

Leveraging table partitioning for query performance and data archiving





Derk van Veen

Database specialist

Adyen



adyen

engineered
for ambition

Why?

Why?

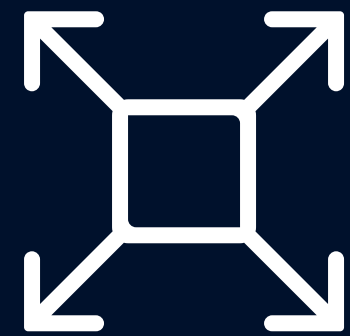


Table size limitation



Easier maintenance



Data life cycle management





Dates





2025-01-01



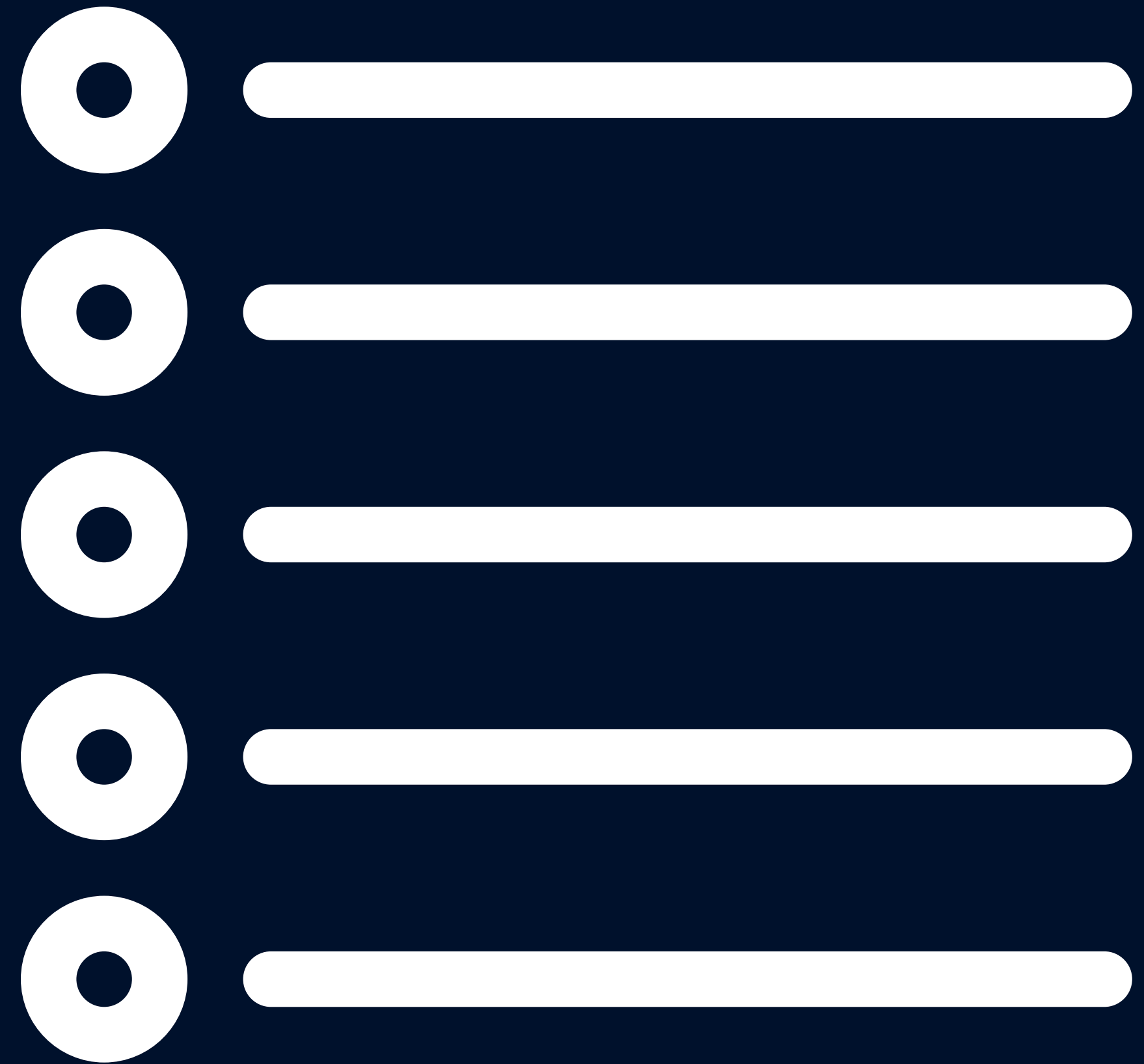
2025-02-01



2025-03-01

2025-04-01

Integer





0000



1000

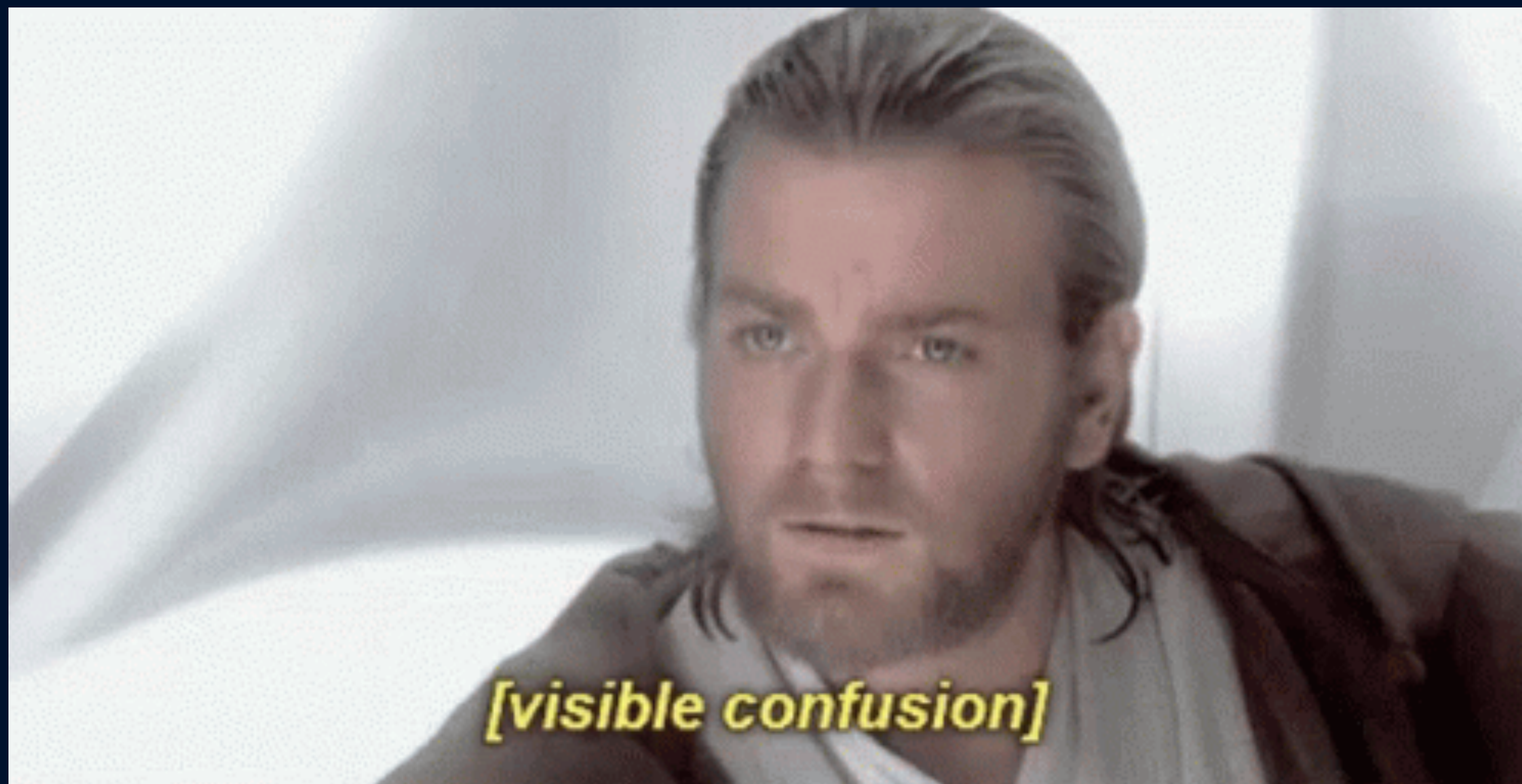


2000

3000

uuidv7





01941ef2-8d80-79b3-86f8-cb0cf9f1f107



Timestamp in ms

01941ef2-8d80-79b3-86f8-cb0cf9f1f107



Mostly randomness



2025-01-01 00:00

0194be97-b180-7000-8000-000000000000



0194be97-b180-7000-8000-000000000000



01954ec9-c180-7000-8000-000000000000

01954ec9-c180-7000-8000-000000000000

0195ee37-f700-7000-8000-000000000000



2025-01-01 00:00



2025-02-01 00:00



2025-03-01 00:00

2025-03-01 00:00

2025-04-01 00:00

Joining tables

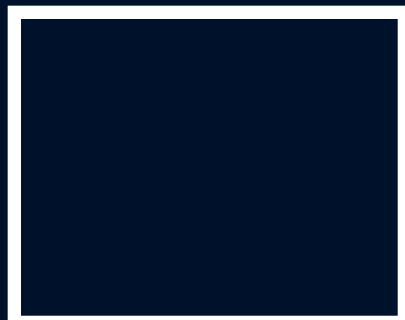
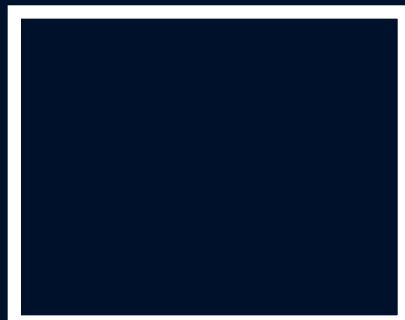
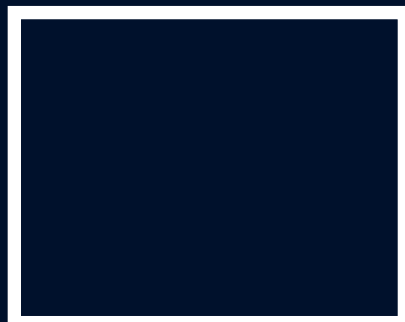
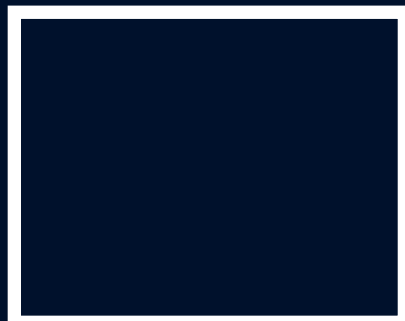


<https://news.wine.co.za/>

Payment

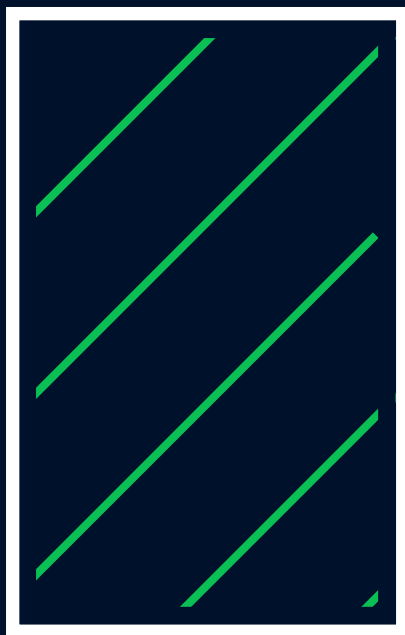


Ledger

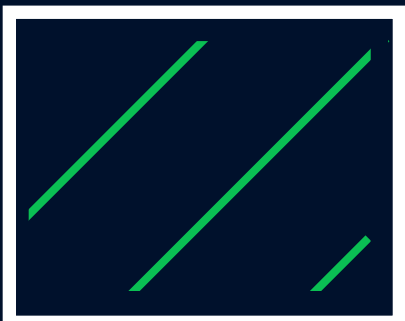


```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 = 500
```

Payment

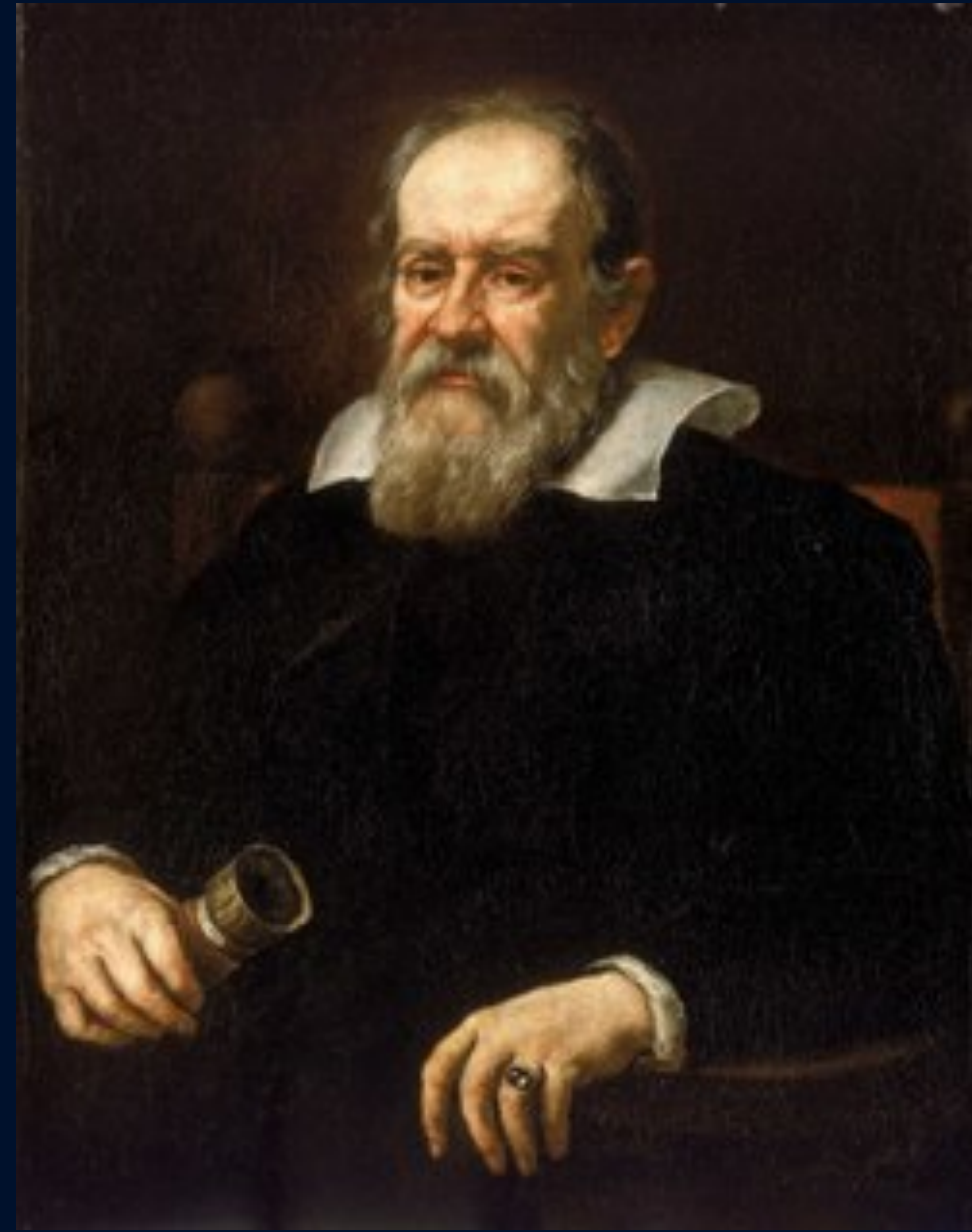


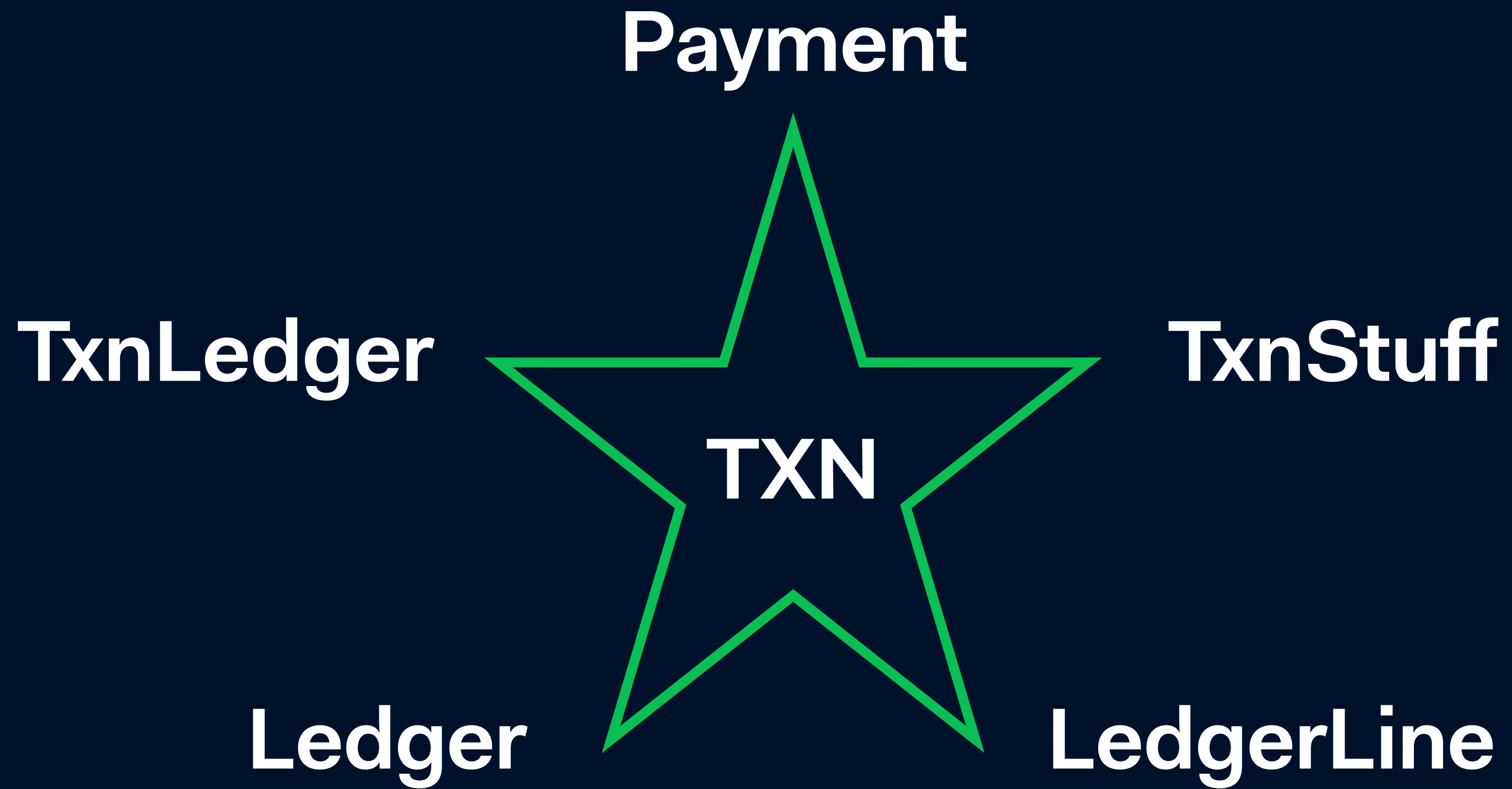
Ledger



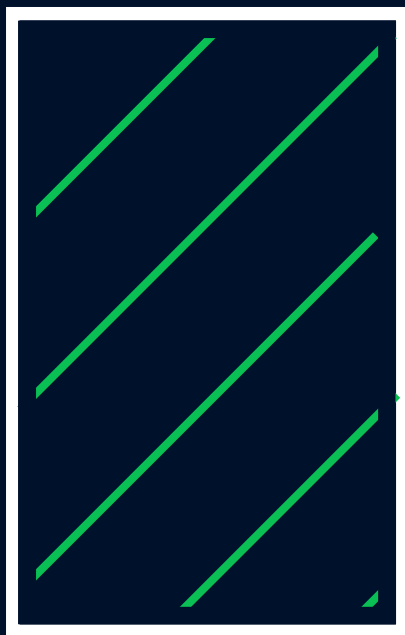
```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
```

Align your partitions
Around your
leading figure

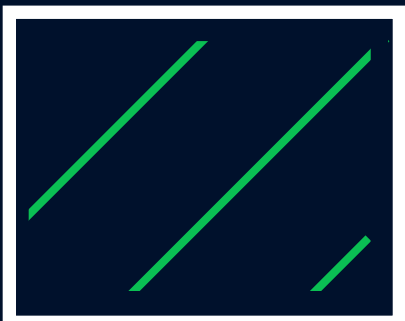




Payment



Ledger



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

Payment

Ledger

[illegible][illegible][illegible]

100

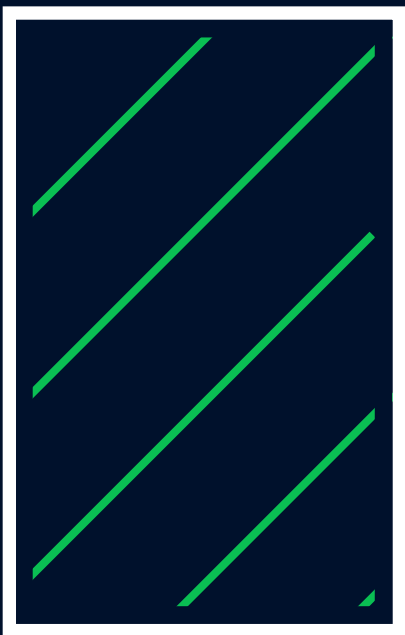
[illegible]

1. *Journal of Management Studies*, 1997, 34(1), 1-14.
 2. *Journal of Management Studies*, 1997, 34(1), 15-29.
 3. *Journal of Management Studies*, 1997, 34(1), 31-45.
 4. *Journal of Management Studies*, 1997, 34(1), 47-61.
 5. *Journal of Management Studies*, 1997, 34(1), 63-77.
 6. *Journal of Management Studies*, 1997, 34(1), 79-93.
 7. *Journal of Management Studies*, 1997, 34(1), 95-109.
 8. *Journal of Management Studies*, 1997, 34(1), 111-125.
 9. *Journal of Management Studies*, 1997, 34(1), 127-141.
 10. *Journal of Management Studies*, 1997, 34(1), 143-157.
 11. *Journal of Management Studies*, 1997, 34(1), 159-173.
 12. *Journal of Management Studies*, 1997, 34(1), 175-189.
 13. *Journal of Management Studies*, 1997, 34(1), 191-205.
 14. *Journal of Management Studies*, 1997, 34(1), 207-221.
 15. *Journal of Management Studies*, 1997, 34(1), 223-237.
 16. *Journal of Management Studies*, 1997, 34(1), 239-253.
 17. *Journal of Management Studies*, 1997, 34(1), 255-269.
 18. *Journal of Management Studies*, 1997, 34(1), 271-285.
 19. *Journal of Management Studies*, 1997, 34(1), 287-301.
 20. *Journal of Management Studies*, 1997, 34(1), 303-317.
 21. *Journal of Management Studies*, 1997, 34(1), 319-333.
 22. *Journal of Management Studies*, 1997, 34(1), 335-349.
 23. *Journal of Management Studies*, 1997, 34(1), 351-365.
 24. *Journal of Management Studies*, 1997, 34(1), 367-381.
 25. *Journal of Management Studies*, 1997, 34(1), 383-397.
 26. *Journal of Management Studies*, 1997, 34(1), 399-413.
 27. *Journal of Management Studies*, 1997, 34(1), 415-429.
 28. *Journal of Management Studies*, 1997, 34(1), 431-445.
 29. *Journal of Management Studies*, 1997, 34(1), 447-461.
 30. *Journal of Management Studies*, 1997, 34(1), 463-477.
 31. *Journal of Management Studies*, 1997, 34(1), 479-493.
 32. *Journal of Management Studies*, 1997, 34(1), 495-509.
 33. *Journal of Management Studies*, 1997, 34(1), 511-525.
 34. *Journal of Management Studies*, 1997, 34(1), 527-541.
 35. *Journal of Management Studies*, 1997, 34(1), 543-557.
 36. *Journal of Management Studies*, 1997, 34(1), 559-573.
 37. *Journal of Management Studies*, 1997, 34(1), 575-589.
 38. *Journal of Management Studies*, 1997, 34(1), 591-605.
 39. *Journal of Management Studies*, 1997, 34(1), 607-621.
 40. *Journal of Management Studies*, 1997, 34(1), 623-637.
 41. *Journal of Management Studies*, 1997, 34(1), 639-653.
 42. *Journal of Management Studies*, 1997, 34(1), 655-669.
 43. *Journal of Management Studies*, 1997, 34(1), 671-685.
 44. *Journal of Management Studies*, 1997, 34(1), 687-701.
 45. *Journal of Management Studies*, 1997, 34(1), 703-717.
 46. *Journal of Management Studies*, 1997, 34(1), 719-733.
 47. *Journal of Management Studies*, 1997, 34(1), 735-749.
 48. *Journal of Management Studies*, 1997, 34(1), 751-765.
 49. *Journal of Management Studies*, 1997, 34(1), 767-781.
 50. *Journal of Management Studies*, 1997, 34(1), 783-797.
 51. *Journal of Management Studies*, 1997, 34(1), 799-813.
 52. *Journal of Management Studies*, 1997, 34(1), 815-829.
 53. *Journal of Management Studies*, 1997, 34(1), 831-845.
 54. *Journal of Management Studies*, 1997, 34(1), 847-861.
 55. *Journal of Management Studies*, 1997, 34(1), 863-877.
 56. *Journal of Management Studies*, 1997, 34(1), 879-893.
 57. *Journal of Management Studies*, 1997, 34(1), 895-909.
 58. *Journal of Management Studies*, 1997, 34(1), 911-925.
 59. *Journal of Management Studies*, 1997, 34(1), 927-941.
 60. *Journal of Management Studies*, 1997, 34(1), 943-957.
 61. *Journal of Management Studies*, 1997, 34(1), 959-973.
 62. *Journal of Management Studies*, 1997, 34(1), 975-989.
 63. *Journal of Management Studies*, 1997, 34(1), 991-1005.
 64. *Journal of Management Studies*, 1997, 34(1), 1007-1021.
 65. *Journal of Management Studies*, 1997, 34(1), 1023-1037.
 66. *Journal of Management Studies*, 1997, 34(1), 1039-1053.
 67. *Journal of Management Studies*, 1997, 34(1), 1055-1069.
 68. *Journal of Management Studies*, 1997, 34(1), 1071-1085.
 69. *Journal of Management Studies*, 1997, 34(1), 1087-1101.
 70. *Journal of Management Studies*, 1997, 34(1), 1103-1117.
 71. *Journal of Management Studies*, 1997, 34(1), 1119-1133.
 72. *Journal of Management Studies*, 1997, 34(1), 1135-1149.
 73. *Journal of Management Studies*, 1997, 34(1), 1151-1165.
 74. *Journal of Management Studies*, 1997, 34(1), 1167-1181.
 75. *Journal of Management Studies*, 1997, 34(1), 1183-1197.
 76. *Journal of Management Studies*, 1997, 34(1), 1199-1213.
 77. *Journal of Management Studies*, 1997, 34(1), 1215-1229.
 78. *Journal of Management Studies*, 1997, 34(1), 1231-1245.
 79. *Journal of Management Studies*, 1997, 34(1), 1247-1261.
 80. *Journal of Management Studies*, 1997, 34(1), 1263-1277.
 81. *Journal of Management Studies*, 1997, 34(1), 1279-1293.
 82. *Journal of Management Studies*, 1997, 34(1), 1295-1309.
 83. *Journal of Management Studies*, 1997, 34(1), 1311-1325.
 84. *Journal of Management Studies*, 1997, 34(1), 1327-1341.
 85. *Journal of Management Studies*, 1997, 34(1), 1343-1357.
 86. *Journal of Management Studies*, 1997, 34(1), 1359-1373.
 87. *Journal of Management Studies*, 1997, 34(1), 1375-1389.
 88. *Journal of Management Studies*, 1997, 34(1), 1391-1405.
 89. *Journal of Management Studies*, 1997, 34(1), 1407-1421.
 90. *Journal of Management Studies*, 1997, 34(1), 1423-1437.
 91. *Journal of Management Studies*, 1997, 34(1), 1439-1453.
 92. *Journal of Management Studies*, 1997, 34(1), 1455-1469.
 93. *Journal of Management Studies*, 1997, 34(1), 1471-1485.
 94. *Journal of Management Studies*, 1997, 34(1), 1487-1501.
 95. *Journal of Management Studies*, 1997, 34(1), 1503-1517.
 96. *Journal of Management Studies*, 1997, 34(1), 1519-1533.
 97. *Journal of Management Studies*, 1997, 34(1), 1535-1549.
 98. *Journal of Management Studies*, 1997, 34(1), 1551-1565.
 99. *Journal of Management Studies*, 1997, 34(1), 1567-1581.
 100. *Journal of Management Studies*, 1997, 34(1), 1583-1597.
 101. *Journal of Management Studies*, 1997, 34(1), 1599-1613.
 102. *Journal of Management Studies*, 1997, 34(1), 1615-1629.
 103. *Journal of Management Studies*, 1997, 34(1), 1631-1645.
 104. *Journal of Management Studies</*

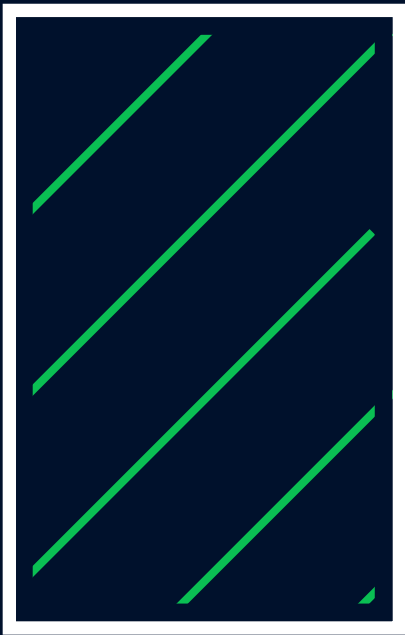
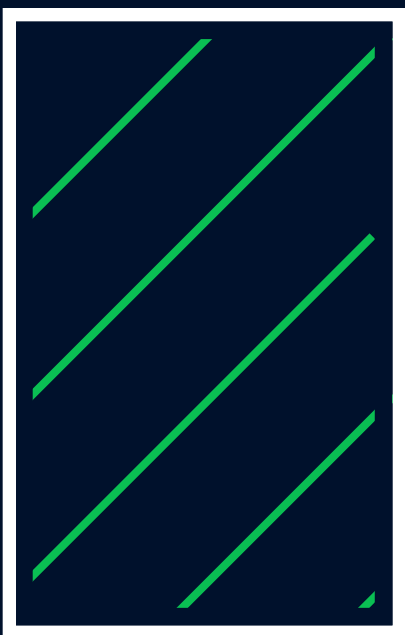
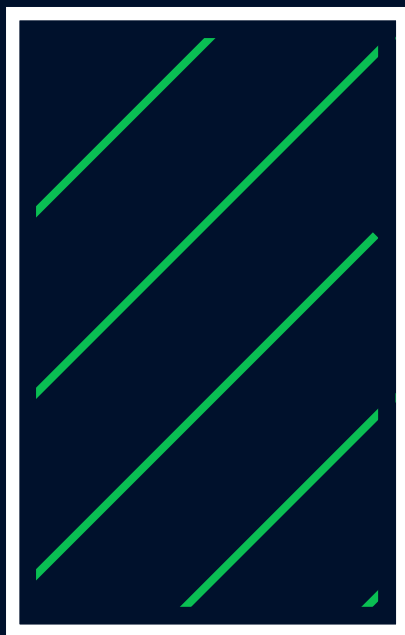
Payment



Ledger



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

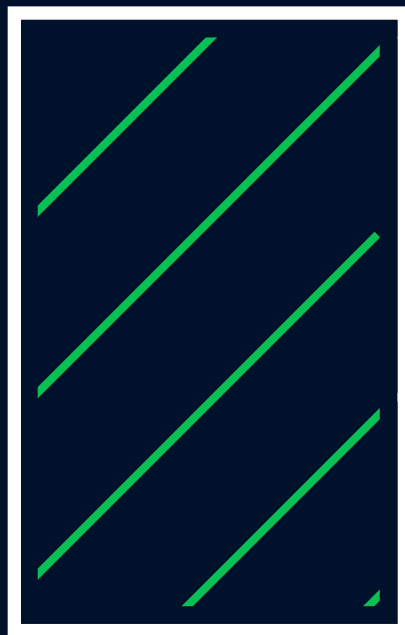




Payment

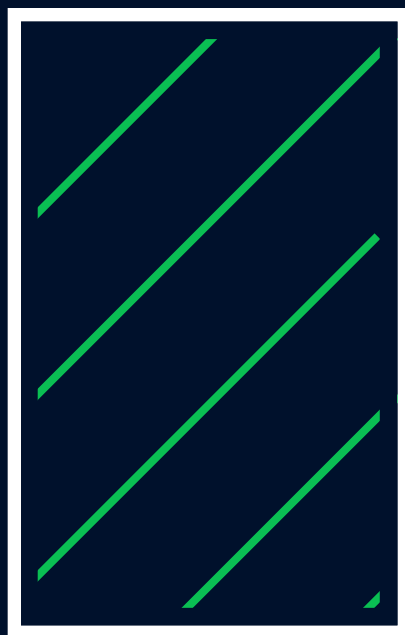
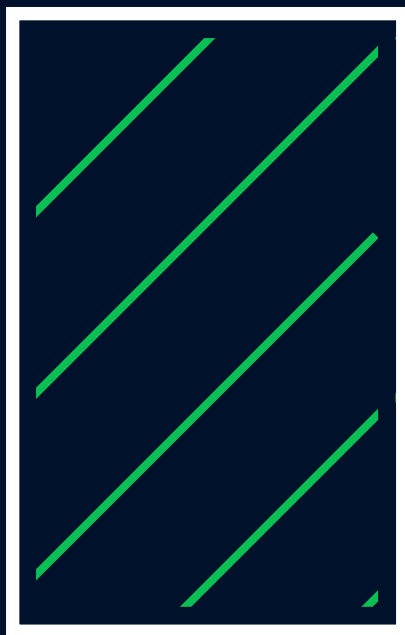


Ledger



`enable_partitionwise_join`

On



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

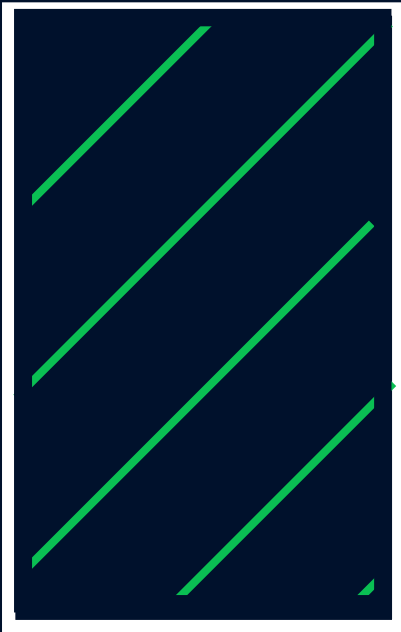


Transaction

TransactionLedger

Ledger

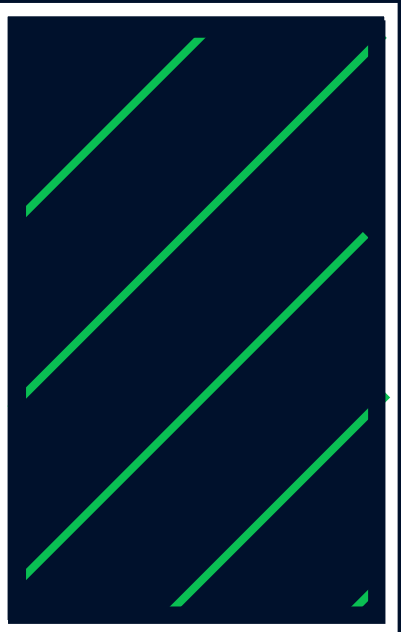
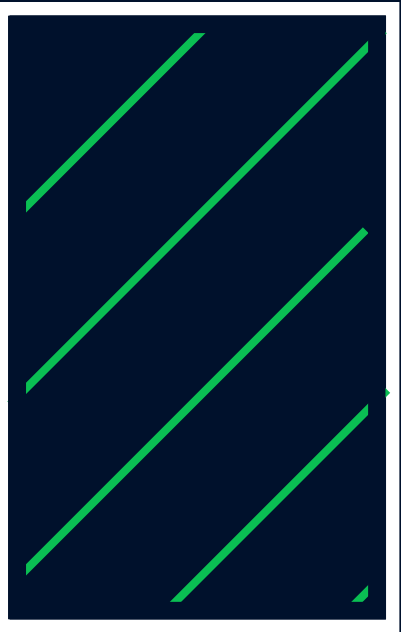
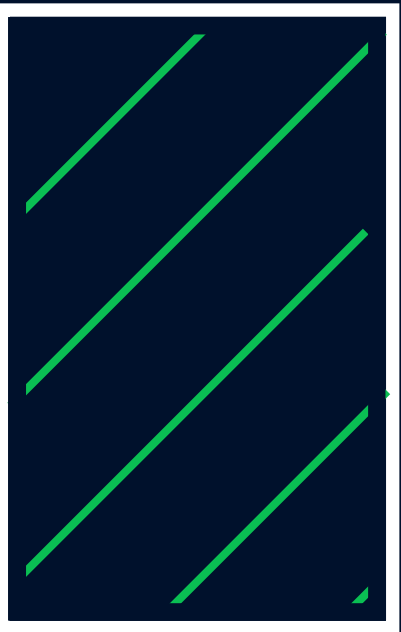
Transaction



TransactionLedger



Ledger



Transaction

TransactionLedger

Ledger

Transaction

Ledger



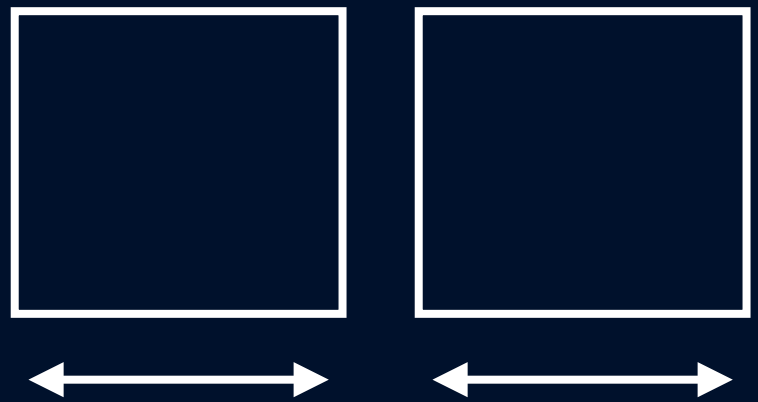
Prerequisites



Leading figure



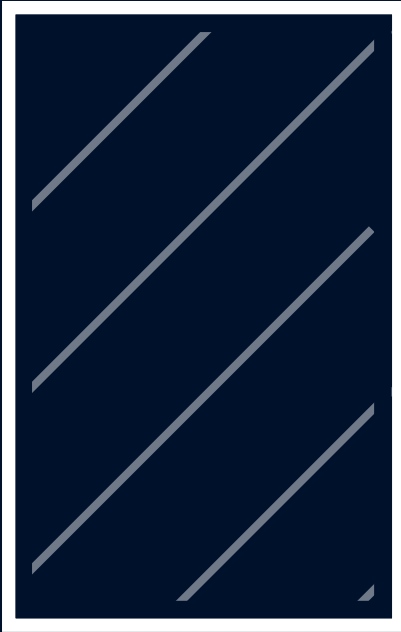
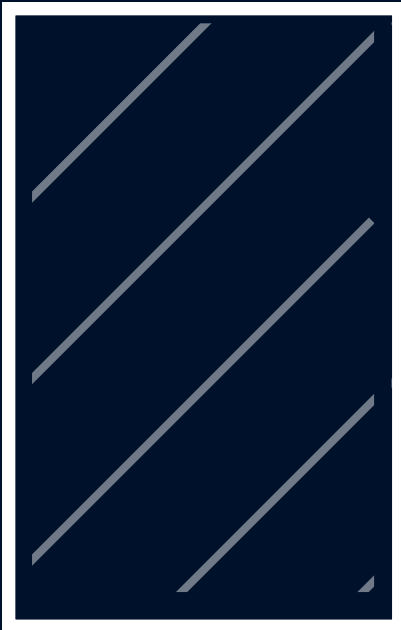
Range based partitioning



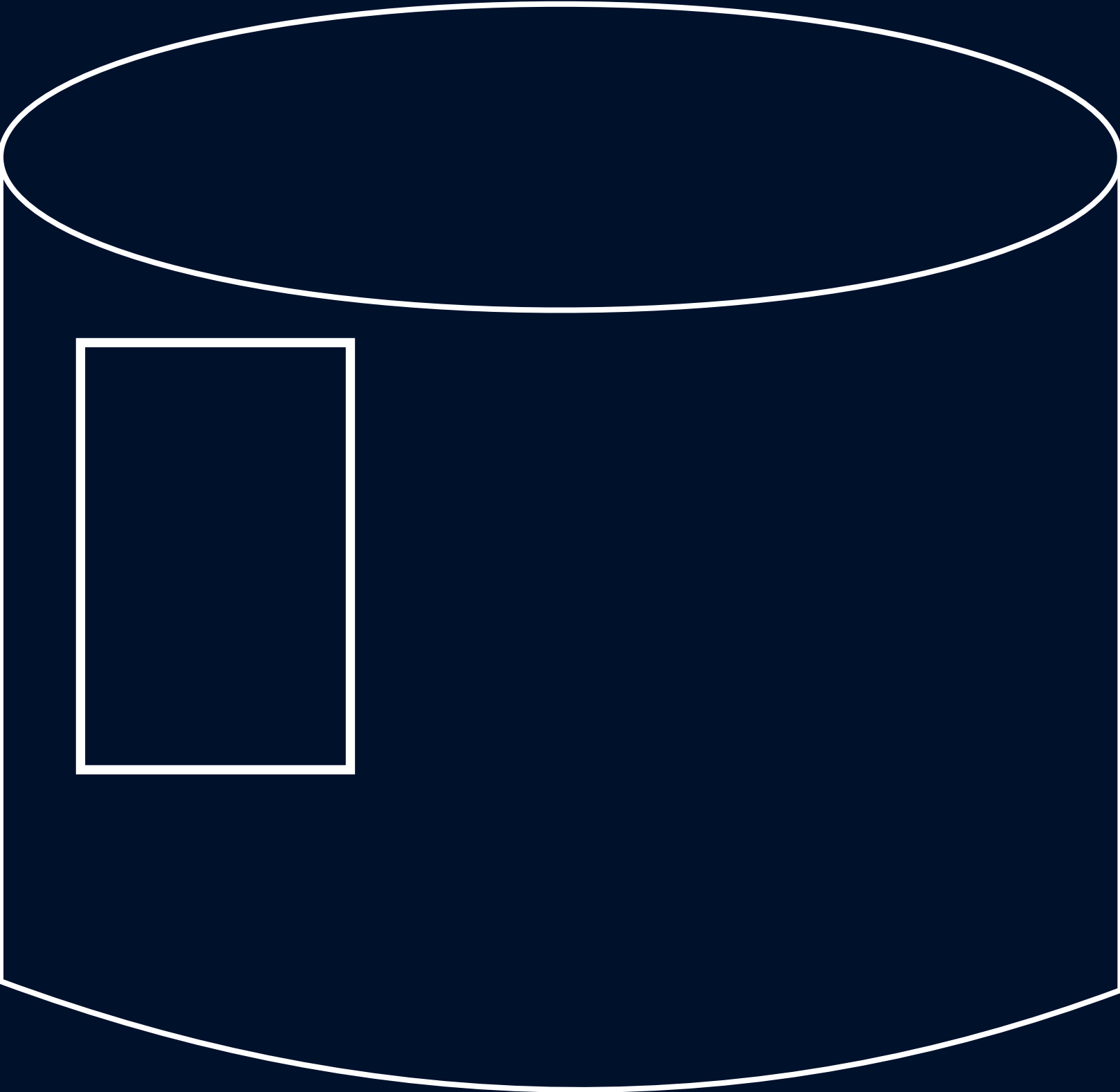
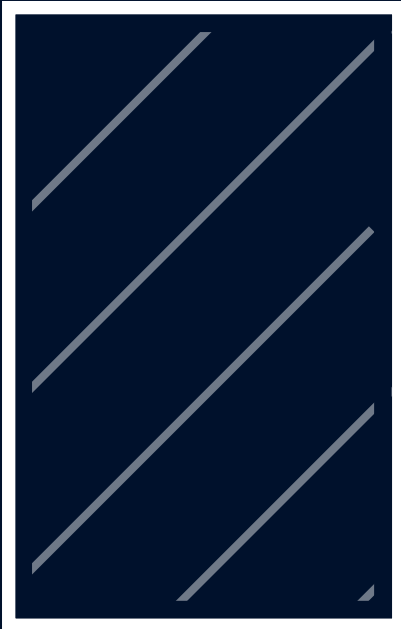
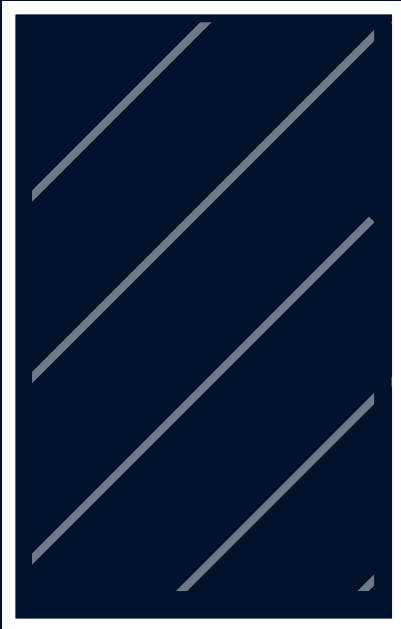
Aligned partitions



Payment

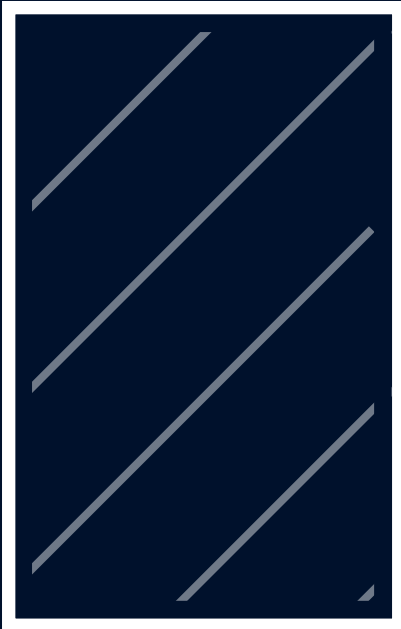
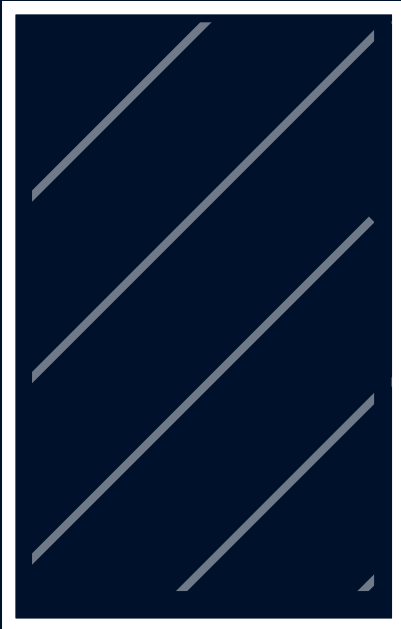


Payment

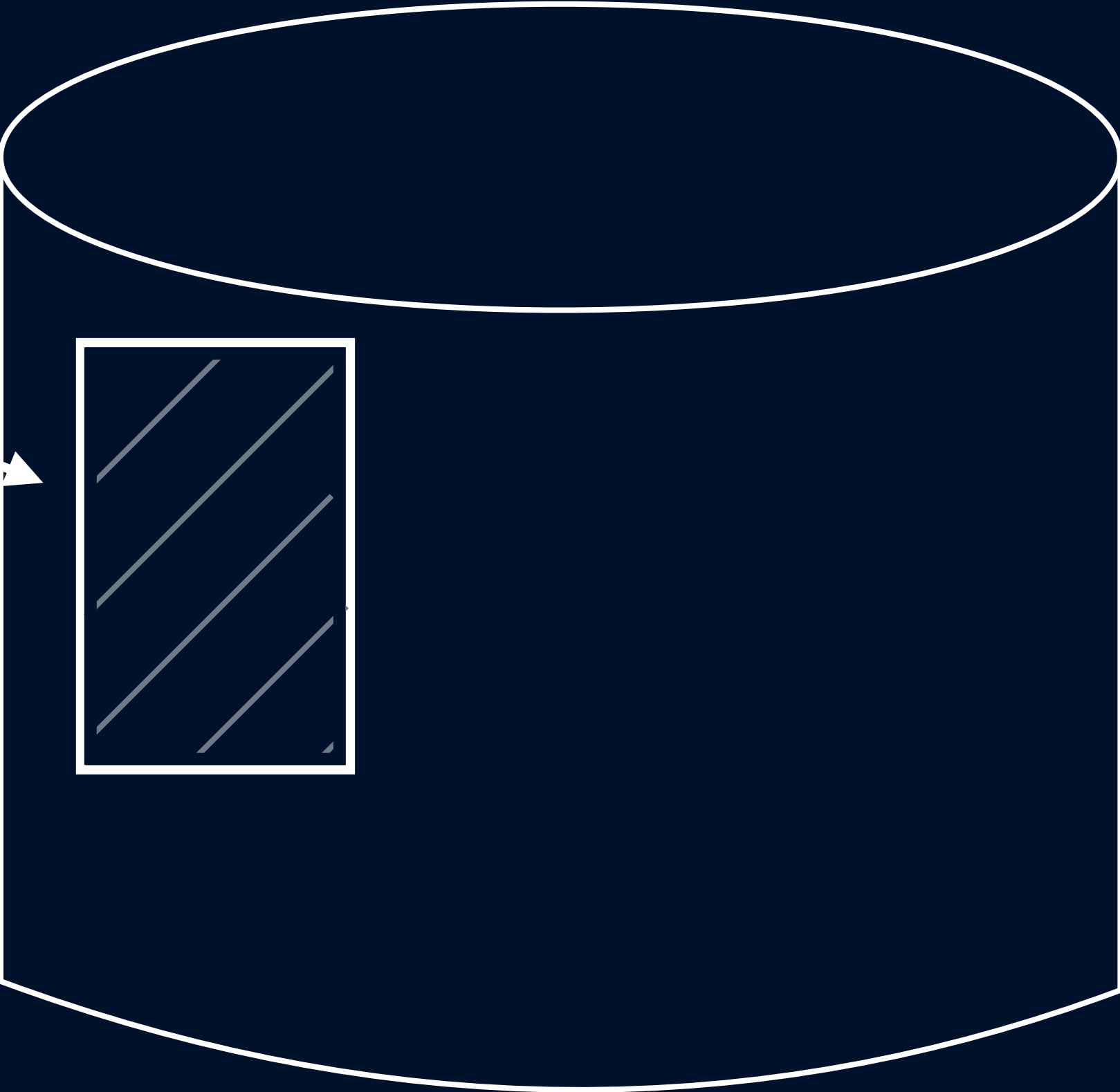


Archive

Payment

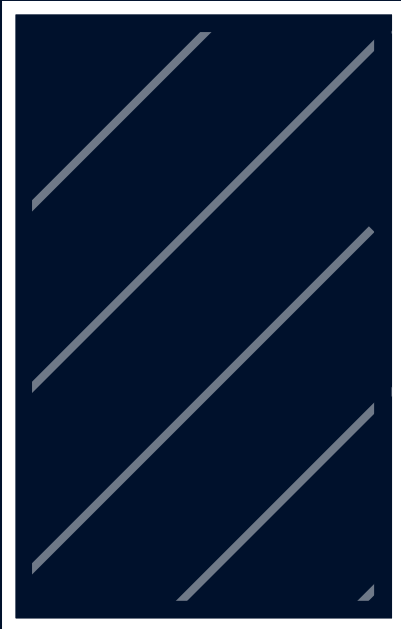
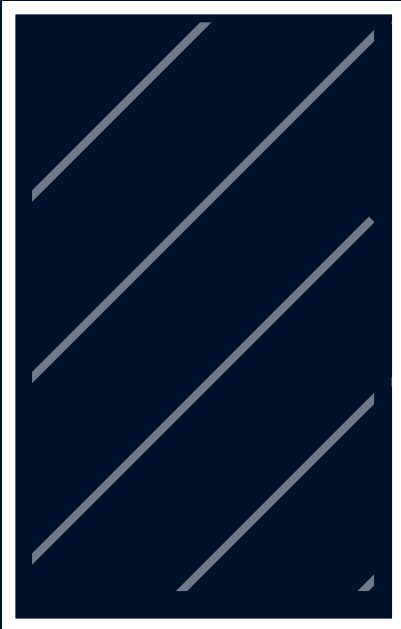


copy data

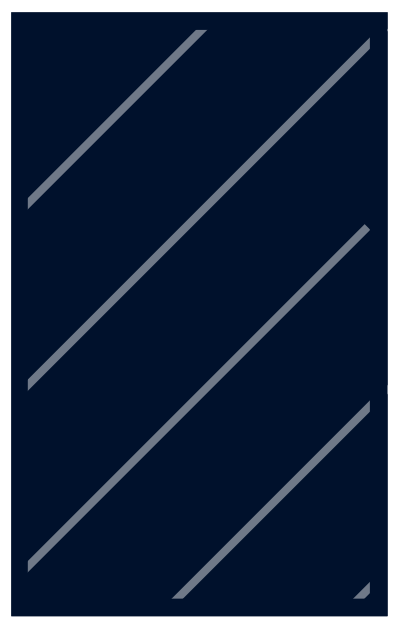


Archive

Payment

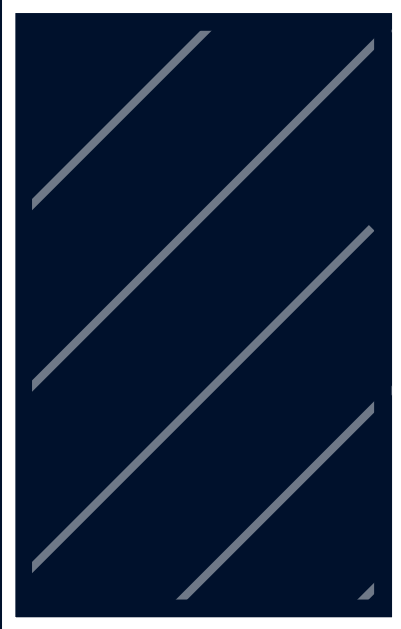
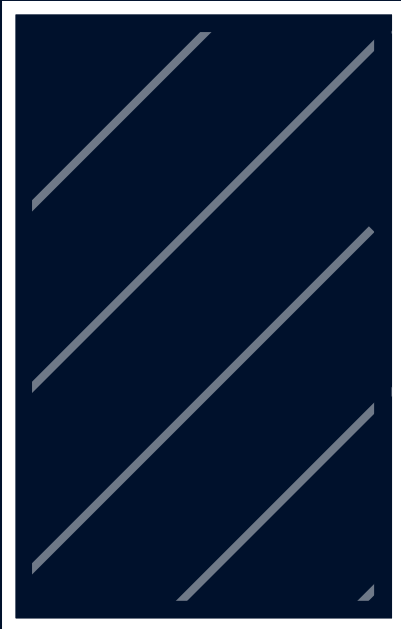


Foreign data wrapper

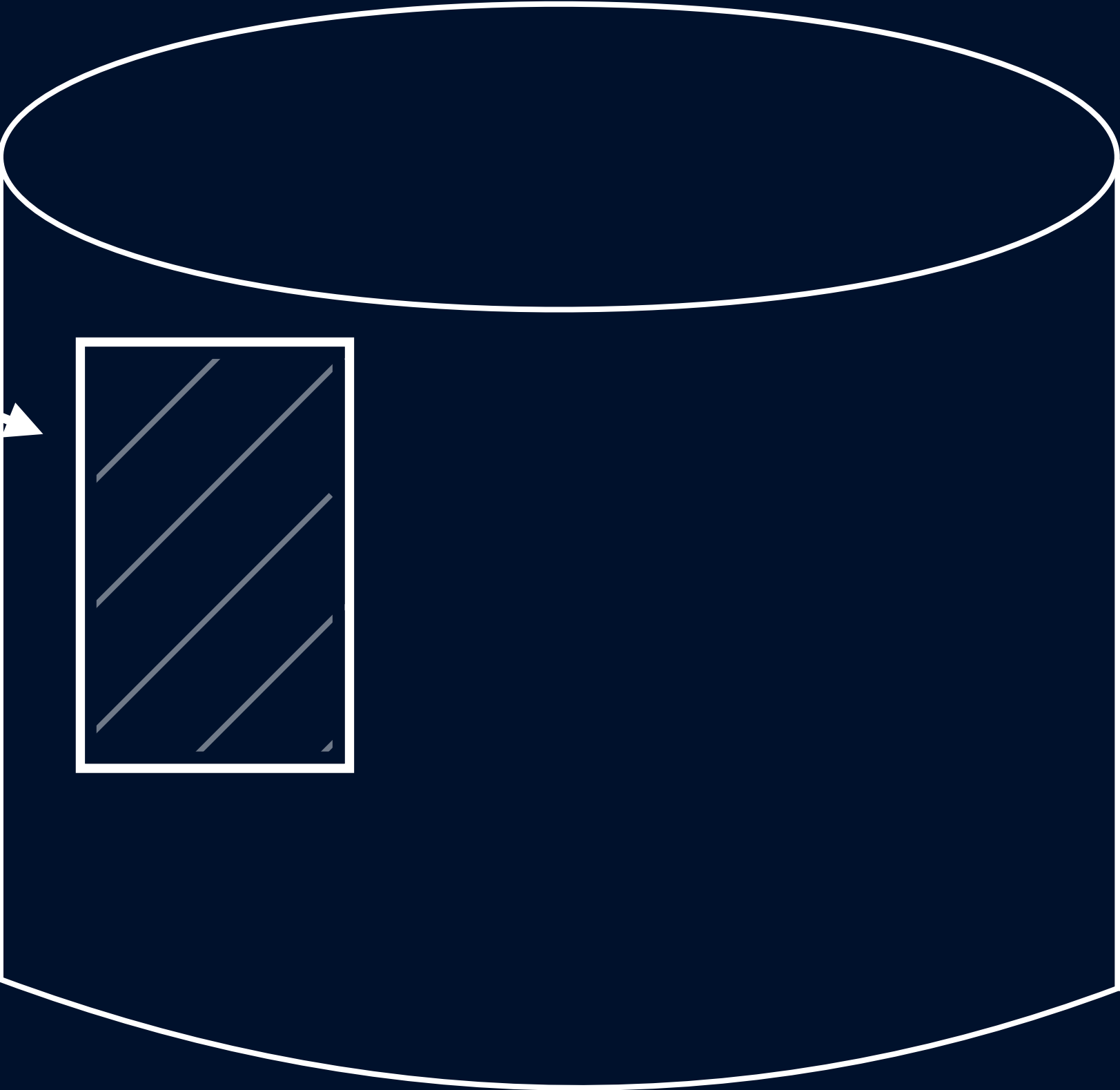


Archive

Payment

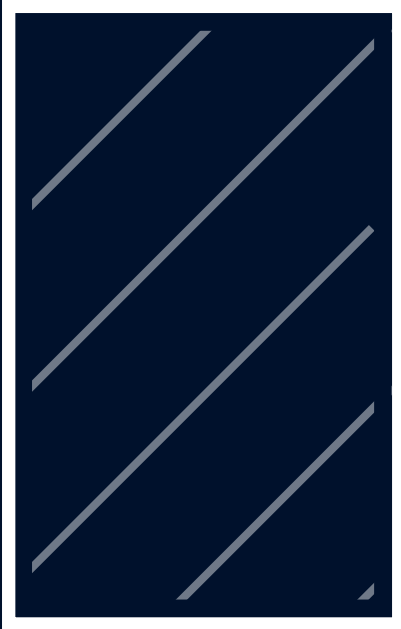
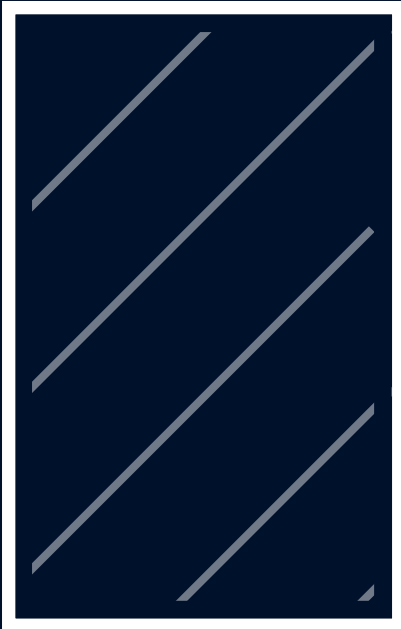


Foreign data wrapper

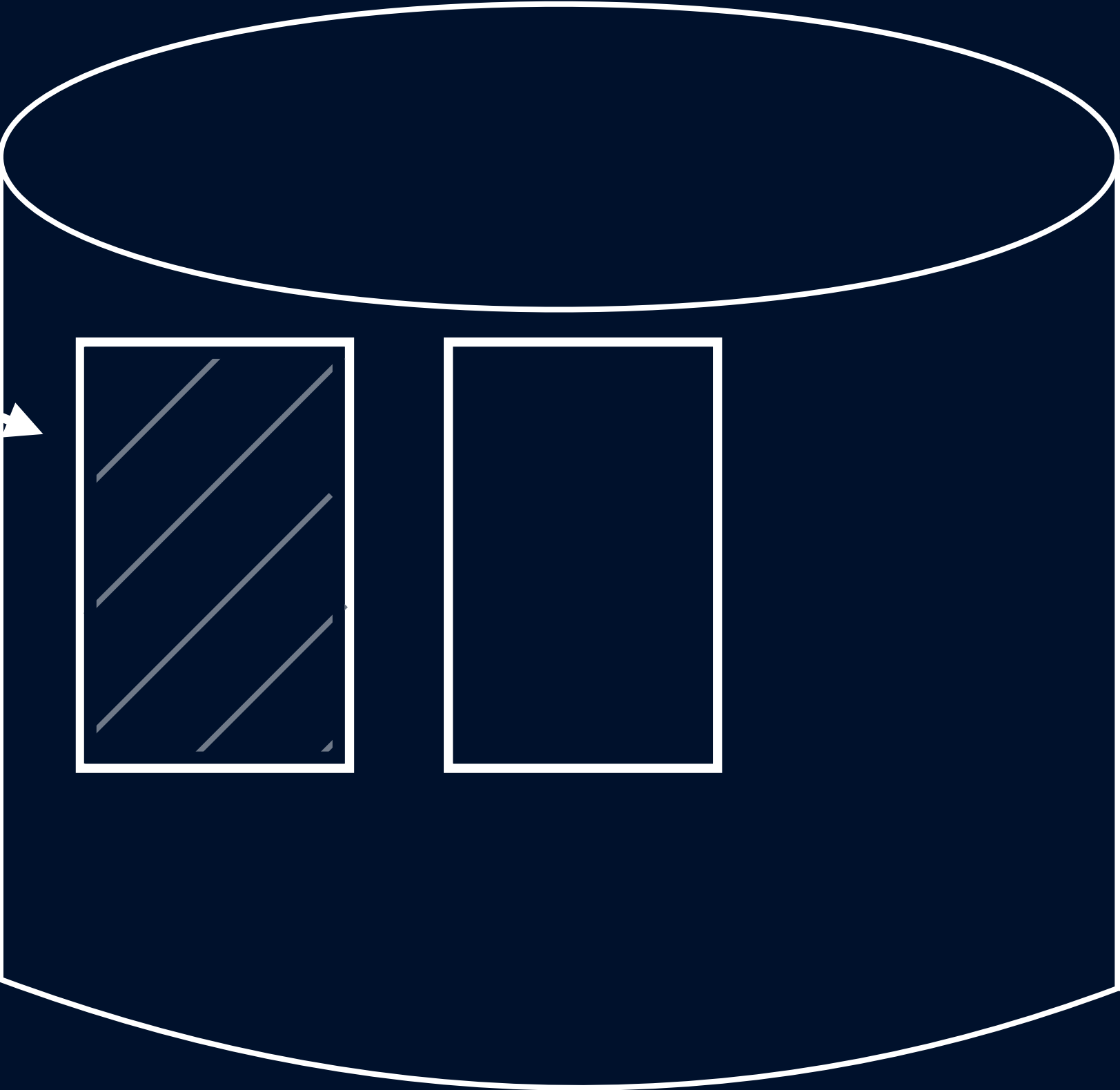


Archive

Payment

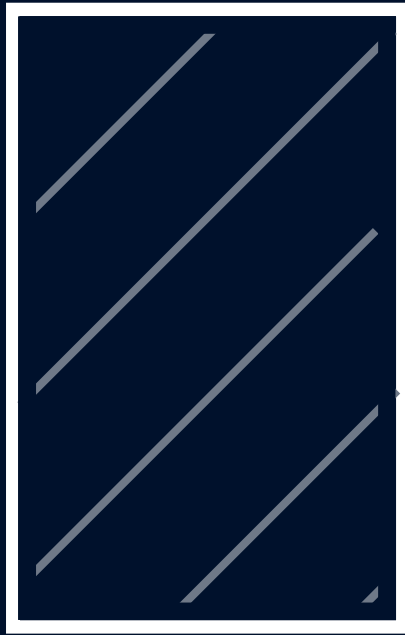
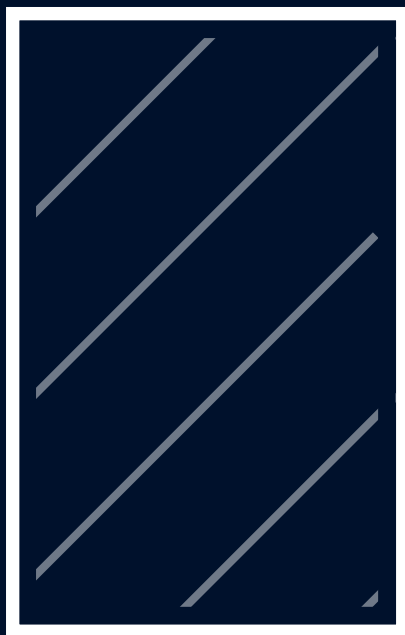


Foreign data wrapper

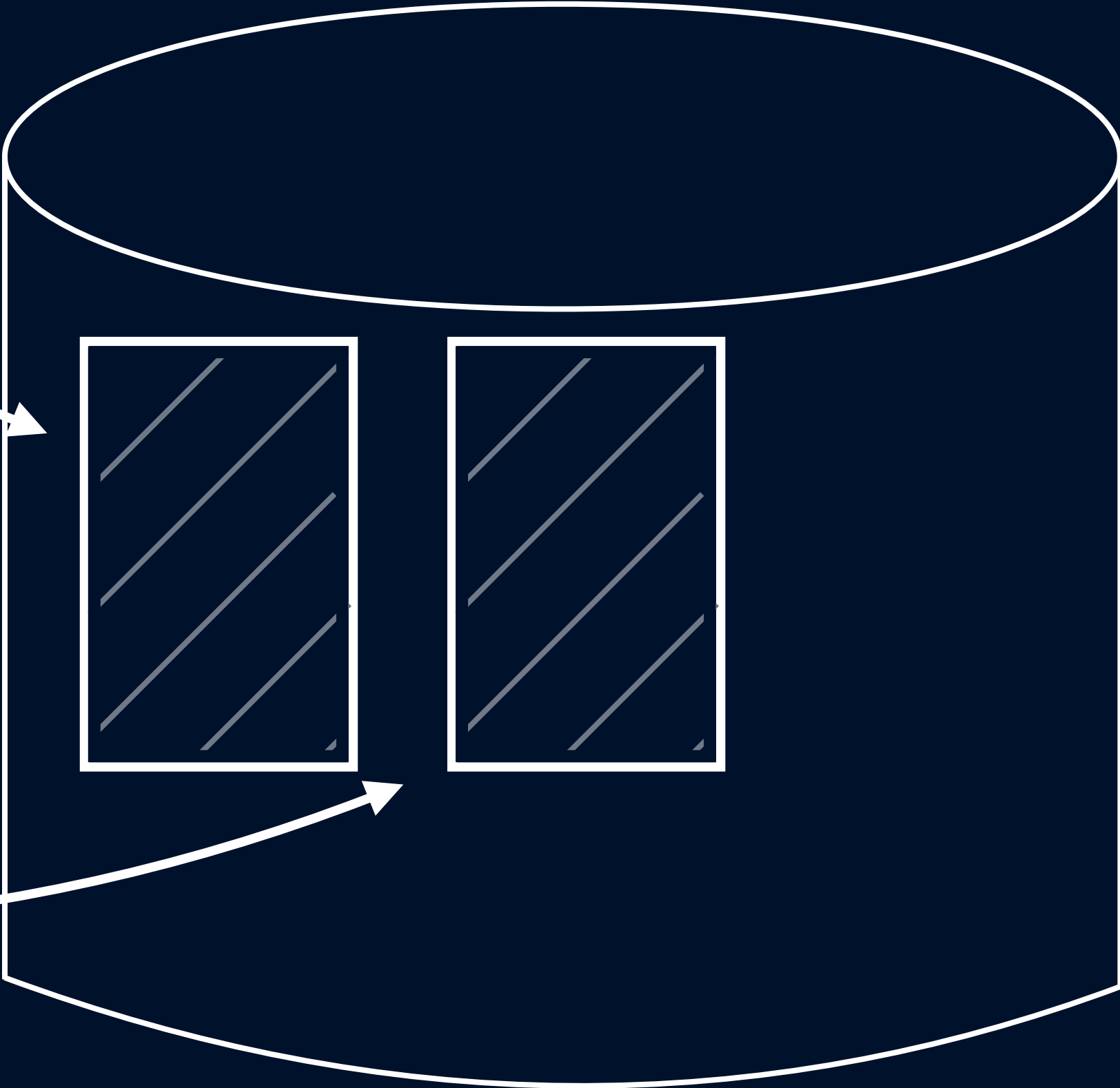


Archive

Payment

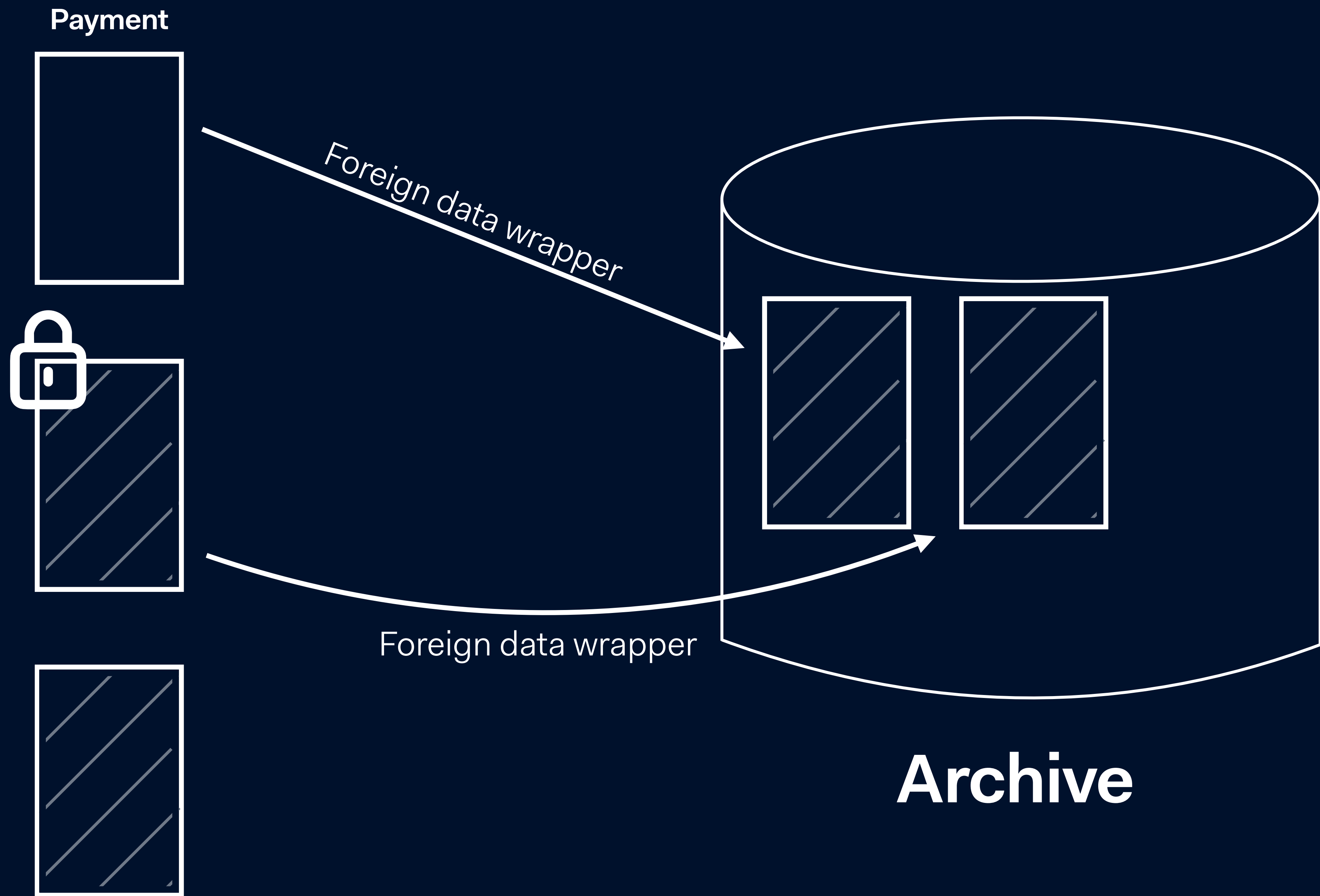


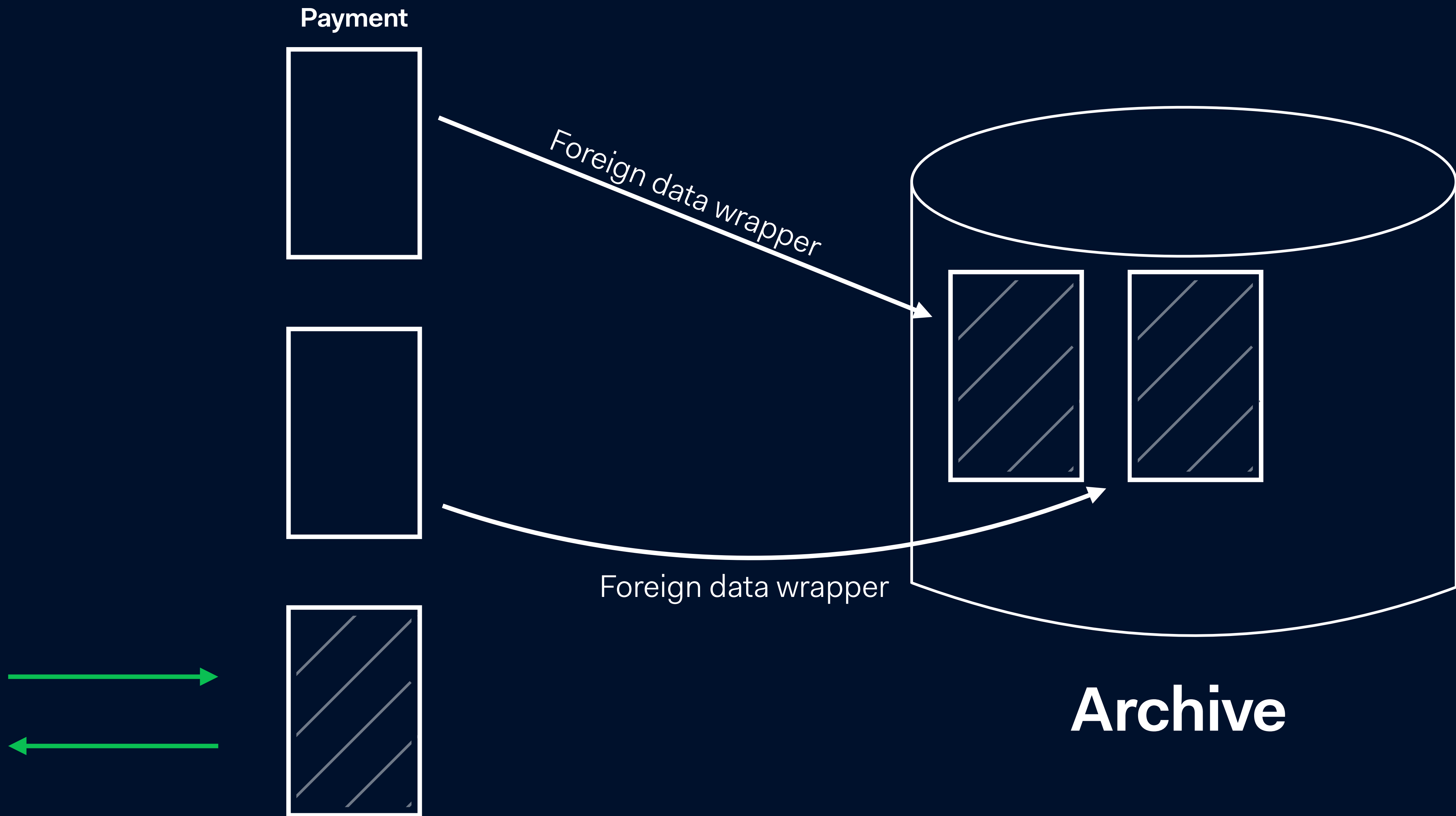
Foreign data wrapper

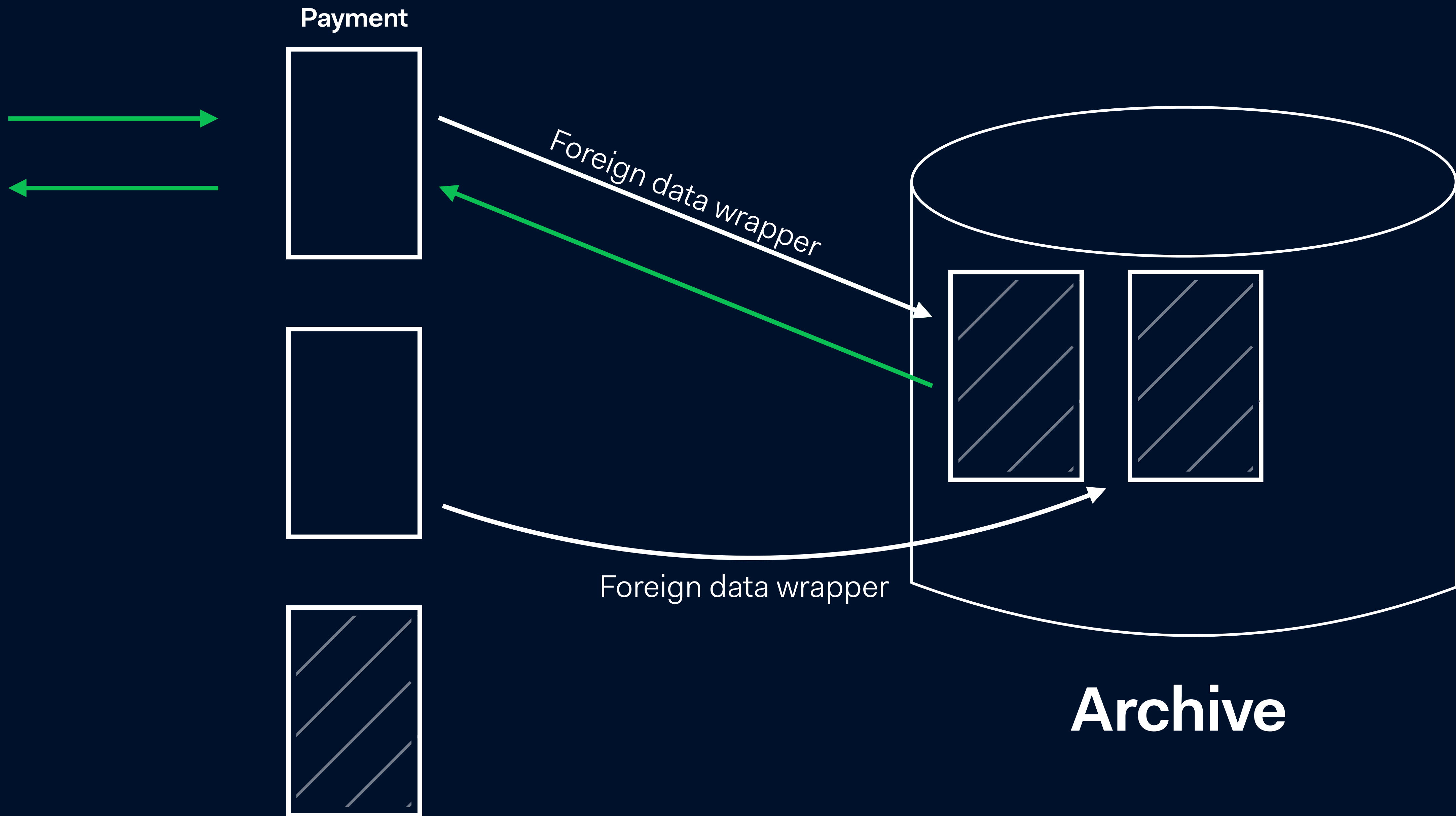


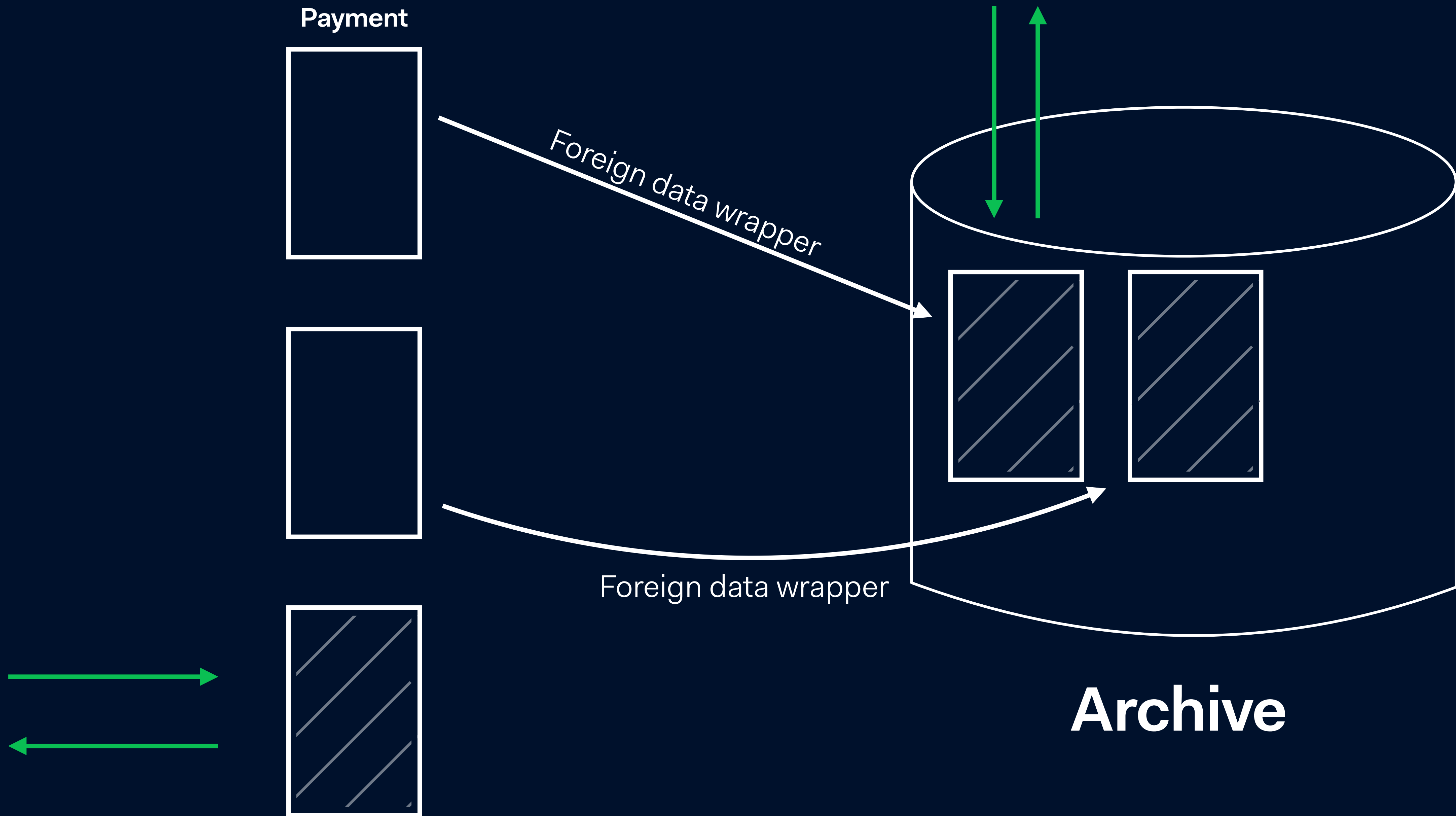
copy data

Archive





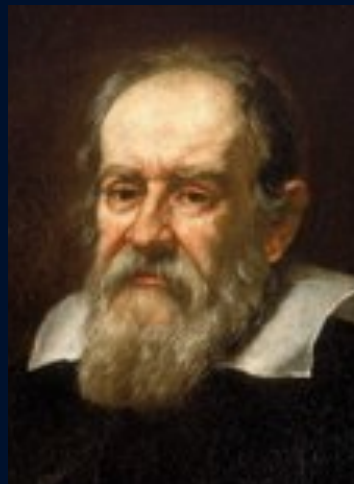




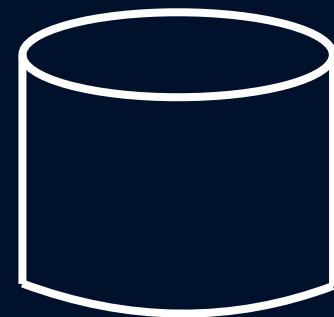
Summary



Range based partitioning



Find your leading figure



Archive or delete



Derk van Veen

Database specialist

Adyen



adyen

engineered
for ambition

