

# Merge API Parameter Not Explicitly Set

## Context

The `df.merge()` API **merges two DataFrames** in Pandas.

## Problem

Although using the default parameter can produce the same result, **explicitly specify on and how and validate produce better readability**.

The parameter `on` states **which columns to join on**, and the parameter `how` **describes the join method** (e.g., `outer`, `inner`). Also, the `validate` parameter will check **whether the merge is of a specified type**.

If the developer assumes the merge keys are unique in both left and right datasets, but that is not the case, and he does not specify this parameter, **the result might silently go wrong**.

## Solution

Developer should **explicitly specify ALL the parameters specified**:

- 1- `on`
- 2- `how`
- 3- `validate`

If one of this parameter is not present in the API call, the problem still persists.

Existing Stage	Effect
Data Cleaning	Readability & Error-prone

Examples at next page.

## Example

```
Python  
import pandas as pd  
df1 = pd.DataFrame({'key': ['foo', 'bar', 'baz', 'foo'],  
                     'value': [1, 2, 3, 5]})  
df2 = pd.DataFrame({'key': ['foo', 'bar', 'baz', 'foo'],  
                     'value': [5, 6, 7, 8]})  
- df3 = df1.merge(df2)  
+ df3 = df1.merge(  
+     df2,  
+     how='inner',  
+     on='key',  
+     validate='m:m'  
+ )
```