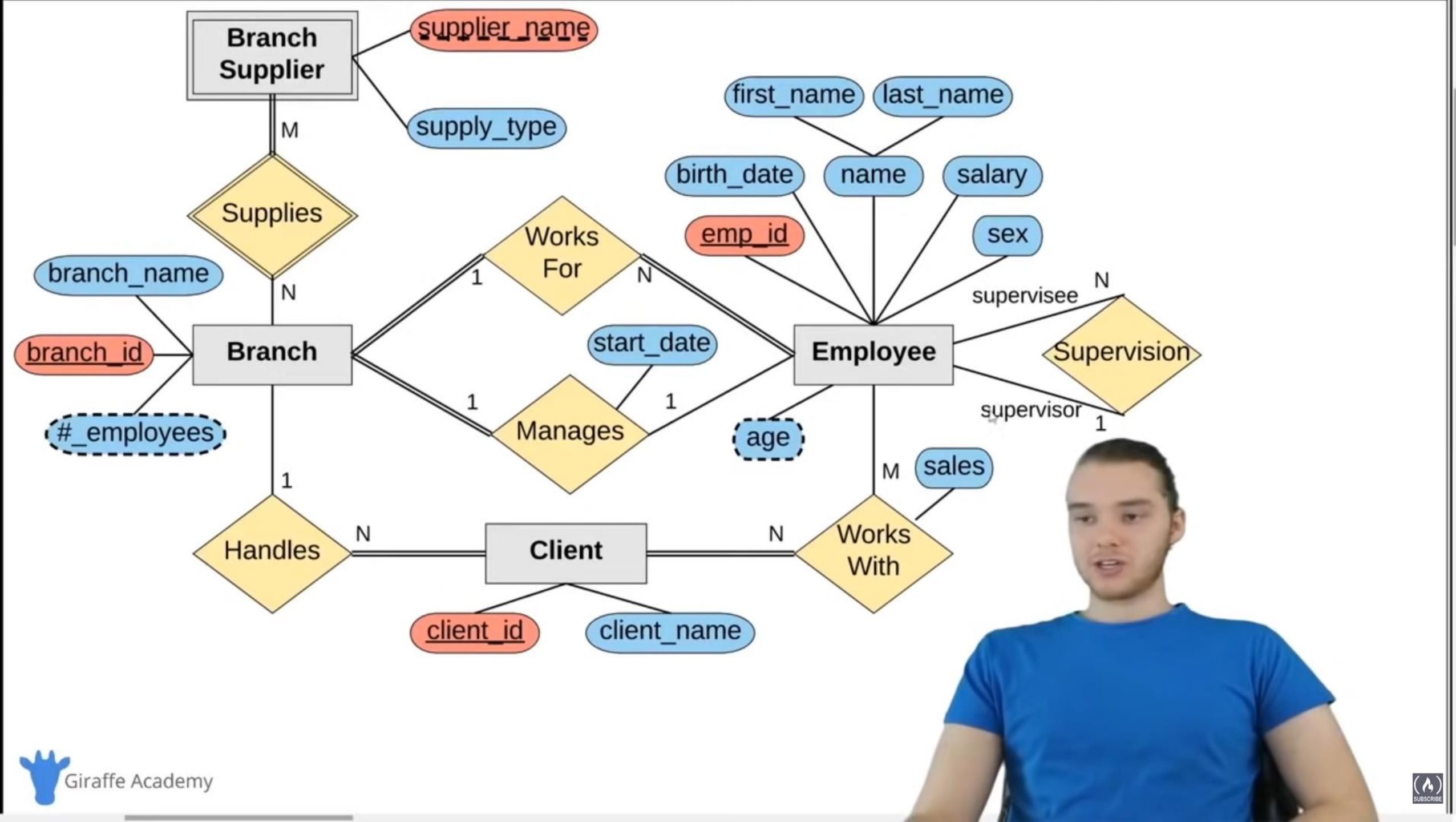
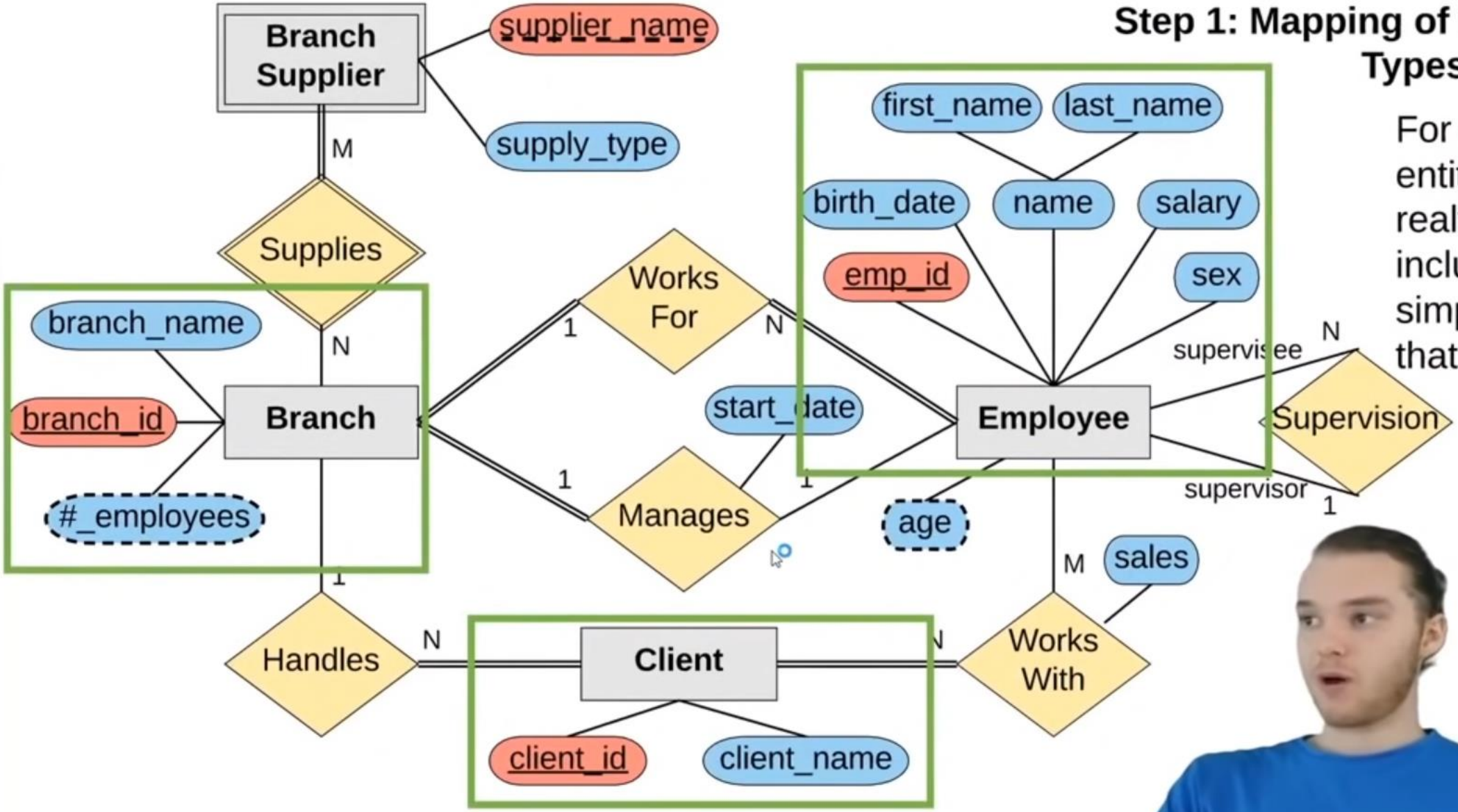
Converting ER Diagrams to Schemas


Branch Supplier
supplier_name
supply_type
M
Supplies
N
branch_name
branch_id
#_employees
Branch
1
Handles
N
Client
client_id
client_name
Works For
1
N
start_date
Manages
1
1
first_name
last_name
birth_date
name
salary
emp_id
sex
supervisee
N
Employee
Supervision
supervisor
1
age
M
sales
Works With
N

Step 1: Mapping of Regular Entity Types

For each regular entity type create a realtion (table) that includes all the simple attributes of that entity



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Employee

emp_id	first_name	last_name	birth_date	sex	salary

Branch

branch_id	branch_name

Client

client_id	client_name

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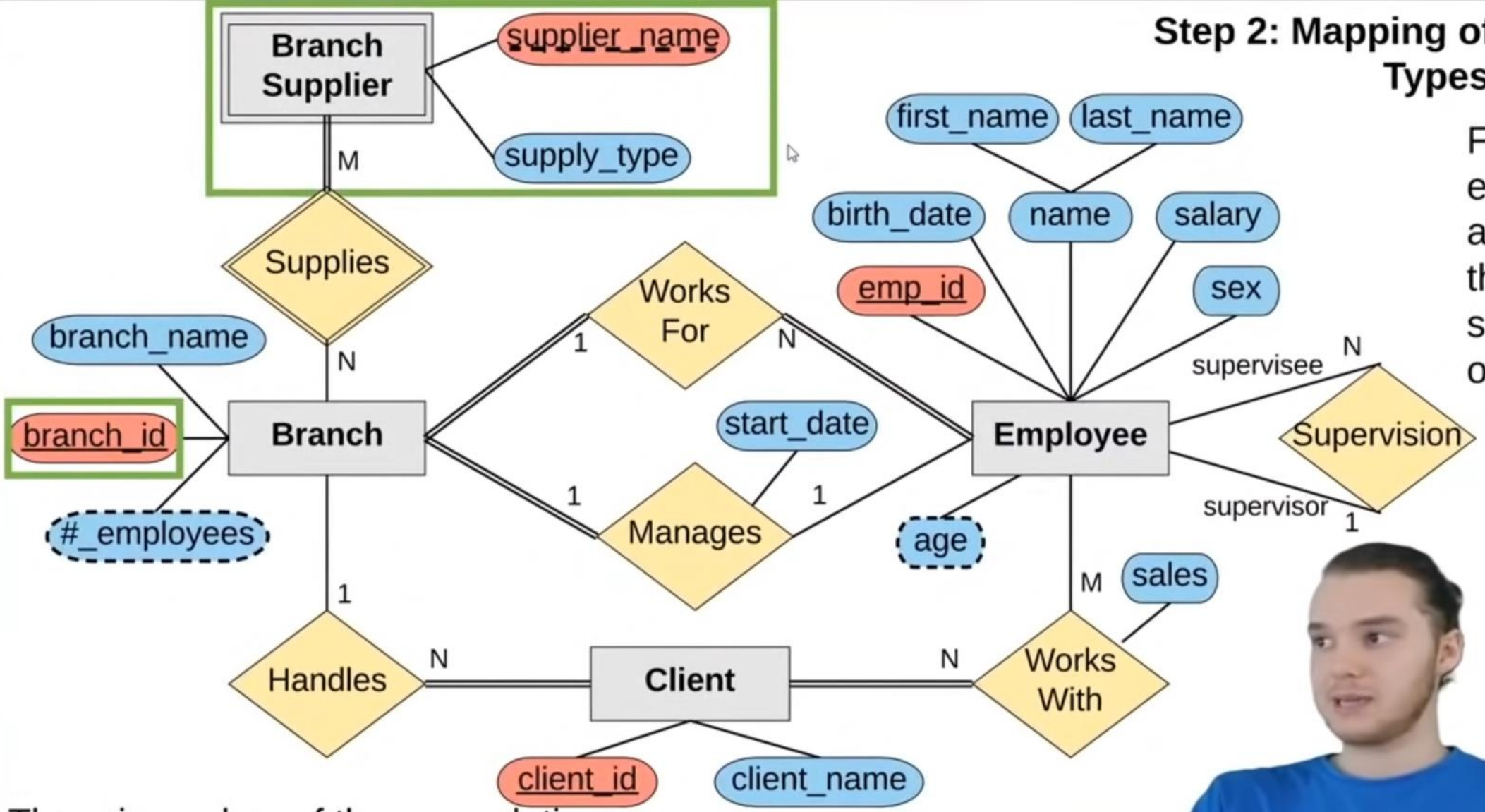
Step 2: Mapping of Weak Entity Types

For each weak entity type create a relation (table) that includes all simple attributes of the weak entity.



The primary key of the new relation should be the partial key of the weak entity plus the primary key of its owner

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Employee

emp_id	first_name	last_name	birth_date	sex	salary

Branch

branch_id	branch_name

Client

client_id	client_name

Branch Supplier

branch_id	supplier_name	supply_type

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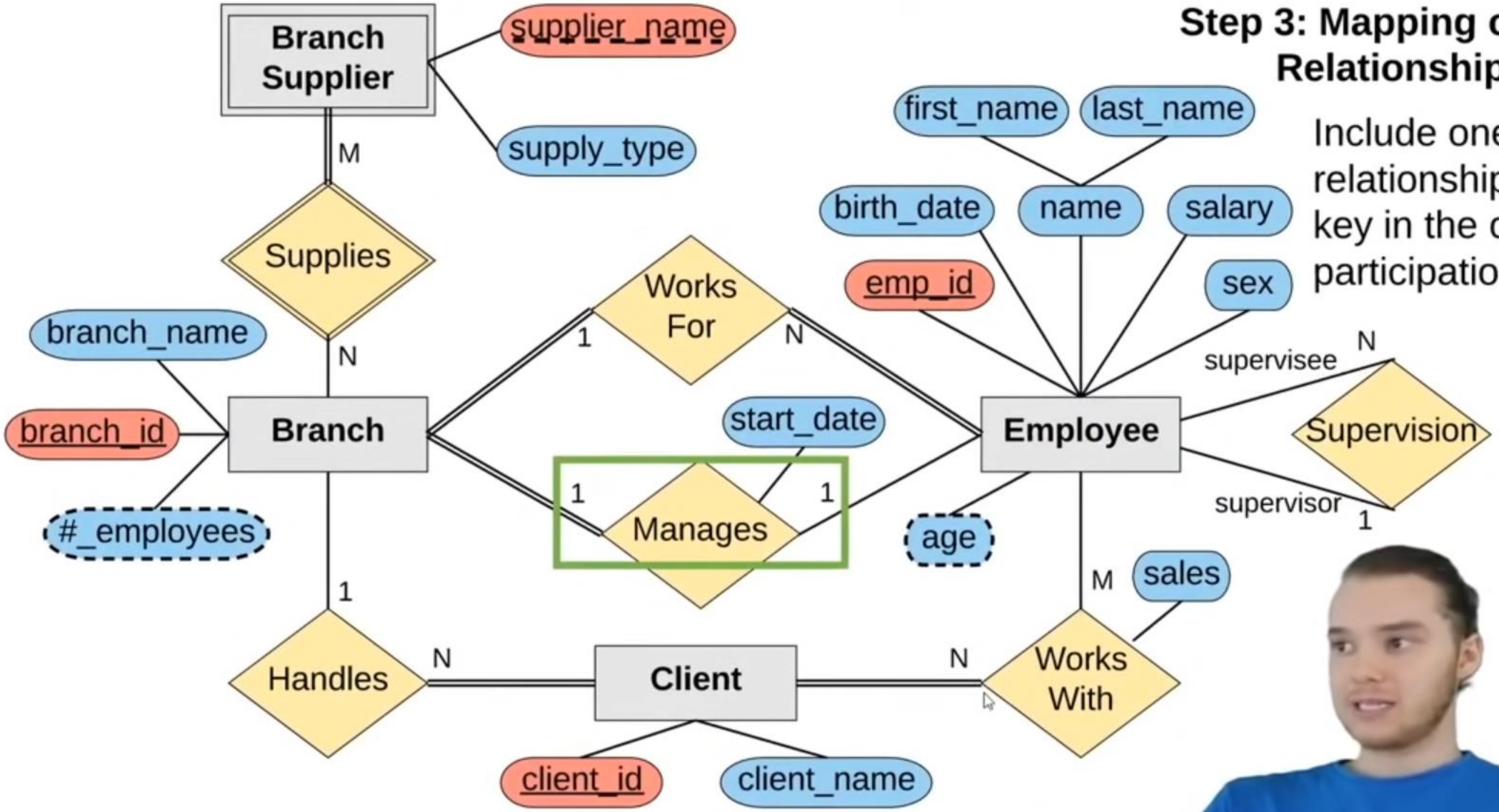
Step 3: Mapping of Binary 1:1 Relationship Types

Include one side of the relationship as a foreign key in the other Favor total participation



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Employee

emp_id	first_name	last_name	birth_date	sex	salary

Branch

branch_id	branch_name	mgr_id	mgr_start_date

Client

client_id	client_name

Branch Supplier

branch_id	supplier_name	supply_type

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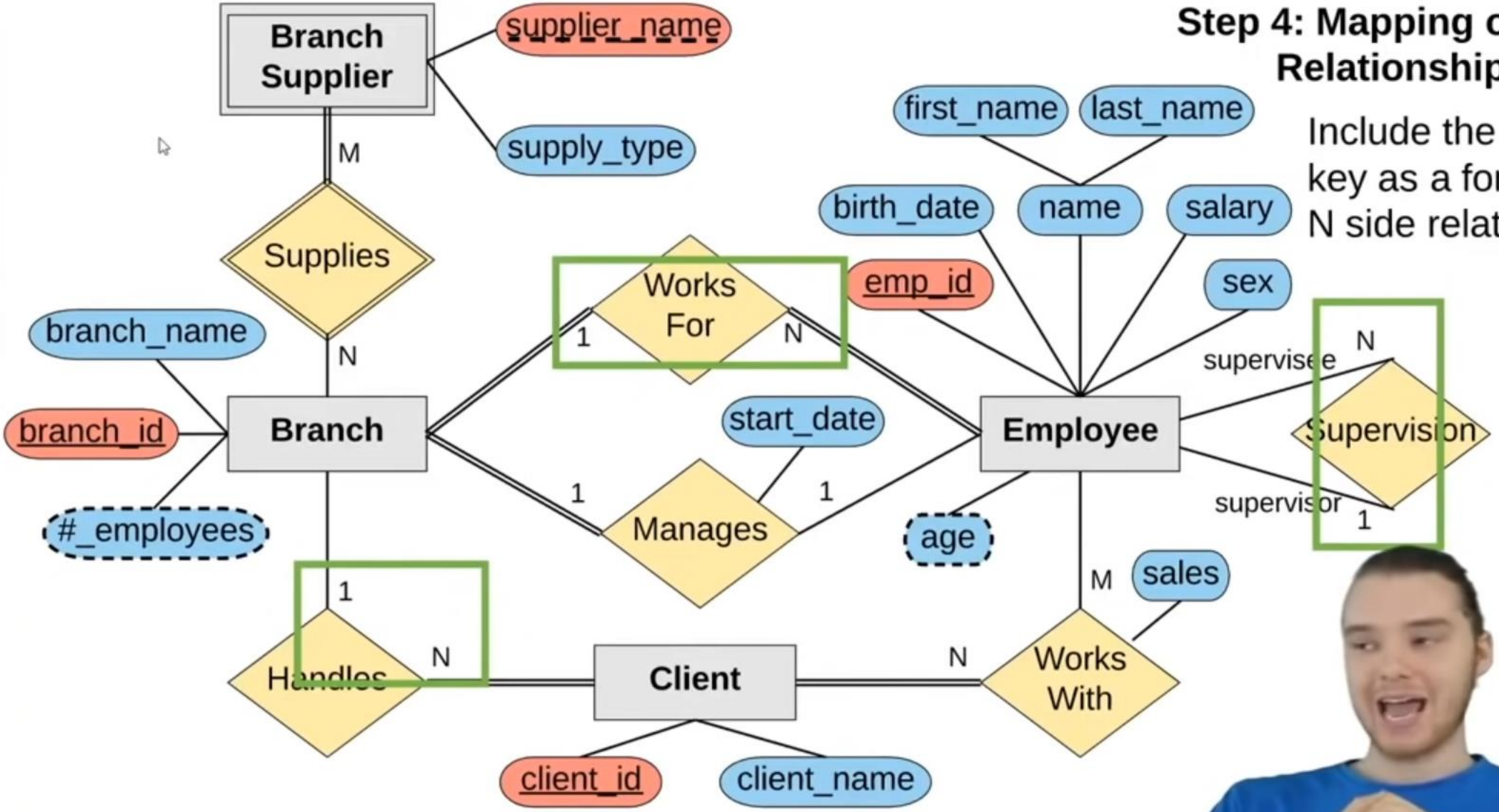
Step 4: Mapping of Binary 1:N Relationship Types

Include the 1 side's primary key as a foreign key on the N side relation (table)



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Employee

emp_id	first_name	last_name	birth_date	sex	salary	super_id	branch_id

Branch

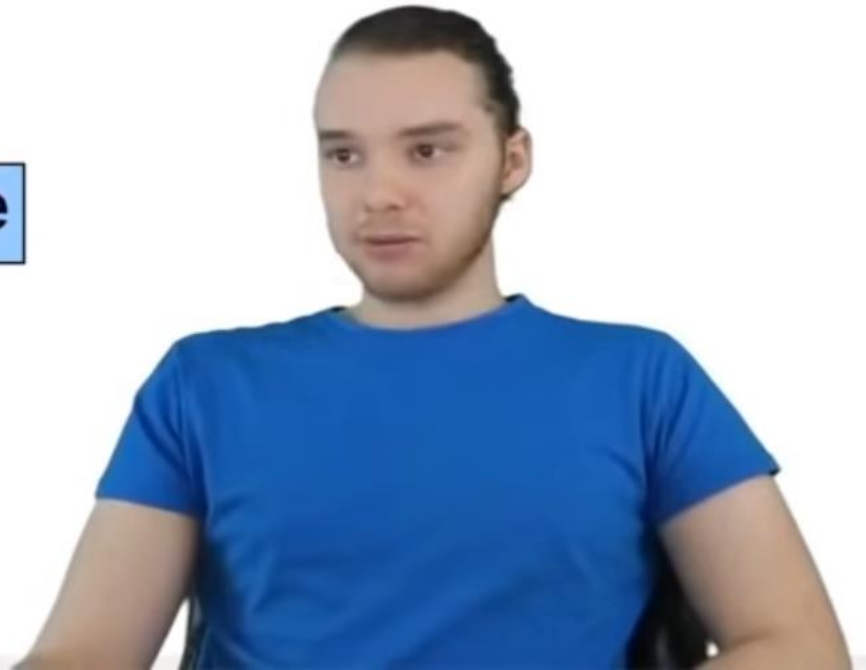
branch_id	branch_name	mgr_id	mgr_start_date

Client

client_id	client_name	branch_id

Branch Supplier

branch_id	supplier_name	supply_type



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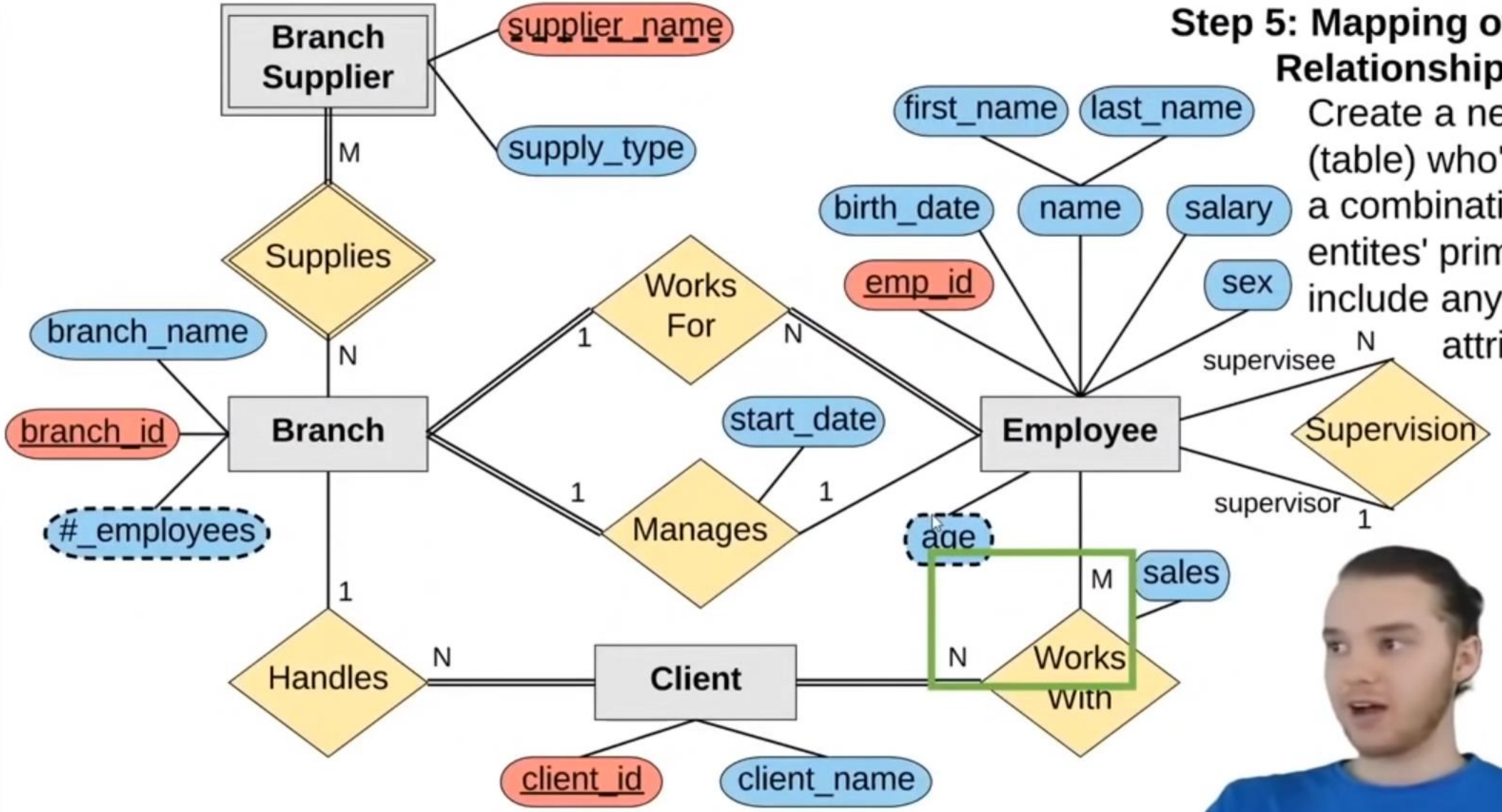
Step 5: Mapping of Binary M:N Relationship Types

Create a new relation (table) who's primary key is a combination of both entites' primary key's. Also include any relationship attribtes



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Employee

emp_id	first_name	last_name	birth_date	sex	salary	super_id	branch_id

Branch

branch_id	branch_name	mgr_id	mgr_start_date

Client

client_id	client_name	branch_id

Branch Supplier

branch_id	supplier_name	supply_type

Works On

emp_id	client_id	total_sales

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Employee

emp_id	first_name	last_name	birth_date	sex	salary	super_id	branch_id

Branch

branch_id	branch_name	mgr_id	mgr_start_date

Client

client_id	client_name	branch_id

Branch Supplier

branch_id	supplier_name	supply_type

Works On

emp_id	client_id	total_sales

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Employee

emp_id	first_name	last_name	birth_date	sex	salary	super_id	branch_id
100	Jan	Levinson	1961-05-11	F	110,000	108	1
101	Michael	Scott	1964-03-15	M	75,000	100	2
102	Josh	Porter	1969-09-05	M	78,000	100	3
103	Angela	Martin	1971-06-25	F	63,000	101	2
104	Andy	Bernard	1973-07-22	M	65,000	102	3
105	Jim	Halpert	1978-10-01	M	71,000	102	3
106	Kelly	Kapoor	1980-02-05	F	55,000	101	2
107	Stanley	Hudson	1958-02-19	M	69,000	101	2
108	David	Wallace	1967-11-17	M	250,000	NULL	1

Branch

branch_id	branch_name	mgr_id	mgr_start_date
2	Scranton	101	1992-04-06
3	Stamford	102	1998-02-13
1	Corporate	108	2006-02-09

Works_With

emp_id	client_id	total_sales
107	400	55,000
101	401	267,000
105	402	22,500
104	403	5,000
105	403	12,000
107	404	33,000
104	405	26,000
101	406	15,000
107	406	130,000

Client

client_id	client_name	branch_id
400	Dunmore Highschool	2
401	Lackawana Country	2
402	FedEx	3
403	John Daly Law, LLC	3
404	Scranton Whitepages	2
405	Times Newspaper	3
406	FedEx	2

Branch Supplier

branch_id	supplier_name	supply_type
2	Hammer Mill	Paper
2	Uni-ball	Writing Utensils
3	Patriot Paper	Paper
2	J.T. Forms & Labels	Custom Forms
3	Uni-ball	Writing Utensils
3	Hammer Mill	Paper
3	Stamford Lables	Custom Forms

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