Graphviz Graphs from text

CONCEPTS

Edges use → in digraph and -- in graph; mixing them is a syntax error.

DOT text .gv / .dot
↓ dot
Layout positions
↓ -T<fmt>
Output svg, png, pdf

Pick the engine by graph shape: dot for hierarchies, neato/fdp for networks, circo for rings.

Quote any ID with spaces or dashes: "my node". Keywords like node or edge need quotes too.

COMMAND LINE

dot -T<*fmt*> <*file*> **-o** <*out*>
Render with an explicit format

dot -Tsvg <*file*> **>** <*out*>**.svg**
Render SVG to stdout redirect

dot -Kneato -Tpng <*file*> **-o** <*out*>
Choose layout engine by name

neato / fdp / circo / twopi
Alternative layout programs

dot -Gkey=value <*file*>
Set a graph attribute

GRAPH BASICS

digraph G { ... }
Directed graph body

strict digraph G { ... }
Merge duplicate edges

a → b → c
Chain of edges

a → {b c d}
One source, many targets

a [label="Name"]
Node with display text

a → b [label="x"]
Edge with a label

// ... /* ... */ # ...
Comment forms

"two words"
Quote IDs with spaces

GRAPH BASICS (cont.)

label="line1\nline2"
Line break in a label

node [shape=box]
Set node defaults from here on

graph [bgcolor=white]
Set graph-wide attribute

NODES

shape=box
Rectangle node

shape=circle / diamond
Circle or decision diamond

style=filled fillcolor=<*c*>
Fill node colour

EDGES

style=dashed / dotted
Line style

constraint=false
Edge ignored for ranking

LAYOUT AND GROUPS

rankdir=LR
Left to right (TB default)

{rank=same; a; b}
Put nodes on one rank

subgraph cluster_<*n*> **{ ... }**
Box group; name must start cluster

nodesep=<*in*> **ranksep=**<*in*>
Spacing between nodes and ranks

Layout engines

Engine	Best for
`dot`	Layered hierarchies, flows
`neato`	Spring model, small graphs
`fdp`	Springs with clusters
`sfdp`	Very large graphs
`circo`	Circular layouts
`twopi`	Radial from a root

COLOURS AND LABELS

color="#rrggbb"
Hex colour

label=<<<*b*>**bold**</*b*>**>>**
HTML-like label