

## Variables

```
{% set my_string = "example" %}
{% set my_list = ["apple", "lemon"] %}
{% set my_dict = {"WatchEvent": "watch_user_count",
                  "ForkEvent": "fork_user_count" %}
```

## Comments

```
{# Example comment #}
```

## Statements

{% ... %} e.g.: loops, if

## Expressions

{{ ... }} e.g.: ref

## var()

```
SELECT
  *
FROM events
WHERE event_type = '{{ var("event_type") }}'
```

## Macros

Macros are reusable code snippets (functions) written in Jinja

```
{% macro cents_to_dollar(col_name, precision=2) %}
({{ col_name }} / 100)::numeric(16, {{ precision }})

{% endmacro %}
```

### Run macro

dbt run-operation <macro> --args '{example: value}'

## Cast variable

```
# To string
{% set my_int_var = 2020 %}
{% set my_int_var|string %}

# To int
{% set my_str_var = "2020" %}
{% set my_str_var|int %}
```

## Length

```
{% set my_list = ["apple", "lemon"] %}

# Check if my_list has more than 3 element
{% if products|length > 3 %}
```

## Manipulate objects

```
{% set numbers = [] %}

{%- for i in range(1, 10) %}
{%- do numbers.append(i) -%}

{%- endfor %}
```

## Loop.last

To avoid trailing commas in loops use:

```
{% if not loop.last %, {% endif %}
```

## Loops

### Input

```
-- Over list
{% set my_list = ['sales_x', 'sales_y'] %}
SELECT
  id,
  {%- for col_name in my_list %}
  SUM({{ col_name }})
  {%- if not loop.last -%, {%- endif -%}
  {% endfor %}
FROM example
GROUP BY 1
```

```
-- Over dictionary
{% set payment_methods = {"type_0" : "bank_transfer",
                          "type_1" : "credit_card",
                          "type_2" : "gift_card"} %}
```

```
SELECT
  order_id,
  {%- for type, column_name in payment_methods.items() %}
  sum(CASE
    WHEN payment_method = '{{type}}'
    THEN amount end) as {{ column_name }}_amt
  {%- if not loop.last -%, {%- endif -%}
  {% endfor -%}
FROM example
GROUP BY 1
```

## Graph (dag)

```
{% macro example() %}

{% if execute %}
{% for node in graph.nodes.values() %}
{% do log(node.unique_id ~ ", config: " ~ node.config,
info=true) %}
{% endfor %}
{% endif %}

{% endmacro %}
```

## if |elif|else

```
{% macro generate_schema_name() -%}
{%- if target.name == 'dev' -%}
{%- elif target.name == 'prod' -%}
{%- else -%}
{%- endif -%}
{%- endmacro %}
```

## Exceptions

```
-- Warning
{% do exceptions.warn("Warning message") %}

-- Error
{{ exceptions.raise_compiler_error("Error message") }}
```

## Debug

The {{ debug() }} macro will open an iPython debugger in the context of a compiled dbt macro

Usage:

```
...
{{ debug() }}
...
```

## Run query

```
{% set results = run_query("select * from table") %}
{% do results.print_table() %}
```

### Compiled

```
SELECT
  id,
  SUM(sales_x),
  SUM(sales_y)
FROM example
GROUP BY 1
```

```
SELECT
  order_id,
  sum(CASE
    WHEN payment_method = 'type_0'
    THEN amount END) AS bank_transfer_amt,
  sum(CASE
    WHEN payment_method = 'type_1'
    THEN amount END) AS credit_card_amt,
  sum(CASE
    WHEN payment_method = 'type_2'
    THEN amount END) AS gift_card_amt
FROM example
GROUP BY 1
```

## dbt\_utils

[dbt\\_utils](#) is a collection of reusable dbt macros

Examples:

deduplicate - remove duplicates from a model

group\_by - build a group by statement for (1..N)

## Trim whitespace

```
{%- ... %} Strips before

{%- ... -%} Strips before and after
```

## Logging to Stdout

```
{{ log("Some text" ~ my_string, info=True) }}
```

## Return

```
{% macro example() %}

{{ return("Hello") }}

{% endmacro %}
```

## Enviroment variables

```
{{ env_var("VAR_NAME") }}
```