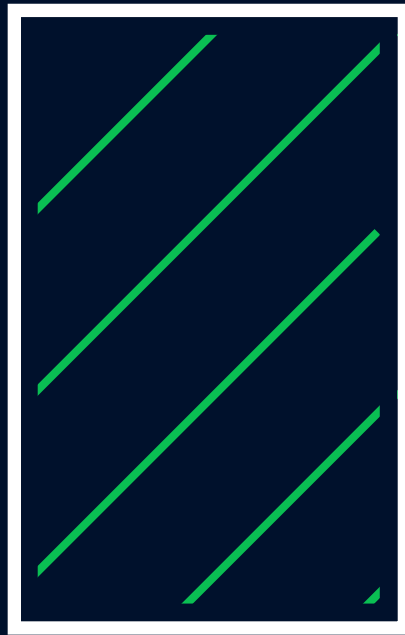
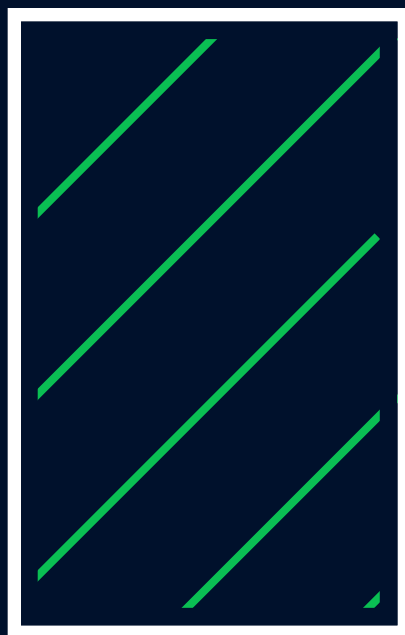
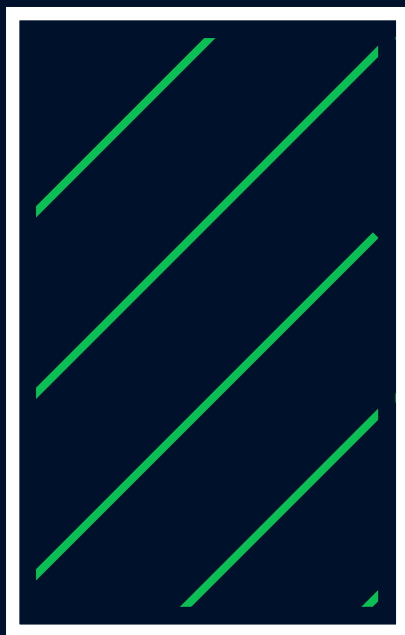
Payment



Ledger



```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
```

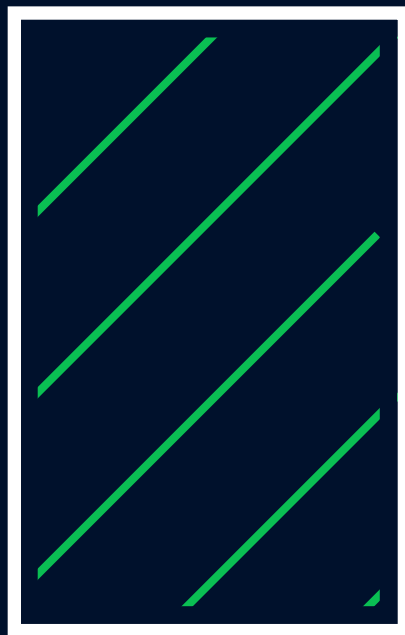




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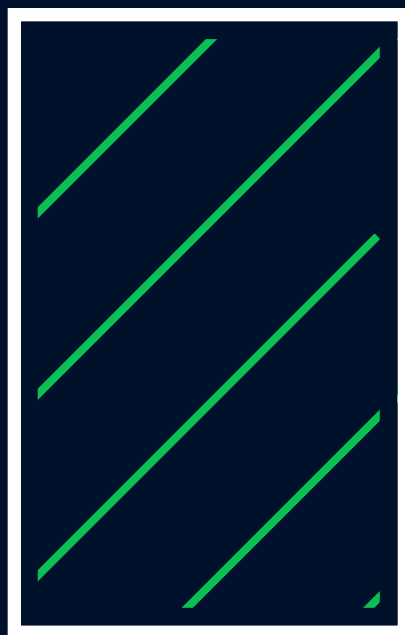
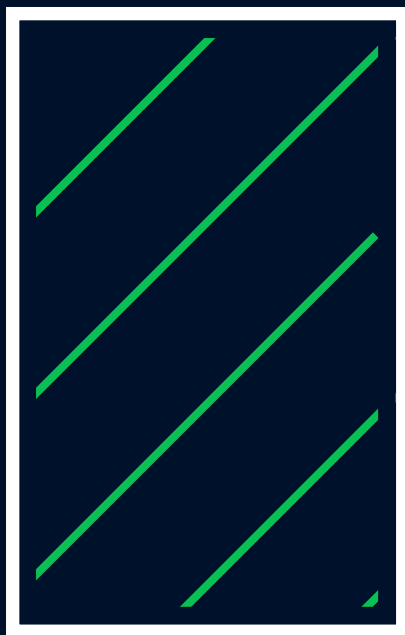


Ledger



enable_partitionwise_join

On



Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)



Transaction

TransactionLedger

Ledger

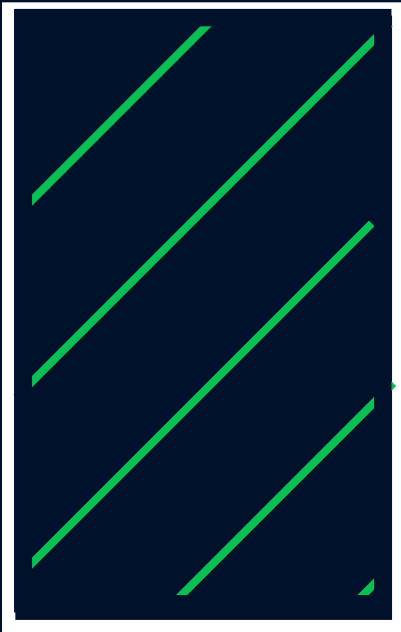
Transaction

TransactionLedger

Ledger



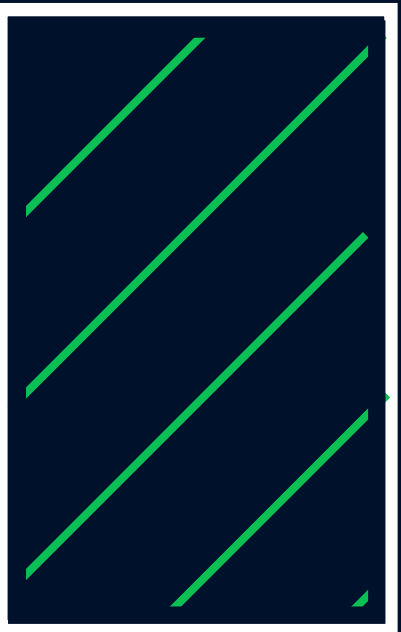
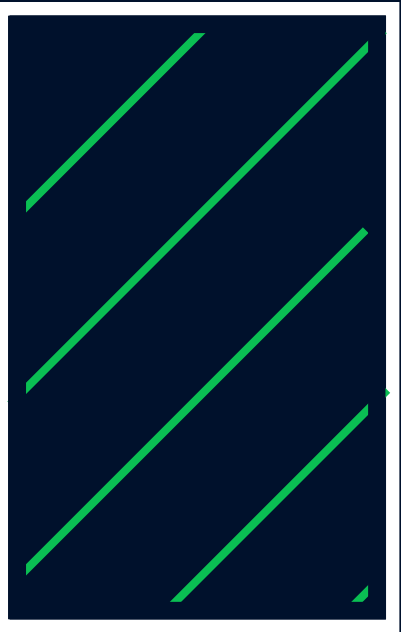
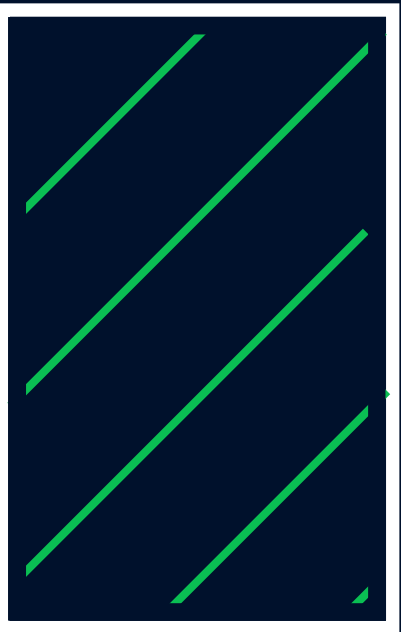
Transaction



TransactionLedger



Ledger



Transaction

TransactionLedger

Ledger

Transaction

Ledger

Transaction



Ledger





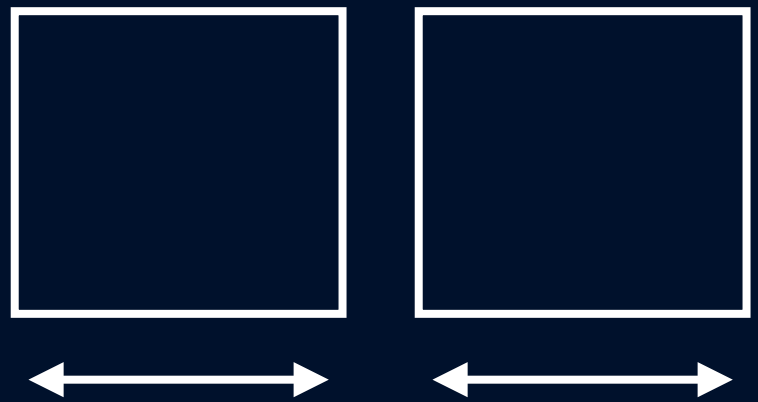
Prerequisites



Leading figure



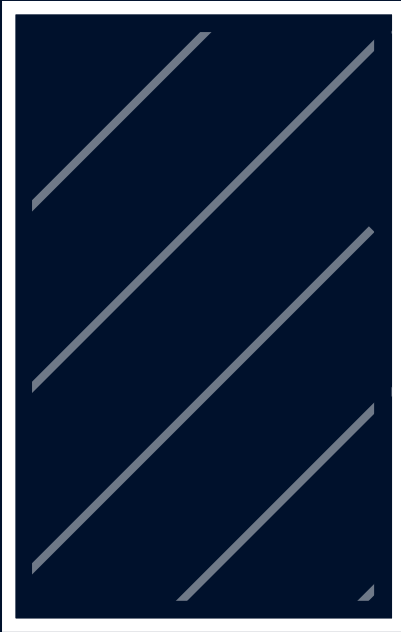
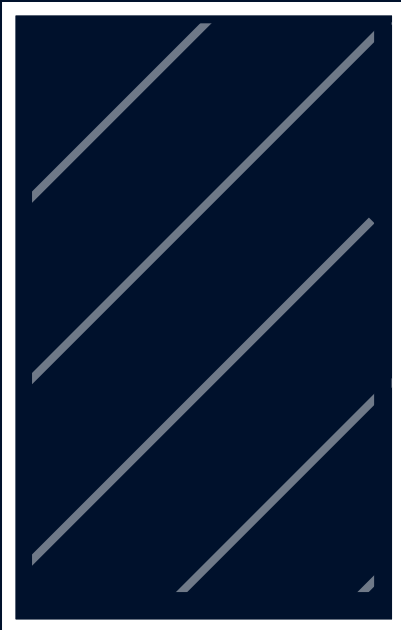
Range based partitioning



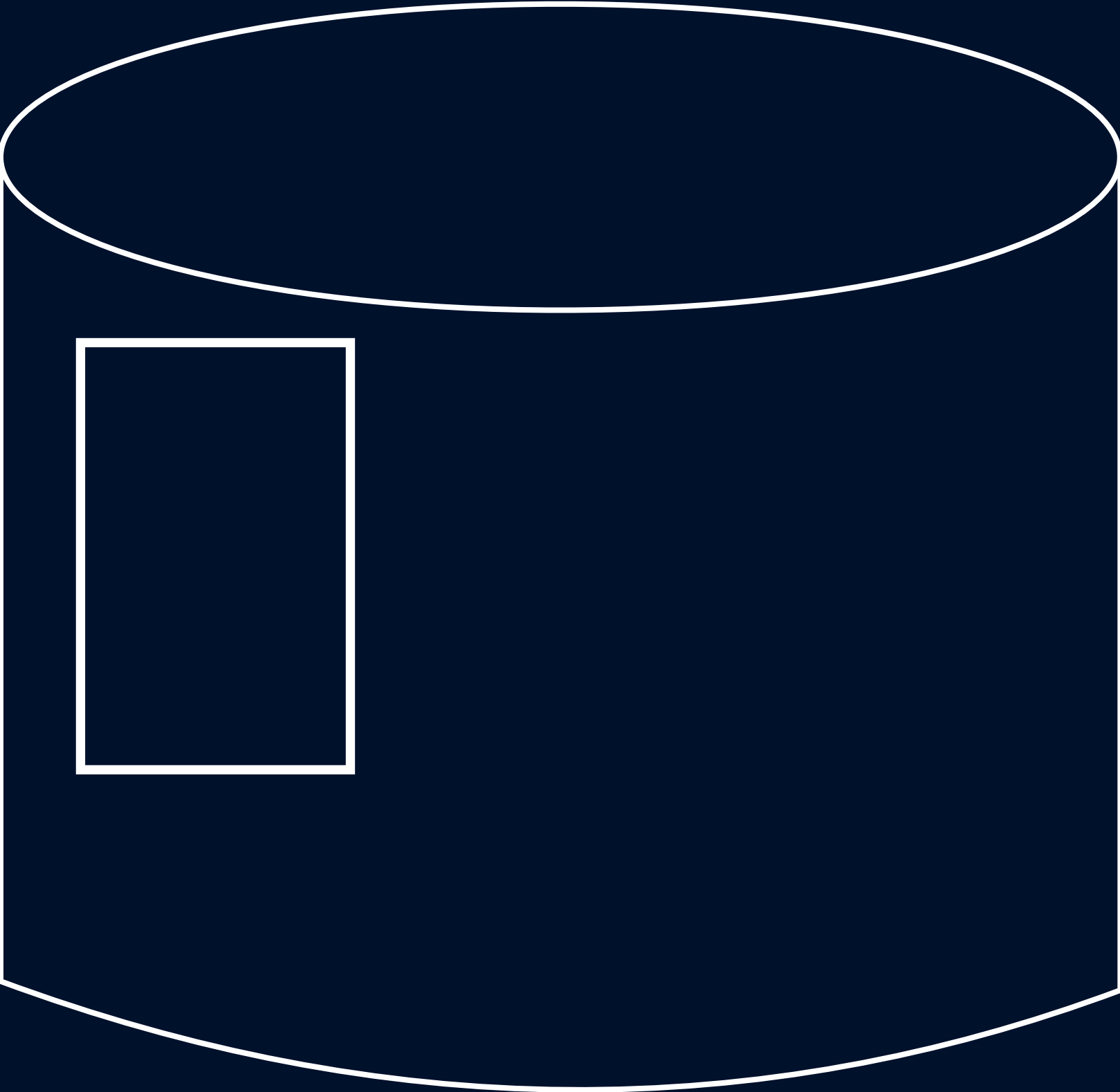
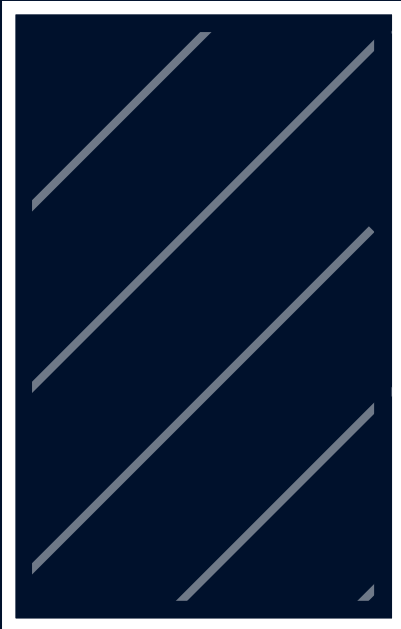
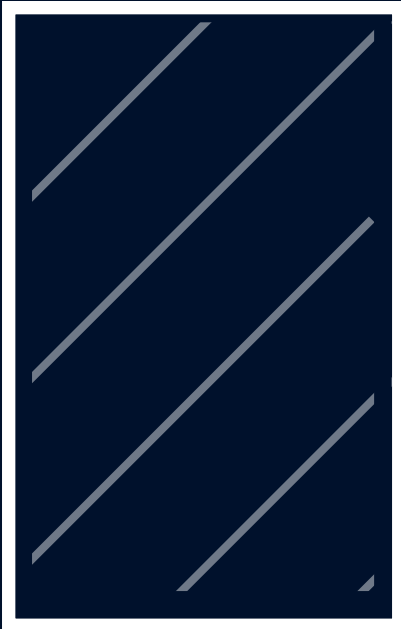
Aligned partitions



Payment

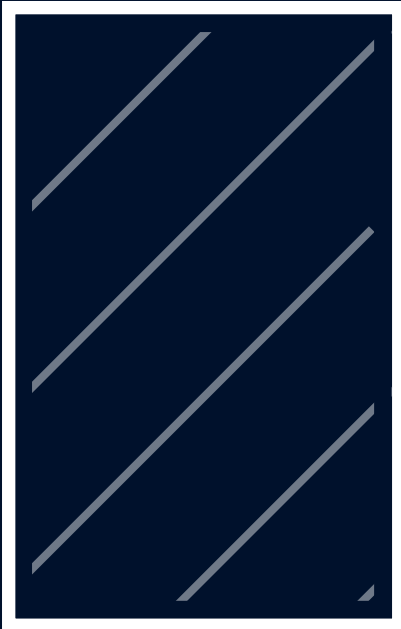
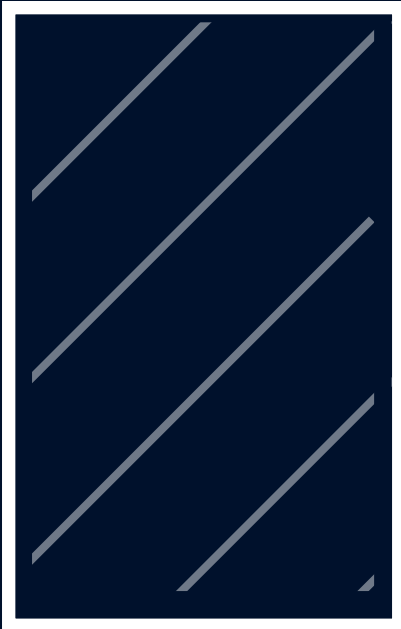


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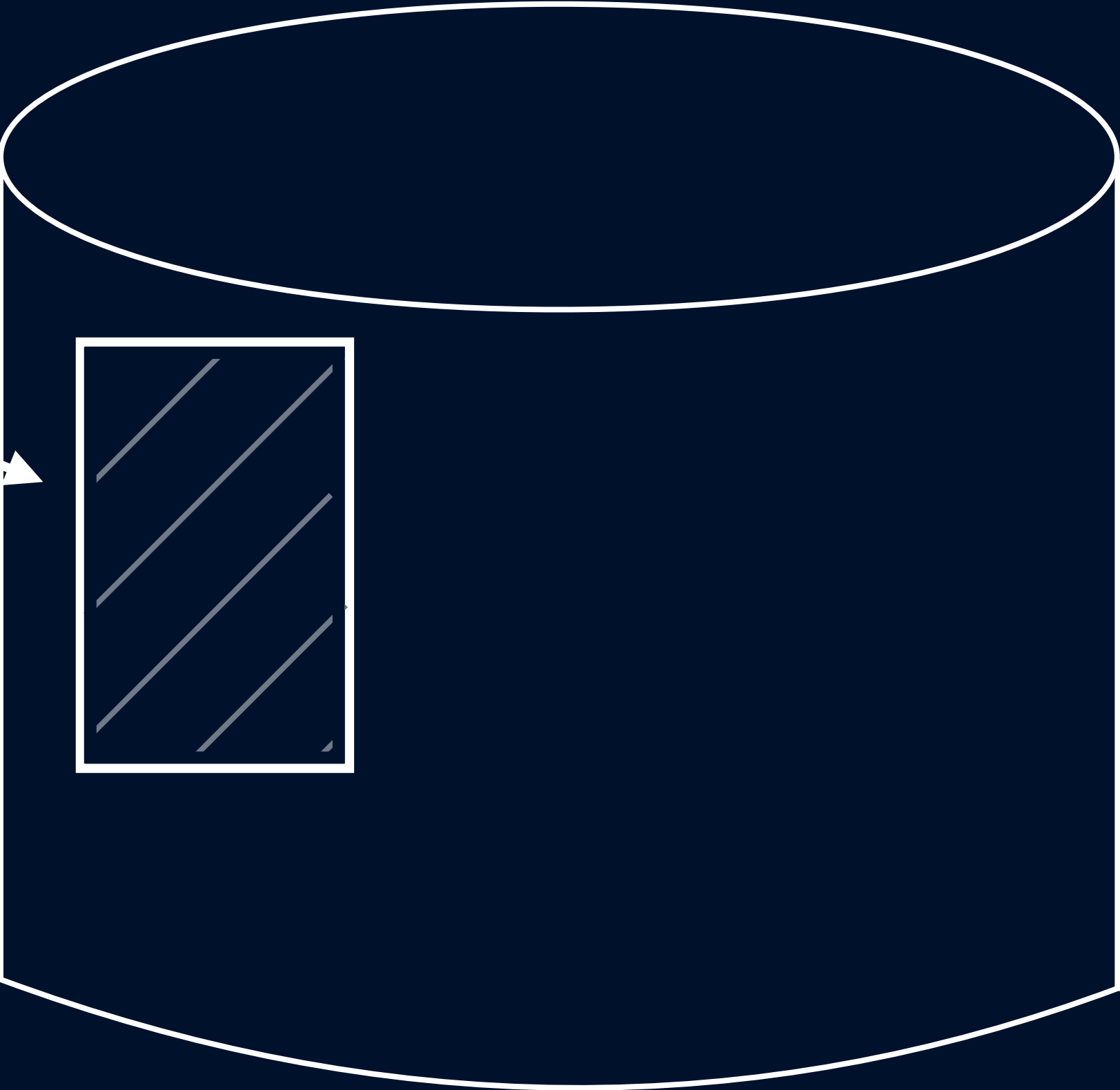


Archive

Payment

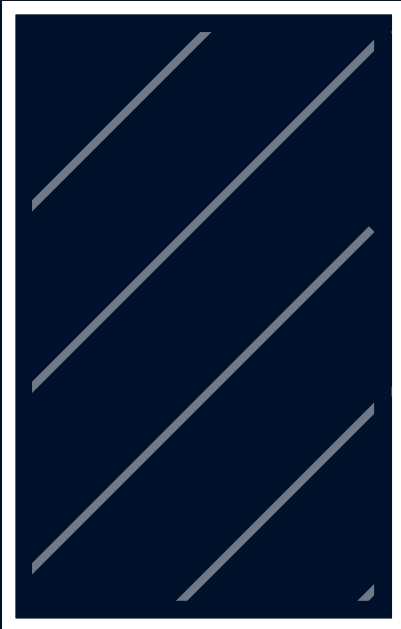
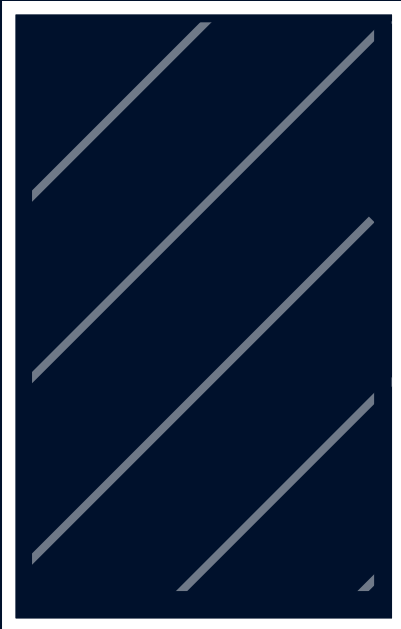


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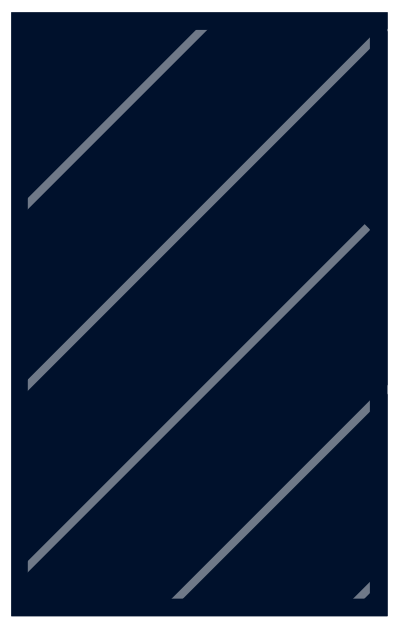


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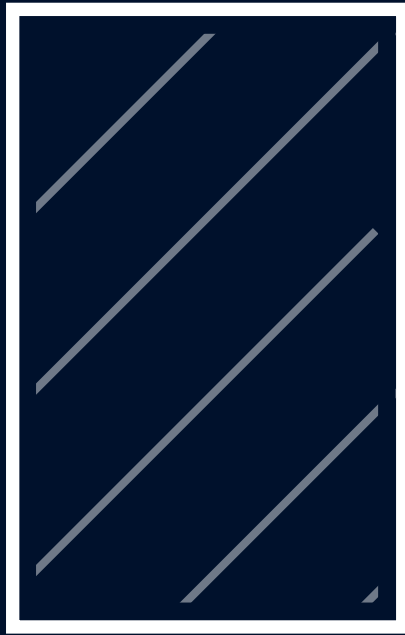
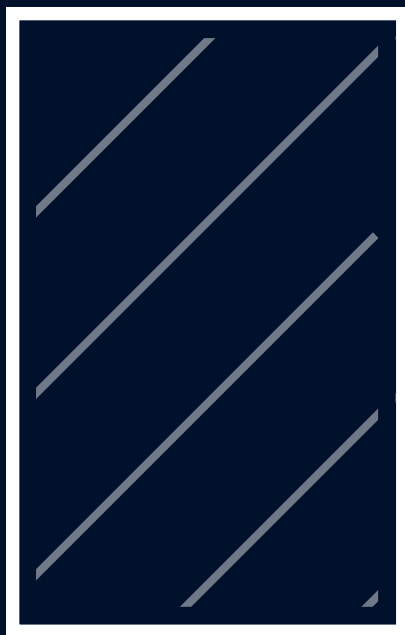


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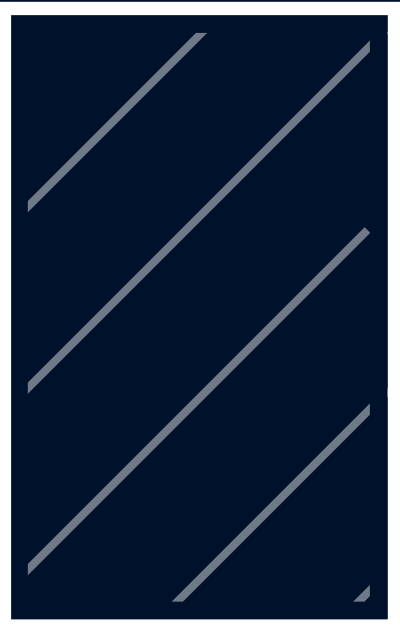
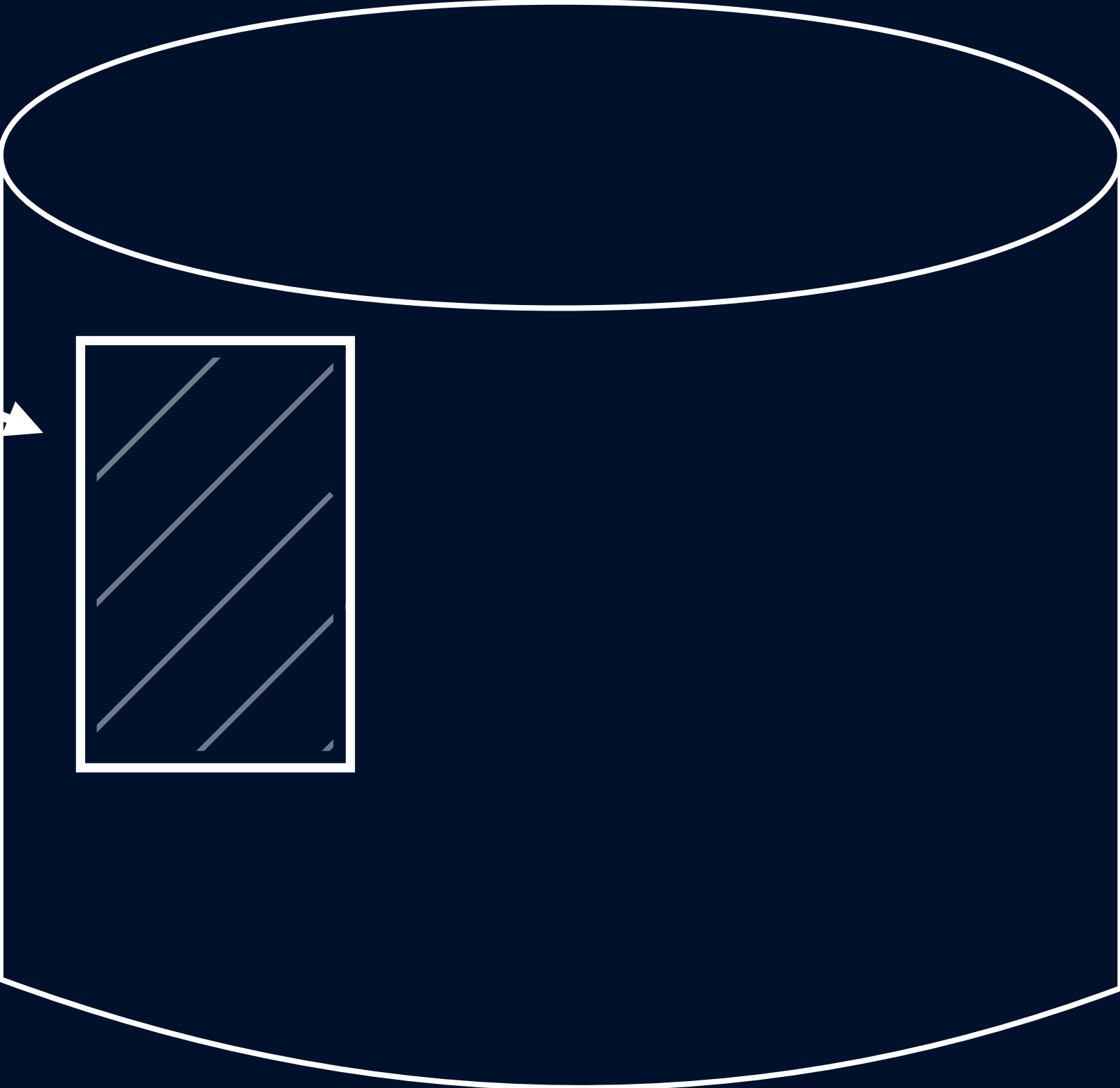


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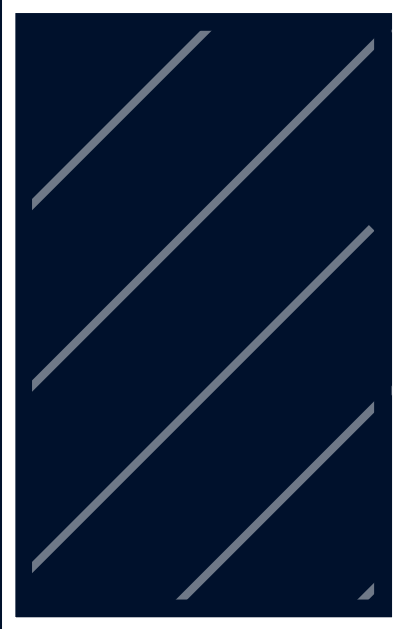
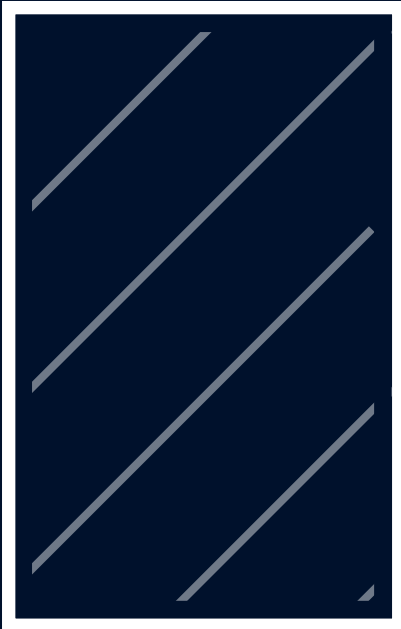


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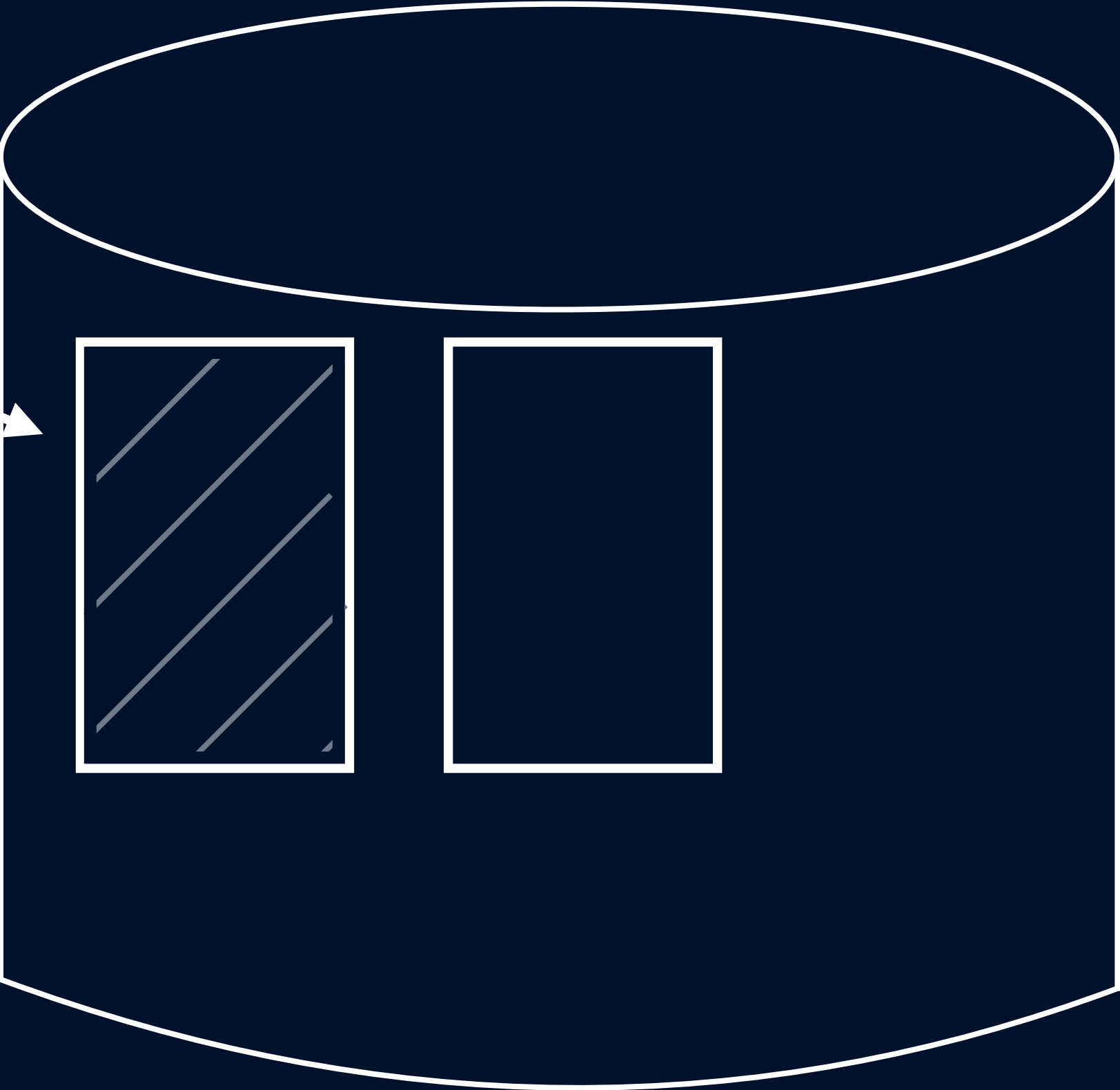


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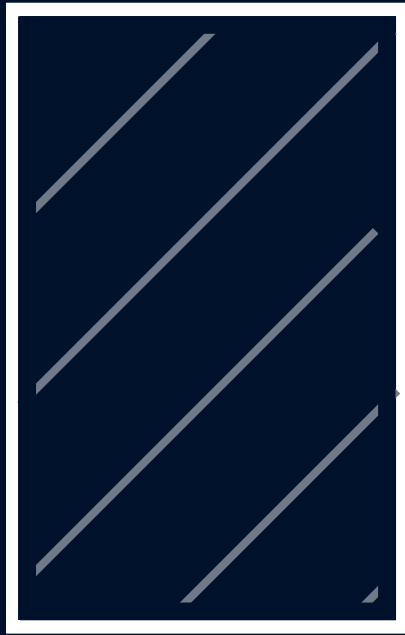
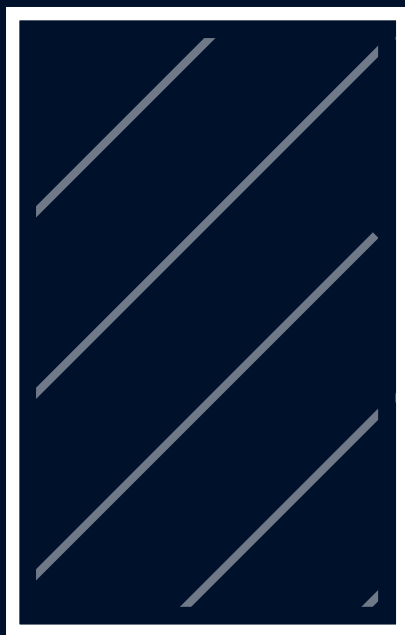


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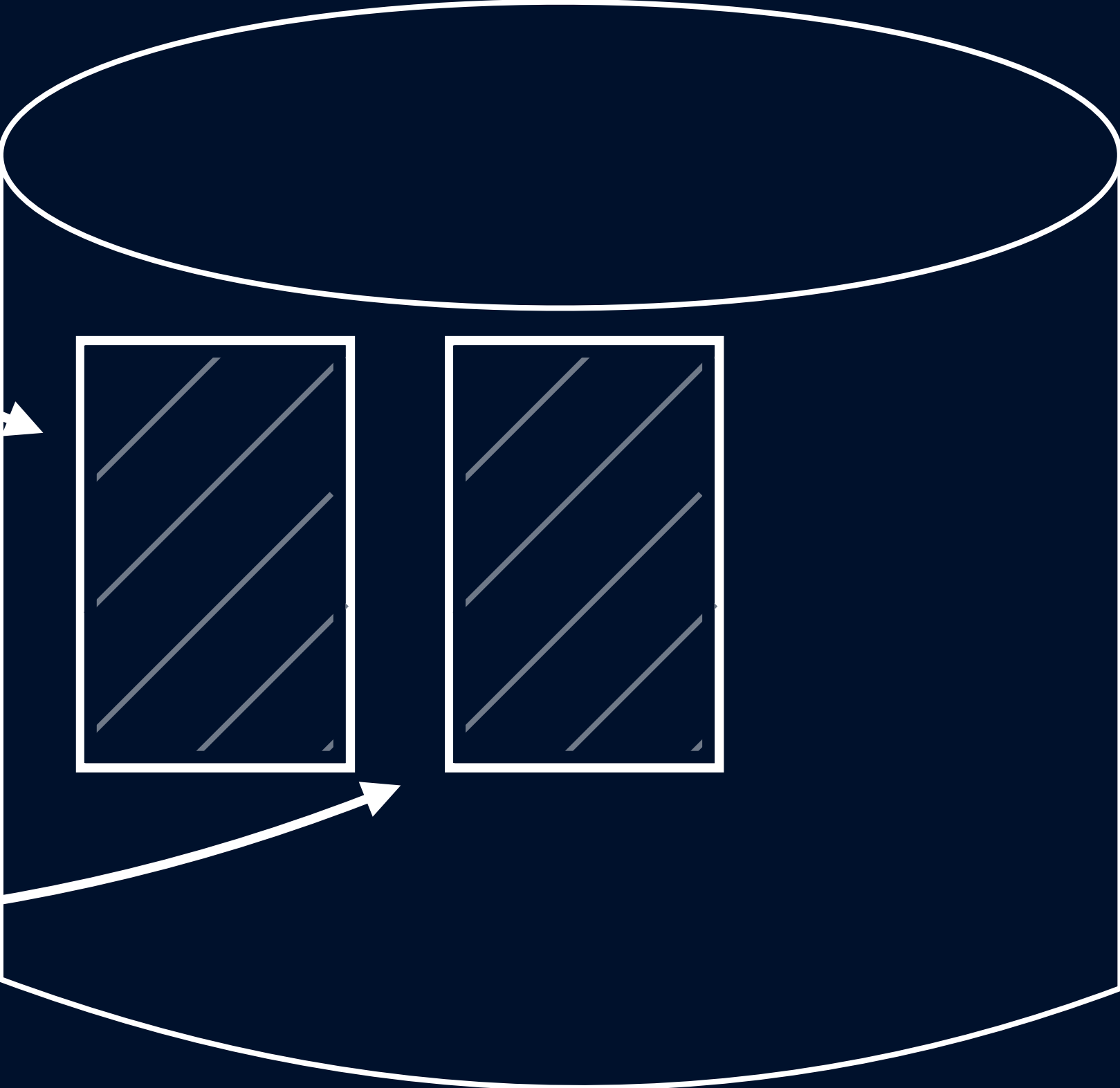


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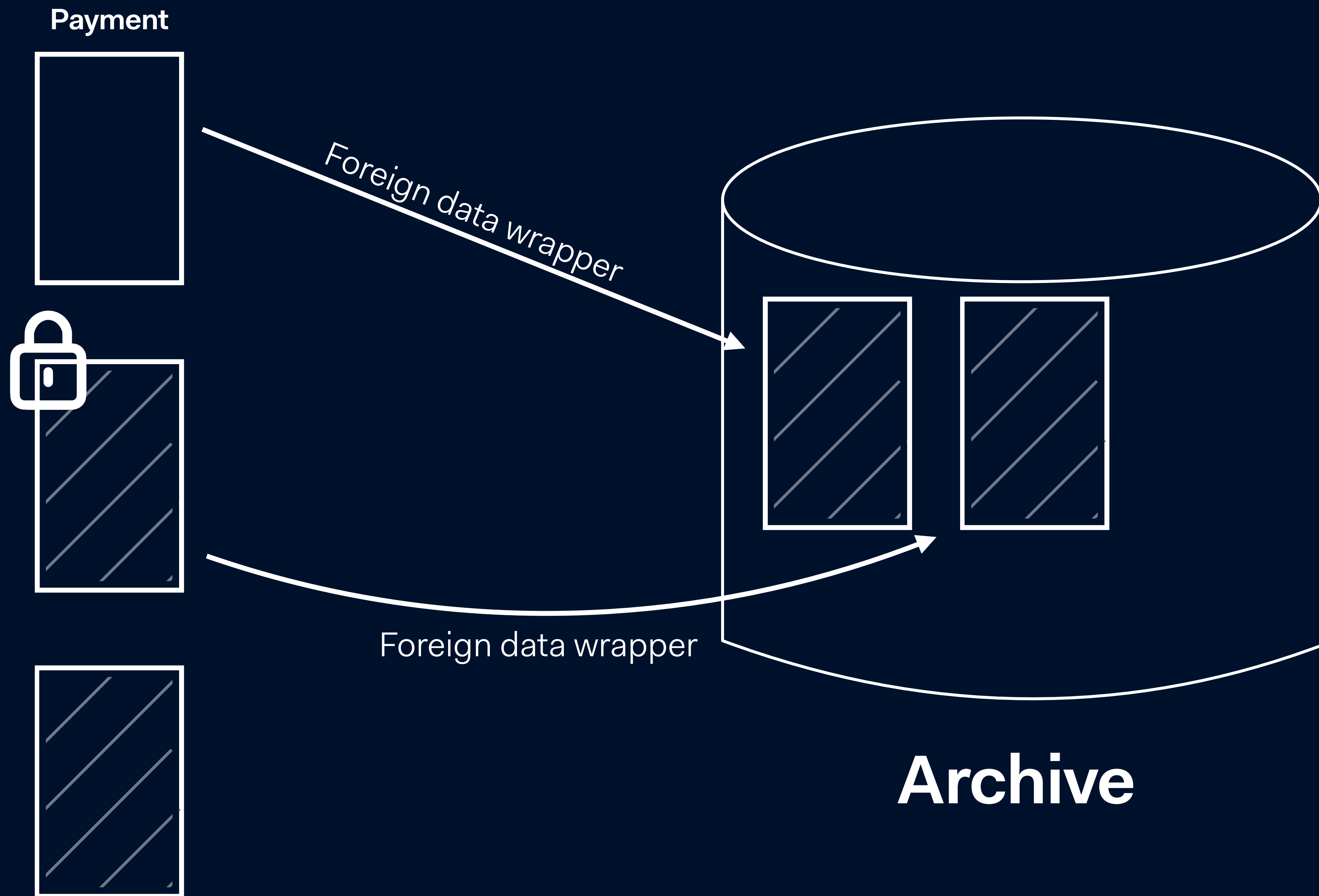


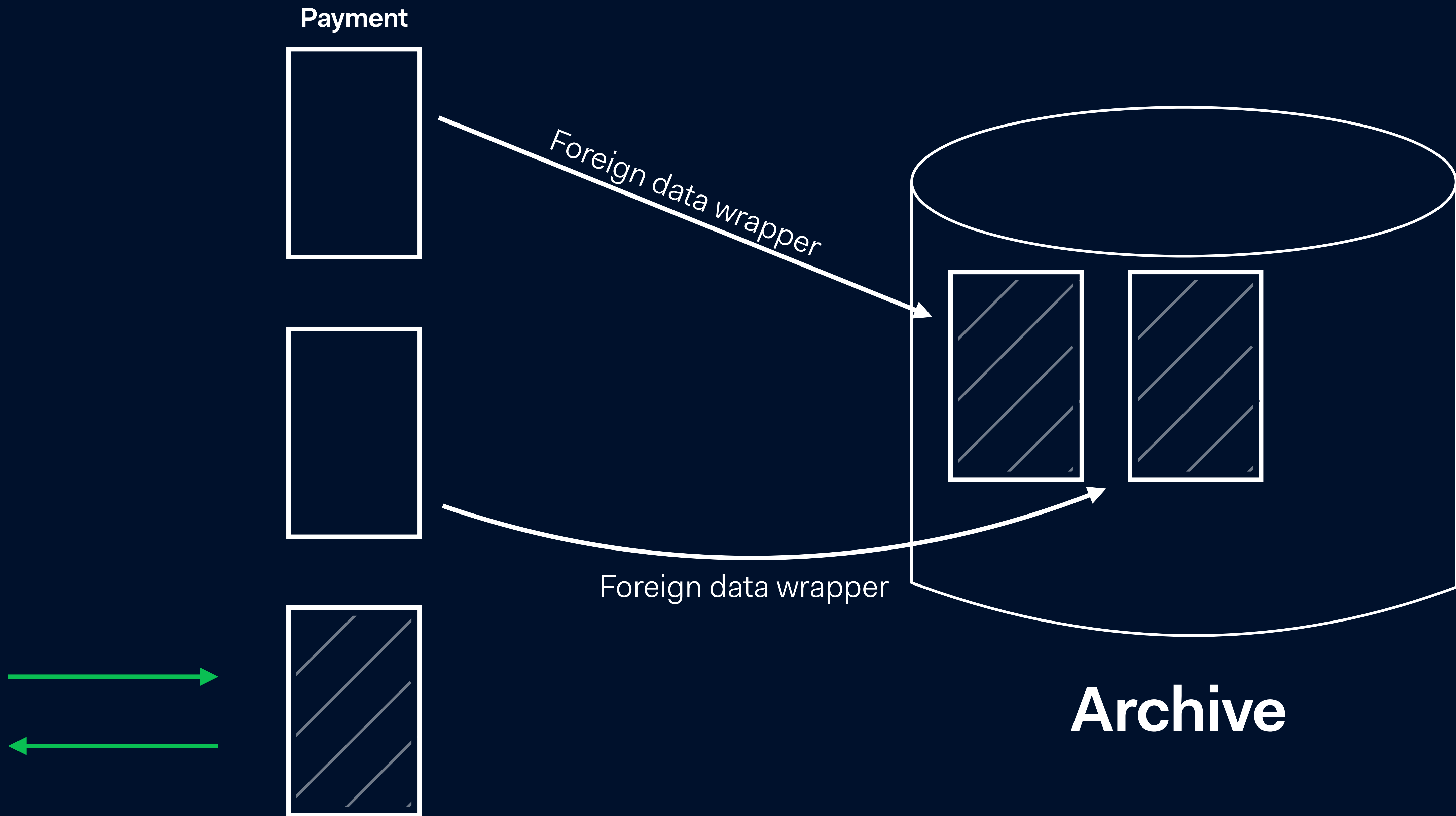
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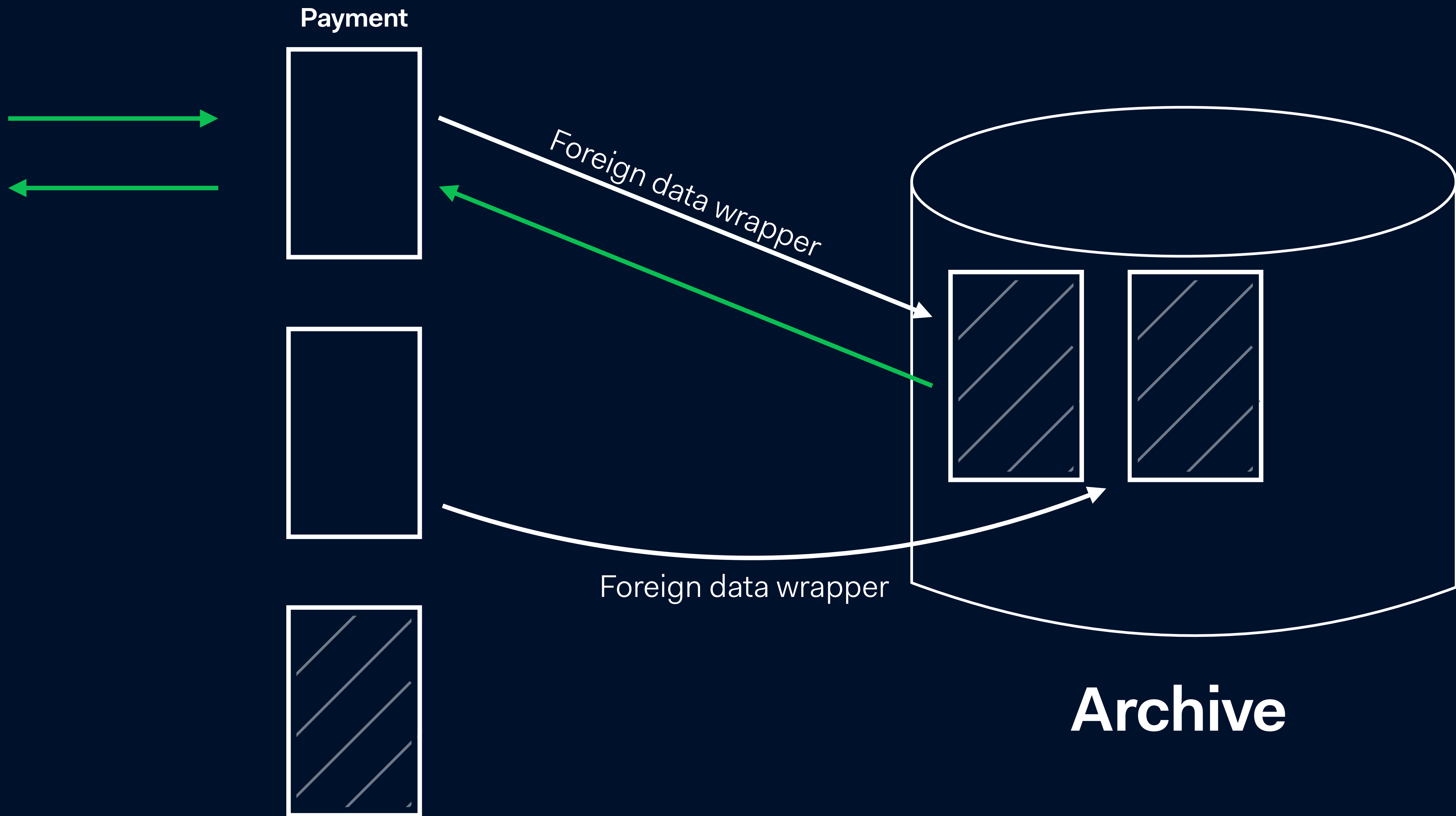


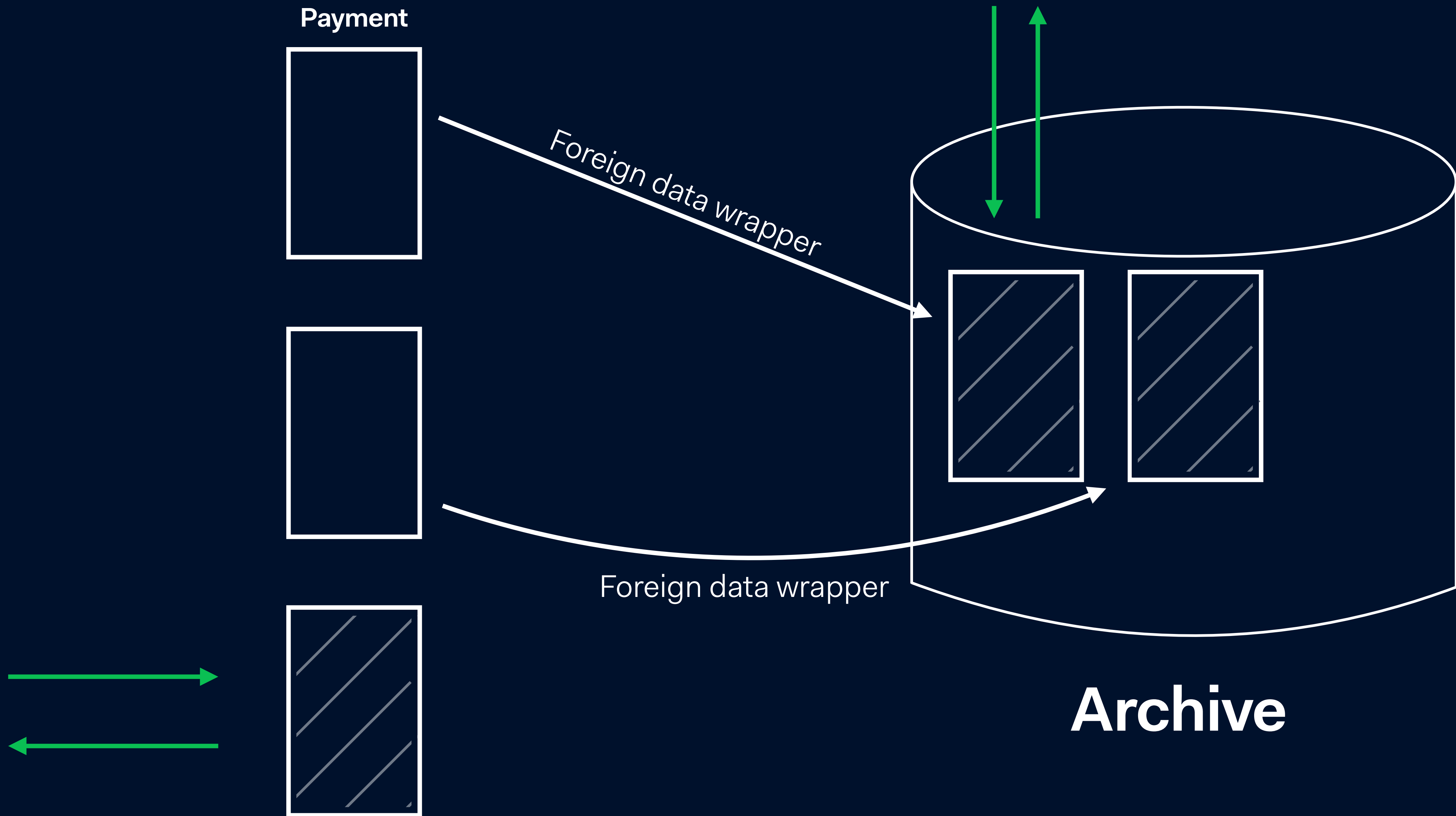
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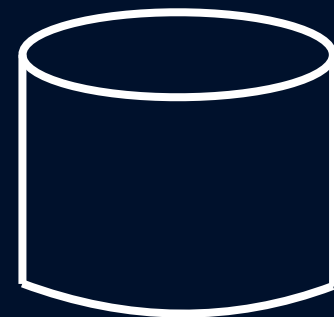
Summary



Range based partitioning



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