Lesson 15: Movies Analysis Dashboard with DAX laid out step-by-step with ready-to-use code.

1) Setup & Data Prep

Load

Import Movies.xlsx (or .xls) into Power BI Desktop (table name assumed Movies).

Fix missing values (Budget, Box Office)

Power Query (recommended)

Home → Transform data → select Budget → Transform → Replace Values → Replace null with 0 (or use "Replace Errors").

Do the same for Box Office.

If you prefer median instead of 0: create a reference table with Budget, remove nulls, use Statistics → Median, store the median in a parameter, then replace nulls with that value.

Or keep raw data and guard in DAX with COALESCE(Movies[Budget], 0) and COALESCE(Movies[Box Office], 0).

Data types

Release Date → Date

Budget, Box Office, Run Time, Nominations, Oscar Wins → Whole/Decimal Number

Genre, Certificate, Country, Director, Title → Text

Date table (required)

```
Date =
VAR Base = CALENDARAUTO()
VAR MinRel = MINX ( ALL ( Movies ), Movies[Release Date] )
VAR MaxRel = MAXX ( ALL ( Movies ), Movies[Release Date] )
RETURN
ADDCOLUMNS (
    FILTER ( Base, [Date] >= MinRel && [Date] <= MaxRel ),
    "Year",     YEAR ( [Date] ),
```

```
    "MonthNo",    MONTH ( [Date] ),
    "MonthName",  FORMAT ( [Date], "MMM" ),
    "YearMonth",  FORMAT ( [Date], "YYYY-MM" ),
    "Quarter",    "Q" & FORMAT ( [Date], "Q" )
)
```

Model view → set relationship Movies[Release Date] → Date[Date] (Many-to-One, single direction).

Table tools → Mark as date table (column Date[Date]).

(Optional) Sort Date[MonthName] by Date[MonthNo].

2) Calculated Columns (Movies table)
-- Profit (Box Office - Budget)
Profit =
COALESCE (Movies[Box Office], 0) - COALESCE (Movies[Budget], 0)

-- Run Time segmentation
Run Time Category :=
VAR rt = Movies[Run Time]
RETURN
SWITCH (
    TRUE(),
    ISBLANK (rt), BLANK(),
    rt < 90,   "Short",
    rt < 120,   "Medium",   -- (90–119)
                     "Long"   -- (>=120)
)

3) Measures
Base
Total Box Office :=
SUM (Movies[Box Office])

Total Budget :=
SUM (Movies[Budget])

Total Profit :=
[Total Box Office] - [Total Budget]

Margins
-- Overall margin (portfolio-level ratio)
Profit Margin % :=
```

```
    DIVIDE ( [Total Profit], [Total Budget] )

    -- Per-movie margin averaged across movies in context
    Average Margin (per movie) :=
    AVERAGEX (
        VALUES ( Movies[Title] ),
        DIVIDE ( COALESCE ( Movies[Box Office], 0 ) - COALESCE (
Movies[Budget], 0 ),
            COALESCE ( Movies[Budget], 0 ) )
    )

    Oscars & Nominations
    Movies with Oscars :=
    CALCULATE ( DISTINCTCOUNT ( Movies[Title] ), Movies[Oscar Wins]
> 0 )

    Total Nominations :=
    SUM ( Movies[Nominations] )

    Total Oscars :=
    SUM ( Movies[Oscar Wins] )

    Average Nominations per Director :=
    VAR PerDirector :=
        SUMMARIZE (
            VALUES ( Movies[Director] ),
            Movies[Director],
            "Nom", CALCULATE ( SUM ( Movies[Nominations] ) )
        )
    RETURN
    AVERAGEX ( PerDirector, [Nom] )

    "Top Genre by Box Office" (returns text)
    Top Genre by Box Office :=
    VAR T =
        ADDCOLUMNS (
            VALUES ( Movies[Genre] ),
            "Amt", CALCULATE ( [Total Box Office] )
        )
    RETURN
    MAXX ( TOPN ( 1, T, [Amt], DESC ), Movies[Genre] )

    Time Intelligence (YoY)
    Box Office LY :=
```

```
CALCULATE ( [Total Box Office], SAMEPERIODLASTYEAR (
'Date'[Date] ) )
```

```
YoY Box Office Growth % :=
VAR Cur = [Total Box Office]
VAR LY  = [Box Office LY]
RETURN DIVIDE ( Cur - LY, LY )

-- KPI target (0% means any positive growth is good)
YoY Target % := 0
```

4) Visualization Blueprint
Page 1 — Overview

Cards:

Total Box Office → [Total Box Office]

Profit Margin → [Profit Margin %] (format as %)

Movies with Oscars → [Movies with Oscars]

Stacked Bar: Total Box Office by Genre (stack by Certificate)

Axis: Movies[Genre]

Legend: Movies[Certificate]

Values: [Total Box Office]

Line chart: Box Office trend by Release Year

Axis: Date[YearMonth] (set to Continuous)

Values: [Total Box Office]

Slicers:

Movies[Country]

Date[Date] (Between range)

KPI: YoY Box Office Growth

Indicator: [YoY Box Office Growth %]

Target: [YoY Target %]

Trend axis: Date[YearMonth]

Page 2 — Director Analysis

Treemap: Budget by Director (color by Oscars)

Group: Movies[Director]

Values: [Total Budget]

Color saturation: [Total Oscars]

Table: Directors panel

Columns: Movies[Director], [Total Nominations], [Total Oscars], [Average Nominations per Director]

Slicer: Movies[Genre]

Donut: Run Time Category distribution (for selected Director)

Legend: Movies[Run Time Category]

Values: COUNTROWS (drop Movies[Title] and set aggregation to Count or use Distinct Count of Title)

Page 3 — Genre & Country Insights

Matrix: Genre × Country

Rows: Movies[Genre]

Columns: Movies[Country]

Values: [Total Box Office]

Conditional formatting: Values → Conditional formatting → Color scale (e.g., green high → red low)

Pie: Share of Box Office by Certificate

Legend: Movies[Certificate]

Values: [Total Box Office]

Word Cloud (custom visual): Genre prominence

Category: Movies[Genre]

Values: [Total Box Office] (or COUNTROWS for frequency)

Slicer: Movies[Run Time Category]