Use Ca	se												
	An organization has deployed 100	M weather sensors.											
	The goal is to gather the data tran	smitted from all devices in	one database	to do predi	ictions,	and trend anal	ysis.						
Main D	ata												
	Number of devices		100000000										
	Period (years)		10										
	Analysts		10										
Assum	ptions												
	1. Data per hour is as good as pe	r minute for trends											
	Still need to keep the data per minute for deeper analysis												
Actor	CRUD Operations	Data in Operation	Op Type	Rate		Data Durability	Data Read/ Written	Data Life	Response Latency	Query Time	Data Read	Data Freshess	
device	send metric data every minute	device_id, metrics	write	1666667	per s	one copy	1000 bytes	10 years					
ops	identify non-operational devices	device_id, metric times	read	1	per hr				1 hr	1 hr	Collection Scan	< 1 hou	
ops	aggregate data per hour	device_id, metrics	write	1	per hr	majority		10 years					
analyst	run ~10 analytic queries per hour	temperature metrics	read	100	per hr				10 min	10 min	Collection Scan	< 1 hou	
Operatio	ns					Câu î	 3: Retrieve all i	information (on all of the boo	oks (All dat	a associated with	the books)	
						11 P. 1 C. 10							
	Actor sensor device					db.Book.find() Câu 4: Retrieve all information on the books where the author = 'Danielle Steel'							
	Description	server											
	Operation Type write												
	Data in Operation	device ID, time stamp, dev	o, device metrics										
	Frequency	1.6 M/sec			db.Book.find({AUTHOR: 'Danielle Steel'})								
	Data size 1000 Bytes				câu 5: Retrieve all information on the users where the user id creation is > 15 DEC 2014 and the city = 'Boston'								
	Data life 10 years Data durability one node, no need to wait for majority Actor Data Scientist Description run analytic/trend query on temperature												
				db.User.aggregate([{\$match: {DATE_OF_CREATION: {\$gte:new date('2014-12-15')},									
					'ADDRESS.CITY': 'Boston'} }])								
	Operation Type												
	Data in Operation	requency 100/hour =10 scientists * 10 op/hr											
	Frequency					câu 6: Retrieve all information on books that have multiple publishers							
						db.Book.find({ \$expr: {\$gte:[{ \$size: `\$publishers`} , 2]} })							
	Data read												
	Data freshness	up to the last hour											

câu 7: Retrieve all information on the books that have Notes

db.Book.find({NOTES: {\$exists:true, \$not: {\$size:0} } })