

# Key Matching Scenarios

## Same Column Name

df1

Ticker	Price
AAPL	\$150
MSFT	\$350

df2

Ticker	Sector
AAPL	Tech
MSFT	Tech

## Different Column Names

df1

Symbol	Price
AAPL	\$150
MSFT	\$350

df2

Ticker	Sector
AAPL	Tech
MSFT	Tech

```
pd.merge(df1, df2, on='Ticker')
```

Use `on=` when column names match

```
pd.merge(df1, df2, left_on='Symbol', right_on='Ticker')
```

Use `left_on/right_on` for different names

## Multiple Keys

df1

Ticker	Date	Price
AAPL	Jan	\$150
AAPL	Feb	\$155

df2

Ticker	Date	Volume
AAPL	Jan	10M
AAPL	Feb	12M

## Index-Based Merge

df1 (index=Ticker)

Index	Price
AAPL	\$150
MSFT	\$350

df2 (index=Ticker)

Index	Sector
AAPL	Tech
MSFT	Tech

```
pd.merge(df1, df2, on=['Ticker', 'Date'])
```

Pass list of columns for composite key

```
df1.join(df2) # or merge with left_index=True, right_index=True
```

Use `join()` for index-based merging