

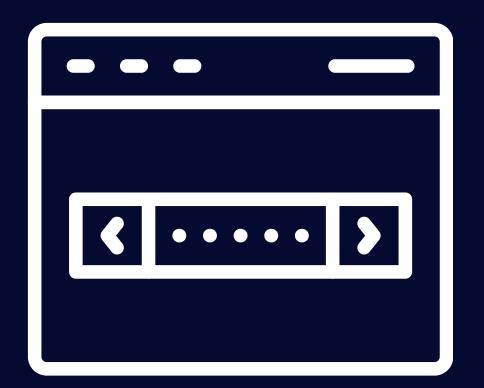
## n this section

- Implement Pagination
- Revisiting the queries
- Fetching data



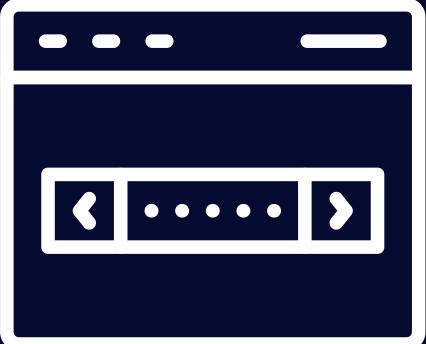
# Types of pagination

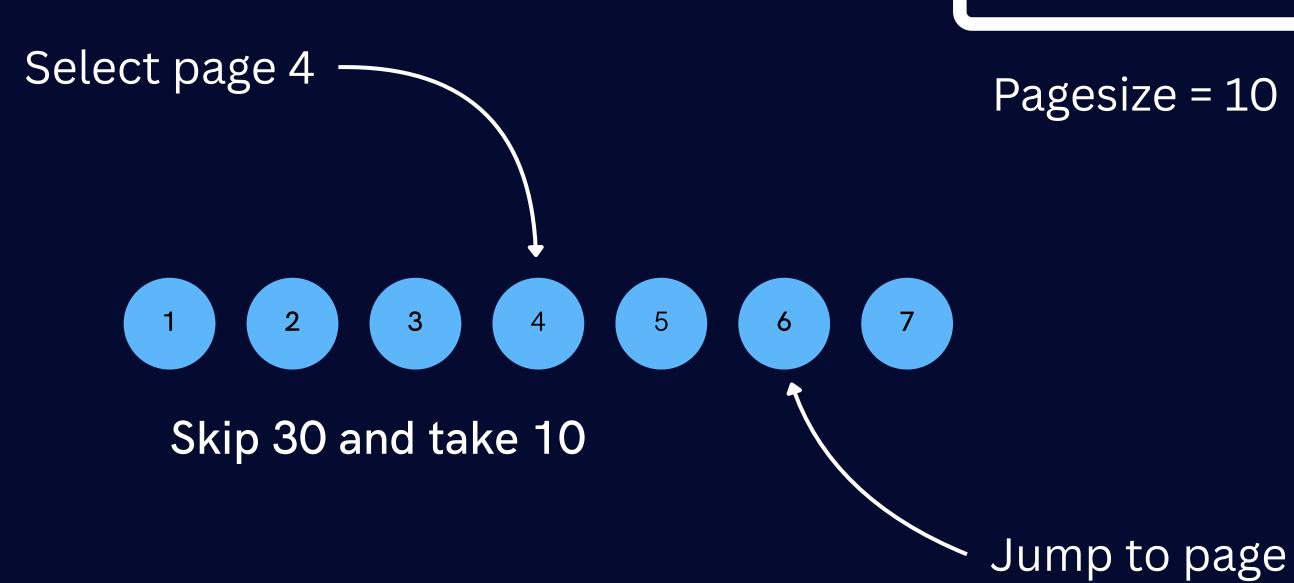
Offset



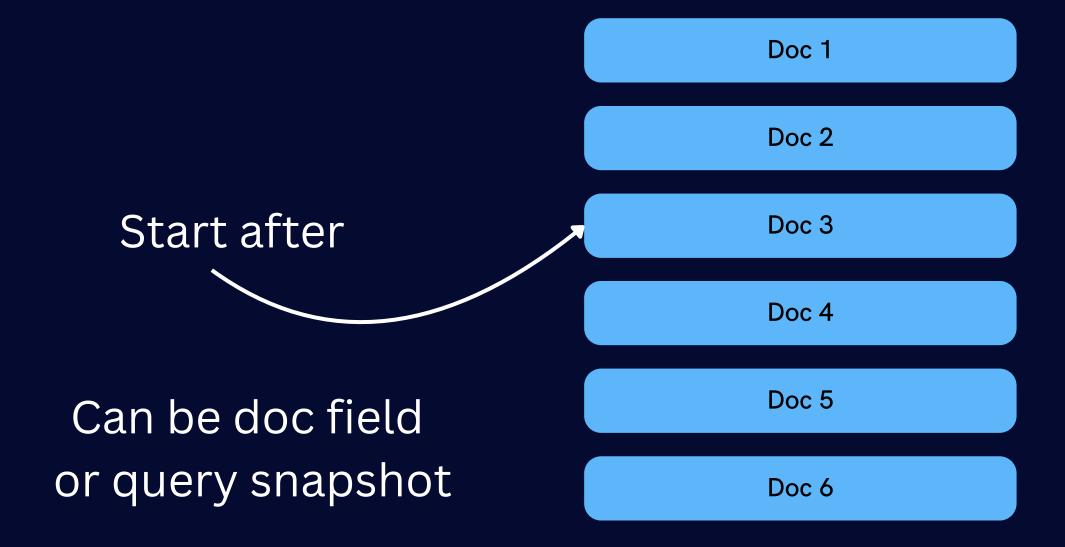
Cursor

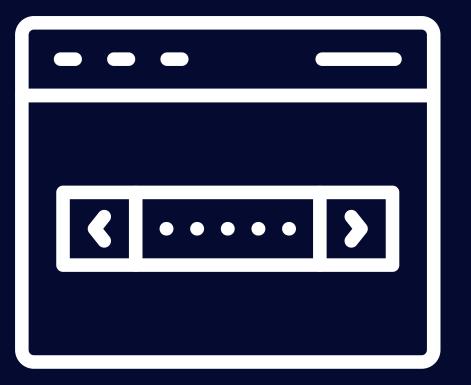
#### Offset





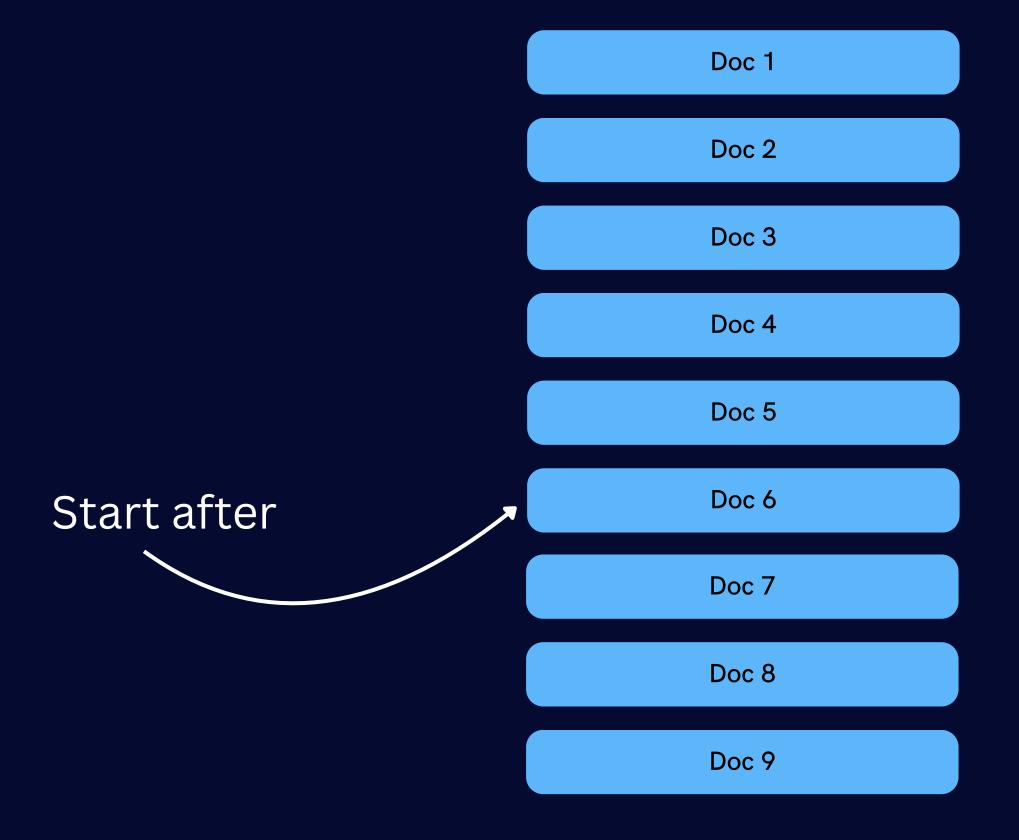
#### Cursor

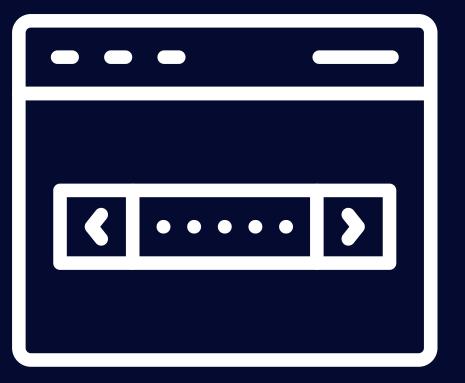




Pagesize = 3

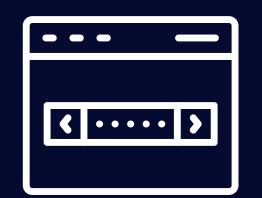
#### Cursor





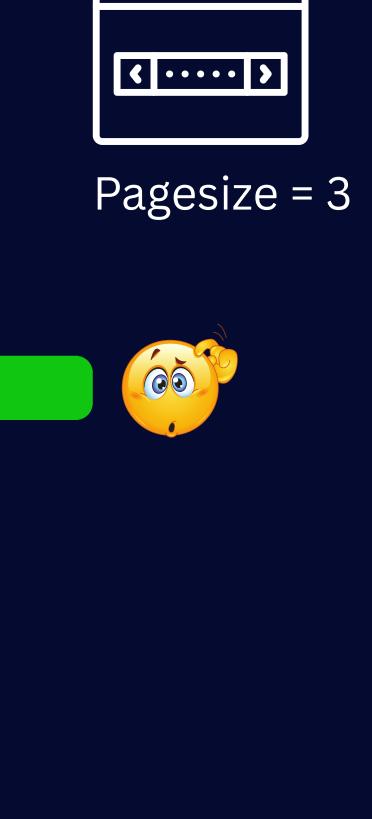
Pagesize = 3

## Cursor pagination limitations

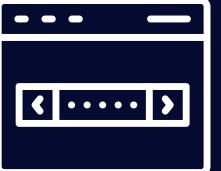




### Listening limitations

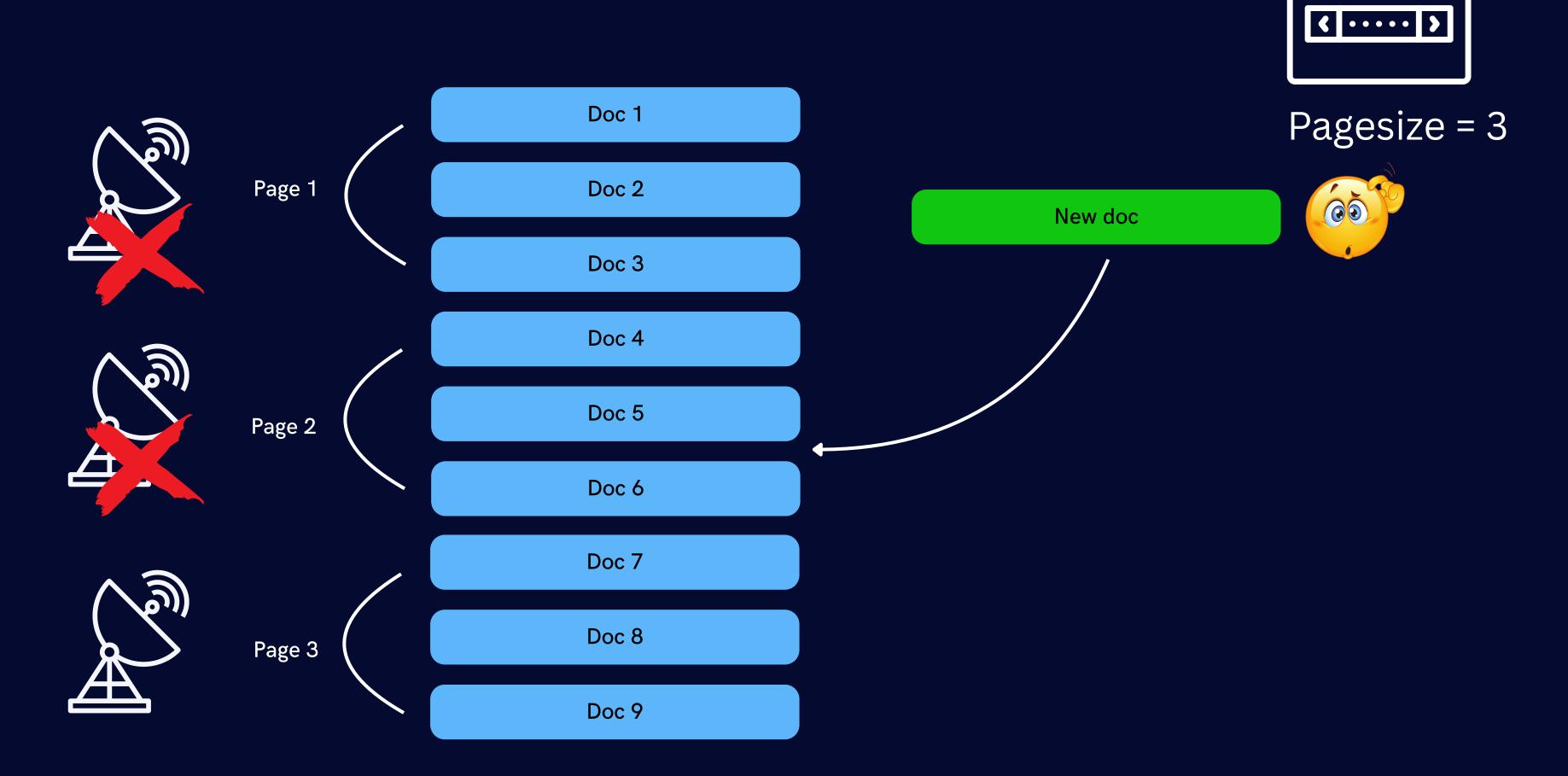








### Listening limitations



#### Where, OrderBy, Limit can be combined

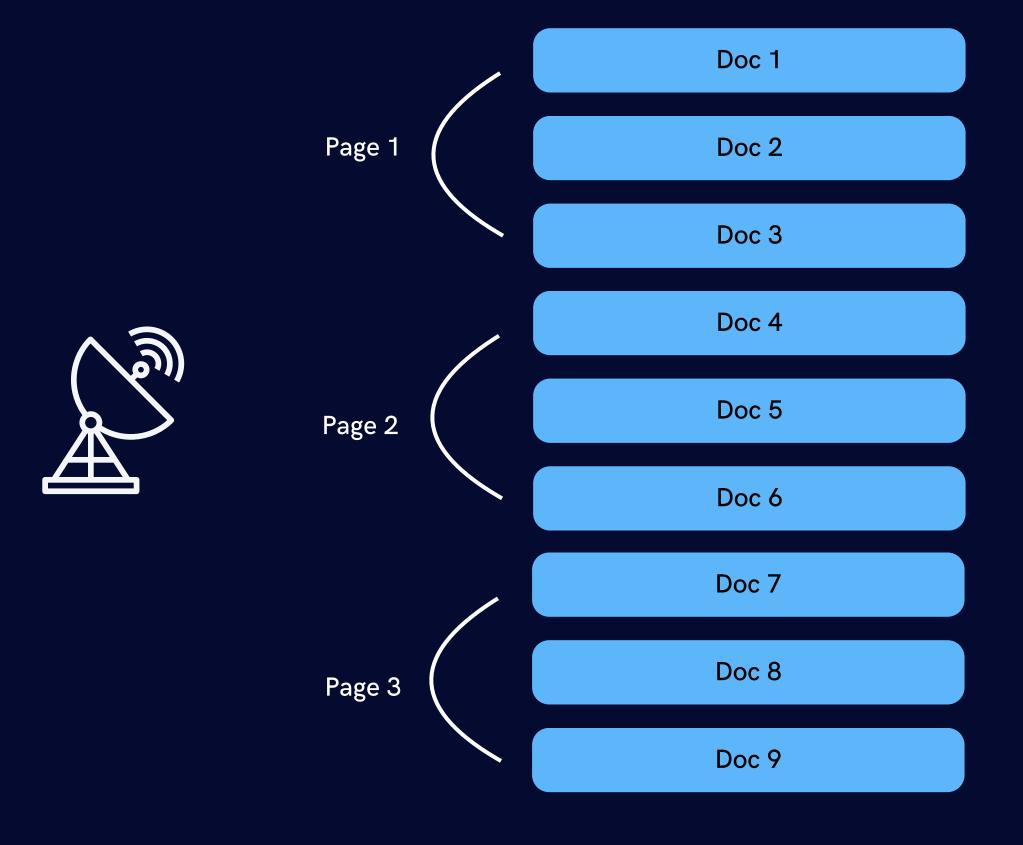
```
const q = query(eventsRef,
  where('date', '>=', today),
  orderBy('date')
  limit(3))
```

```
const q = query(eventsRef,
  where('date', '>=', today),
  orderBy('title')
  limit(3))
```

#### Paginating with Query Cursors

```
const q = query(eventsRef,
  where('date', '>=', today),
  orderBy('date')
  startAfter(lastDocSnapshot)
  limit(3))
```

### But I really want live data!!



```
const q = query(eventsRef,
  orderRv('date')
  const q = query(eventsRef,
    andan Dulldatal)
    const q = query(eventsRef,
       orderBy('date')
       limit(9))
```

```
3 reads + 6 reads + 9 reads
= 18 reads
```

### Firestore server SDK provides offset pagination

Can offset by (e.g) 40 and get next 20

Still have to pay for offset (40) and the 20

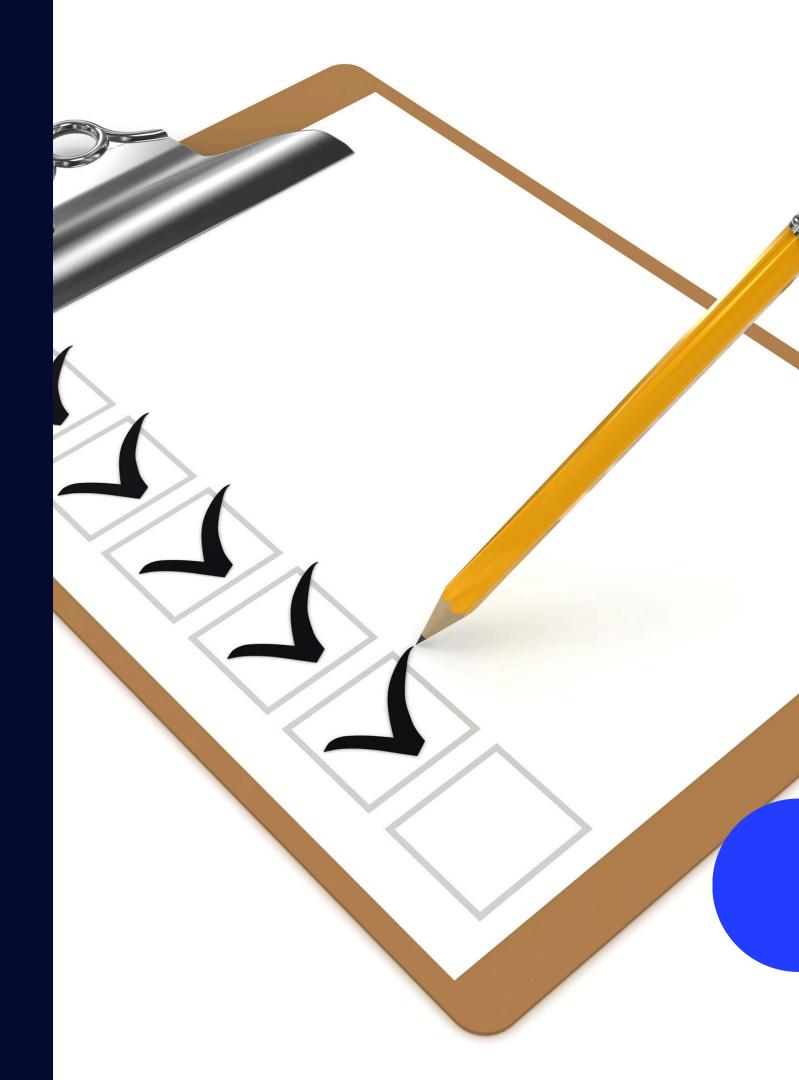
60 reads to get 20 docs!

## The goal of this section

## Summary

## n this section

- Implement Pagination
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## Up next