LECTURE #6

Mapping Freiburg – Answer spatial questions by selection tools

OBJECTIVE

CREATE A THEMATIC MAP OF RIVERS/LAKES AND BUILDINGS IN FREIBURG BASED ON “SPATIAL QUESTIONS”.

- ANSWER SPATIAL QUESTIONS USING SELECTION TOOLS.

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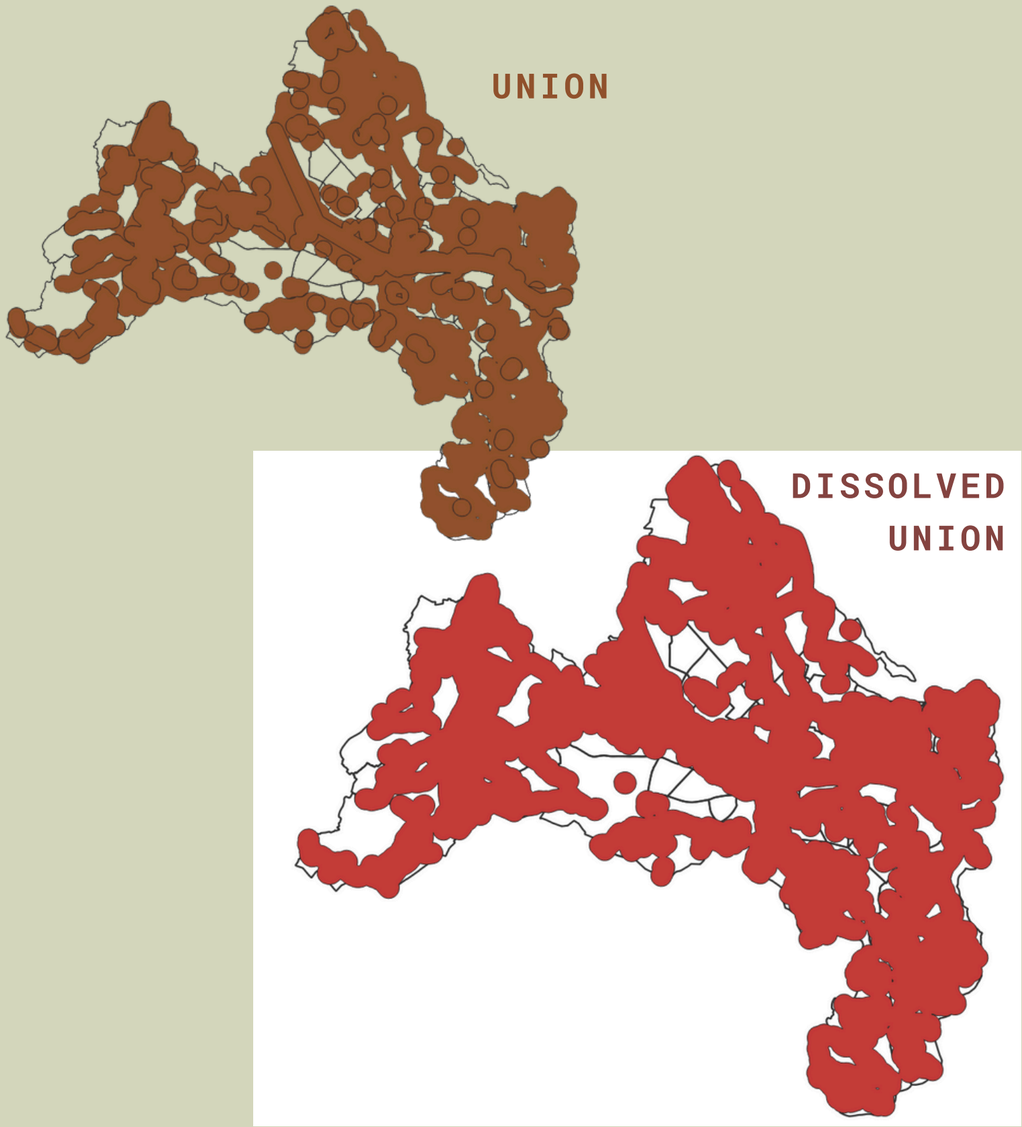
QUICK TUTORIAL

1. APPLY UNION + DISSOLVE

SPATIAL QUESTION:
WHICH AREAS OF FREIBURG ARE WITHIN XX METERS OF ANY (RIVERS+LAKES) WATER BODY??

- UNION
- GO TO VECTOR → GEOPROCESSING TOOLS → UNION.
- INPUT LAYER: BUFFERED RIVERS
- OVERLAY LAYER: BUFFERED LAKES
    - DISSOLVE
    - GO TO VECTOR → GEOPROCESSING TOOLS → DISSOLVE.
    - INPUT LAYER: UNION LAYER



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2. APPLY SELECT BY LOCATION

ANSWERS QUESTIONS REGARDING THE SPATIAL RELATIONSHIP BETWEEN 2 LAYERS

- ONCE DISSOLVED, WE CAN NOW ASK LOCATION QUESTIONS:
  - MENU → VECTOR → SELECTION → SELECT BY LOCATION
    - PARAMETERS
    - INPUT LAYER: BUILDINGS
    - REFERENCE LAYER: DISSOLVED UNION
    - SELECTION TYPE: CREATE NEW SELECTION

ANSWERS QUESTIONS REGARDING THE SPATIAL RELATIONSHIP BETWEEN 2 LAYERS

Spatial Question	Predicate in QGIS
Which buildings fall completely inside the water influence area?	are within
Which buildings fall inside or touch the water influence area?	intersects
Which buildings touch only the boundary of the water influence area?	Overlap
Which buildings are outside the water influence area?	are within + Invert selection

Spatial Question	QGIS Spatial Predicate
Which neighborhoods contain river segments?	contains
Which neighborhoods are crossed by rivers?	intersects or crosses
Which neighborhoods do not contain any rivers?	contains + Invert Selection

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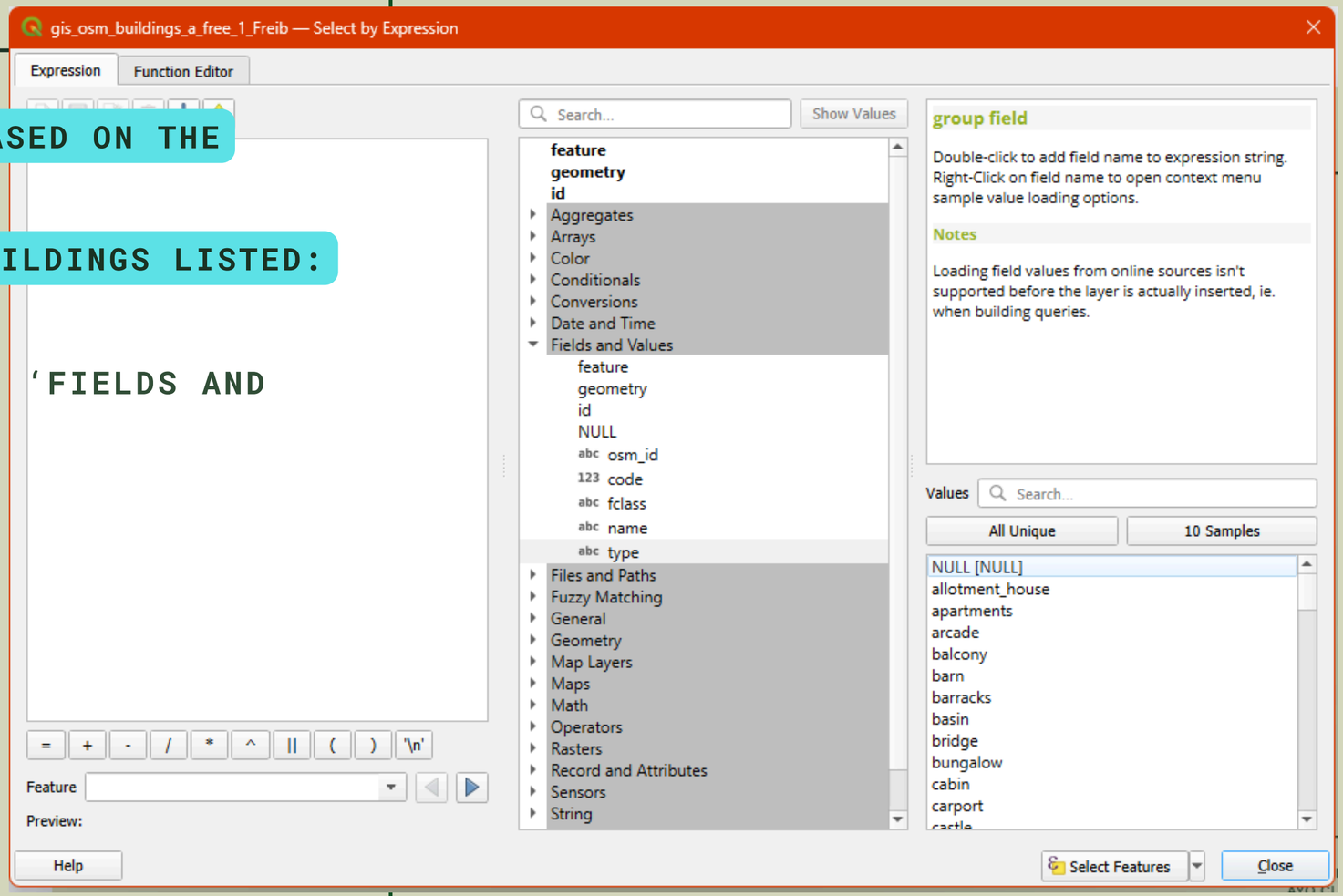
3. APPLY SELECT BY ATTRIBUTE

SELECT FEATURES OF A LAYER BASED ON THE ATTRIBUTE TABLE

LET'S CHECK THE TYPES OF BUILDINGS LISTED:

- ATTRIBUTE TABLE → FILTER → 'FIELDS AND VALUES'



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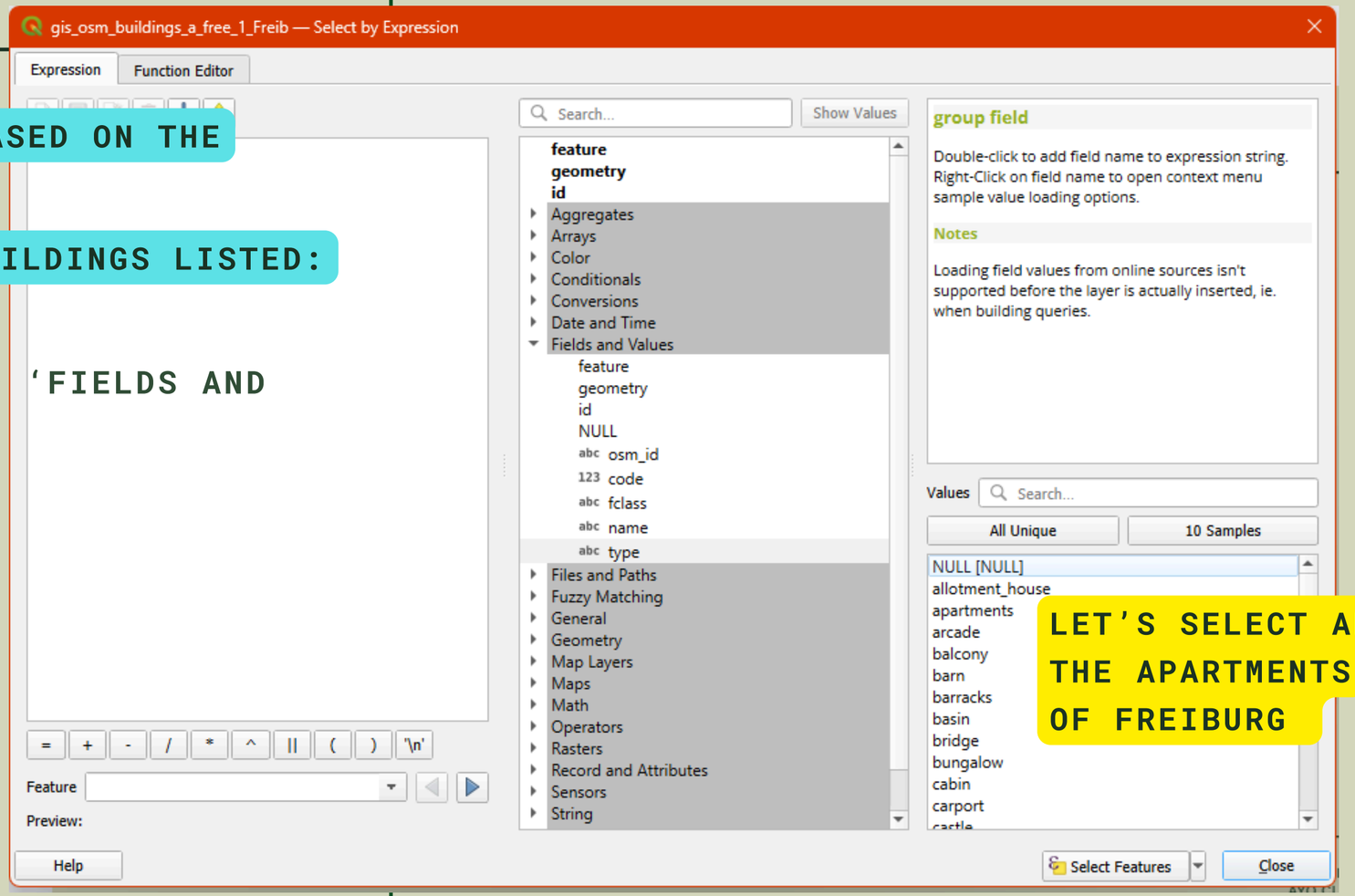

LET'S SELECT ALL THE APARTMENTS OF FREIBURG

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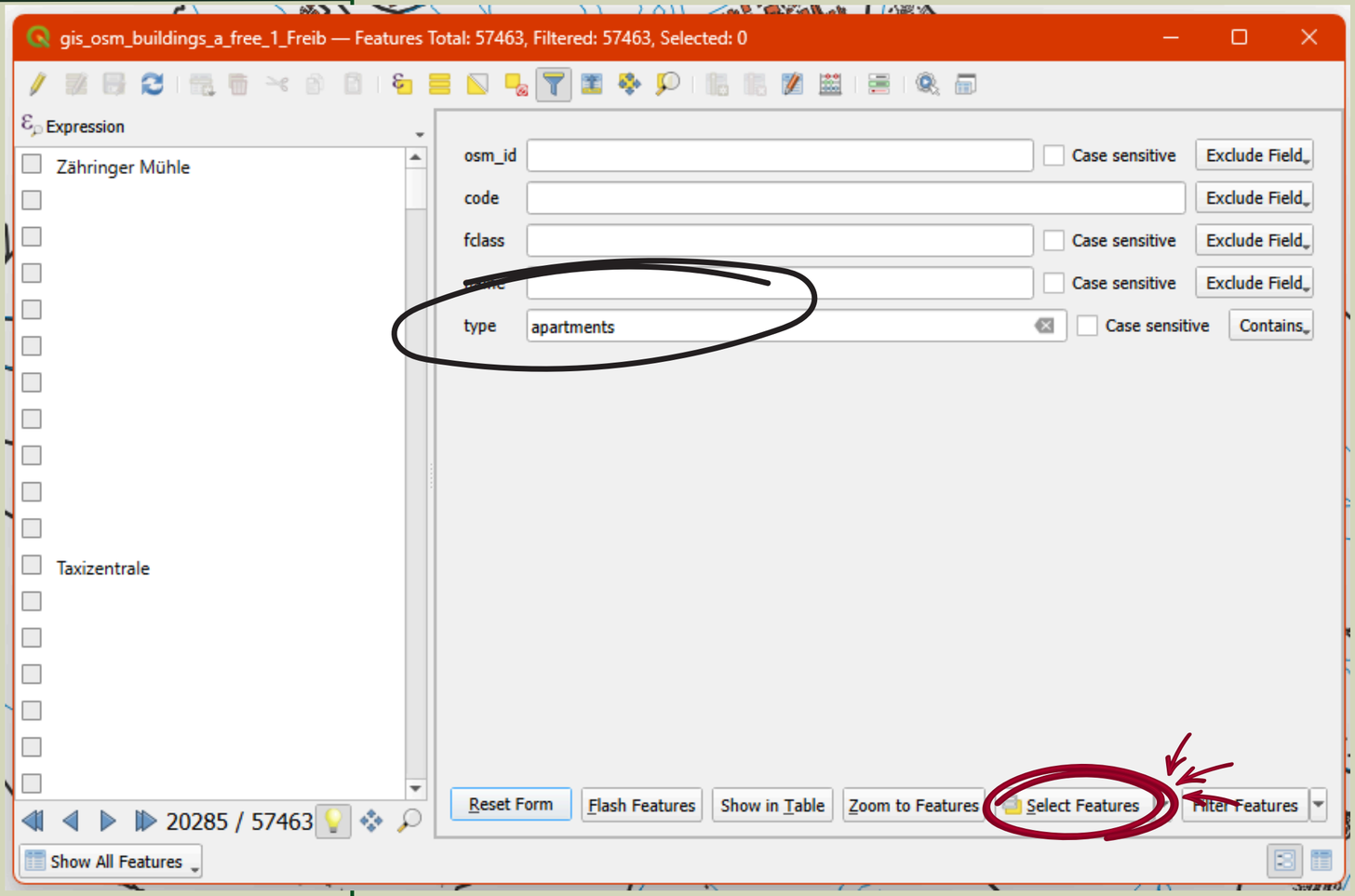
3. APPLY SELECT BY ATTRIBUTE

- ATTRIBUTE TABLE → FILTER →TYPE (APARTMENT) → SELECT FEATURE



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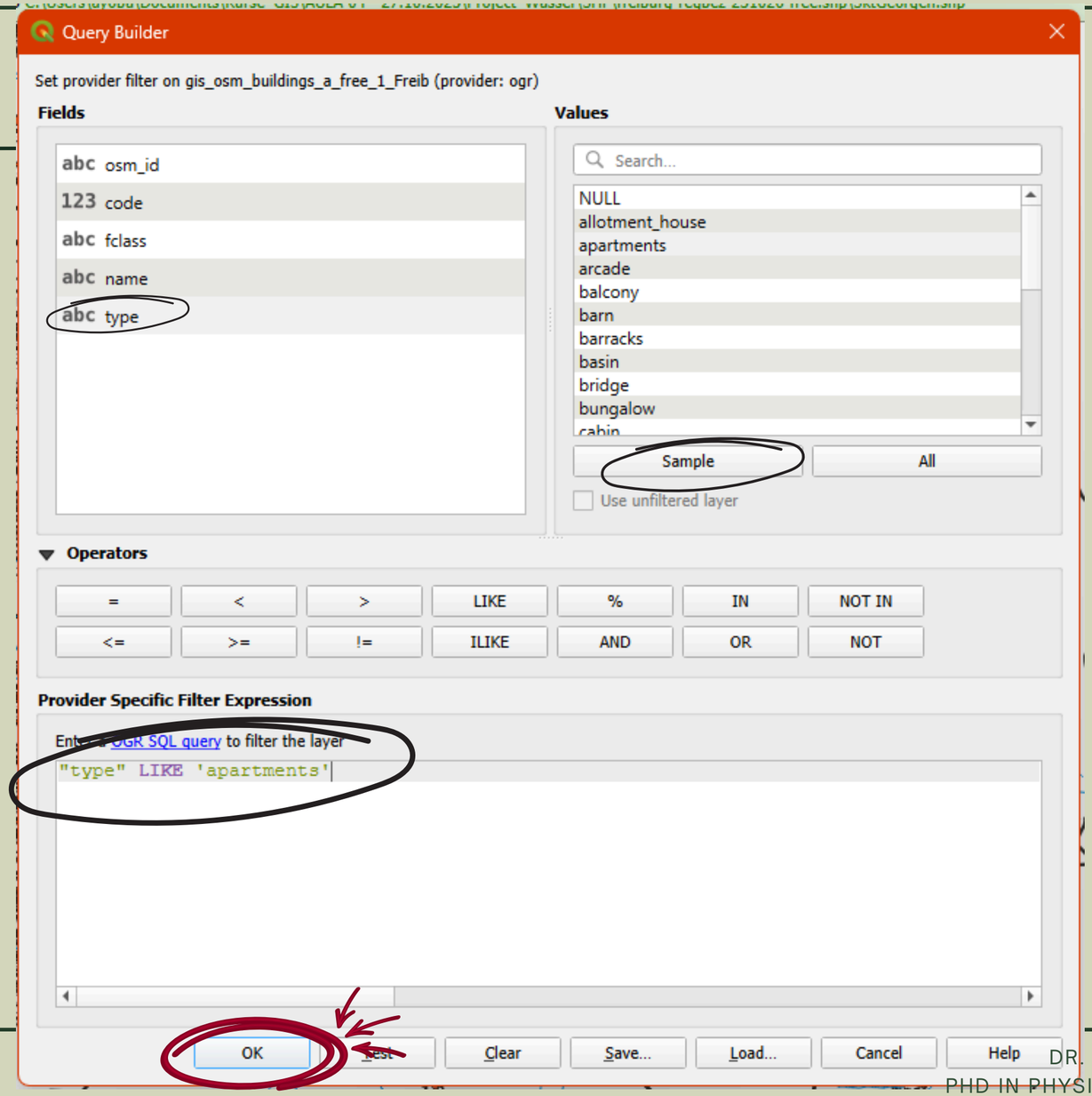
3. APPLY SELECT BY ATTRIBUTE

- SECOND OPTION: RIGHT CLICK ON THE LAYER → FILTER



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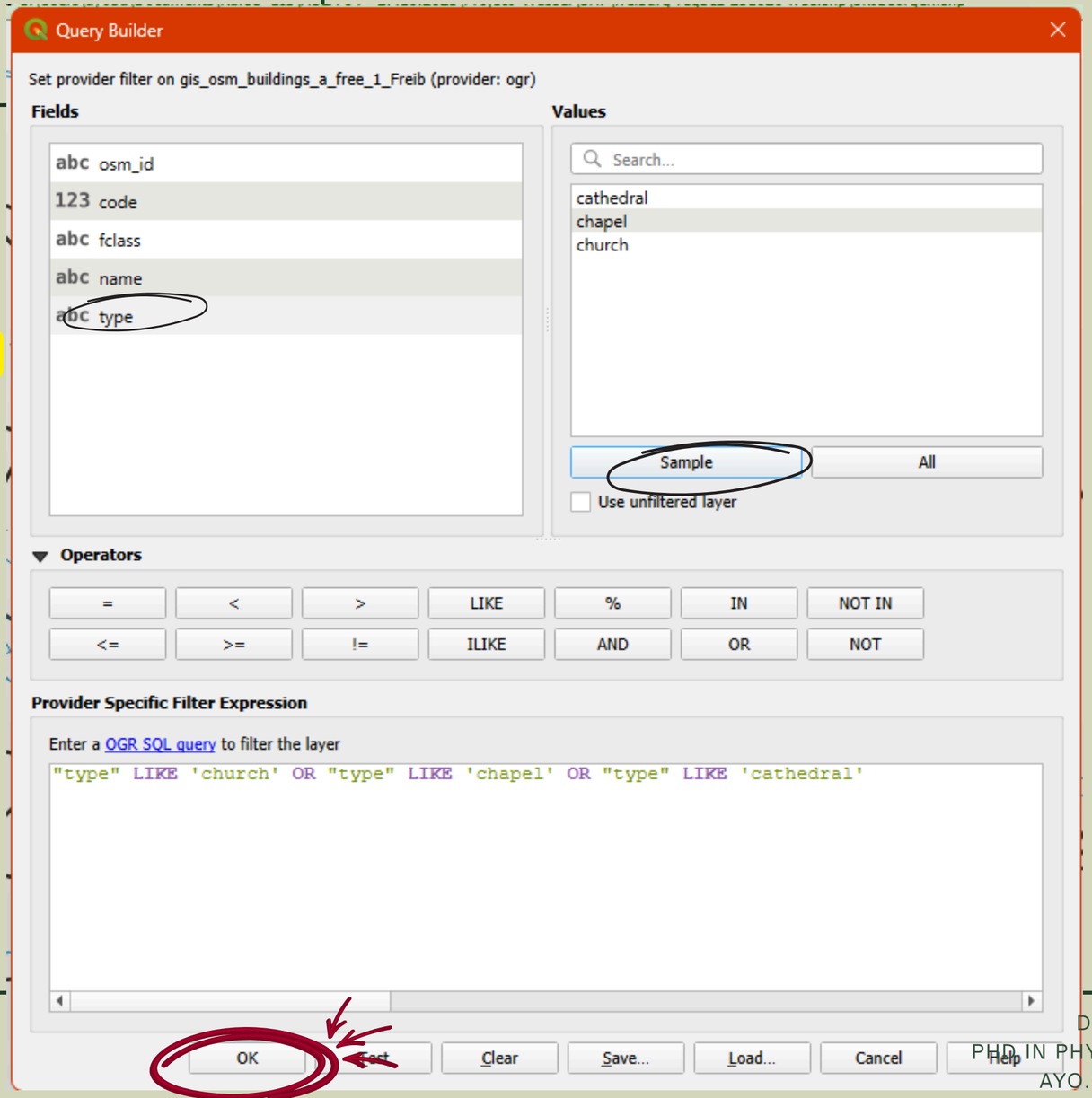
3. APPLY SELECT BY ATTRIBUTE

SELECT BUILDING TYPES THAT ARE CHURCHES OR CHAPEL OR CATHEDRAL

```
"TYPE" LIKE 'CHURCH'
        OR
"TYPE" LIKE 'CHAPEL'
        OR
"TYPE" LIKE 'CATHEDRAL'
```



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EXERCISE:

- **CHOOSE ONE DISTRICT (STADTTEIL) OF FREIBURG.**

- **CREATE MAPS THAT ANSWER THE FOLLOWING:**
  - **WHICH SCHOOLS AND HOSPITALS ARE WITHIN 100 M OF WATER BODIES?**
  - **WHICH RELIGIOUS BUILDINGS ARE BETWEEN 50 AND 150 M FROM WATER?**
  - **WHICH NEIGHBOHOODS ARE CROSSED BY DREISAM?**

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