

```
#!/usr/bin/env bash
set -euo pipefail

# — Config


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SCRIPT_DIR="$(cd "$(dirname "${BASH_SOURCE[0]}")" && pwd)"
HOSTS_FILE="$SCRIPT_DIR/hosts.csv"
SITES_FILE="$SCRIPT_DIR/sites.csv"
OUTPUT_FILE="/var/www/html/dns/index.html"

# — Trim leading/trailing whitespace (safe with apostrophes, unlike xargs)


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trim() { sed 's/^[[:space:]]*//;s/[[:space:]]*$//' <<< "$1"; }

# — Colour palette (cycles if more sites than colours)


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palette=("#3b82f6" "#10b981" "#f59e0b" "#8b5cf6" "#ef4444" "#ec4899"
"#06b6d4" "#84cc16")

# — Load sites.csv


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declare -A site_map      # prefix -> site name
declare -A site_color_map # site name -> colour hex
declare -a site_order=() # insertion order for summary cards
color_idx=0
header=true

while IFS=, read -r prefix site; do
    $header && { header=false; continue; }
    prefix="$(trim "$prefix")"
    site="$(trim "$site")"
    site_map["$prefix"]="$site"
    if [[ -z "${site_color_map[$site]+_}" ]]; then
        site_color_map["$site"]="${palette[$((color_idx %
${#palette[@]})]}"
        site_order+=("$site")
        (( color_idx++ )) || true
    fi
done < "$SITES_FILE"

# — DNS lookup


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resolve() {
    # getent uses the system resolver (same as applications)
    getent hosts "$1" 2>/dev/null | awk '{print $1; exit}' || true
}

get_site() {
    local ip="$1"
    local oct3 oct2 oct1
    oct3="$(echo "$ip" | cut -d. -f1-3)"

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oct2="$(echo "$ip" | cut -d. -f1-2)"
oct1="$(echo "$ip" | cut -d. -f1)"
# Match longest prefix first (most specific wins)
if [[ -n "${site_map[$oct3]+_}" ]]; then echo "${site_map[$oct3]}"
elif [[ -n "${site_map[$oct2]+_}" ]]; then echo "${site_map[$oct2]}"
elif [[ -n "${site_map[$oct1]+_}" ]]; then echo "${site_map[$oct1]}"
else echo "Unknown Location"
fi
}

# — Ping test (1 packet, 2s timeout)


---


ping_host() {
    ping -c 1 -w 2 "$1" &>/dev/null && echo "ok" || echo "fail"
}

# — Process hosts.csv


---


declare -a rows=()
declare -A site_counts
total=0
error_count=0
header=true

while IFS=, read -r hostname name; do
    $header && { header=false; continue; }
    hostname="$(trim "$hostname")"
    name="$(trim "$name")"

    ip="$(resolve "$hostname")"

    if [[ -z "$ip" ]]; then
        site="DNS Lookup Failed"
        color="#6b7280"
        ip_display="unresolved"
        ping_status="fail"
        ping_avg=""
        (( error_count++ )) || true
    else
        site="$(get_site "$ip")"
        color="${site_color_map[$site]:-#6b7280}"
        ip_display="$ip"
        site_counts["$site"]=$(( ${site_counts[$site]:-0} + 1 ))
        ping_status="$(ping_host "$hostname")"
        ping_avg=""
    fi

    rows+=("$hostname|$name|$ip_display|$site|$color|$ping_status|$ping_avg")
    (( total++ )) || true
done < "$HOSTS_FILE"
```

```

last_updated="$(date '+%Y-%m-%d %H:%M:%S')"

# — Build summary cards


---


site_cards=""
for site in "${site_order[@]"; do
    count="${site_counts[$site]:-0}"
    [[ "$count" -eq 0 ]] && continue
    col="${site_color_map[$site]}"
    site_cards+="
    <div class=\"card\" style=\"border-color:${col}33\">
        <div class=\"card-label\">Hosts at site</div>
        <div class=\"card-value\" style=\"color:${col}\">${count}</div>
        <div class=\"card-sub\" title=\"${site}\">${site}</div>
    </div>"
done

if [[ "$error_count" -gt 0 ]]; then
    site_cards+="
    <div class=\"card\" style=\"border-color:#ef444433\">
        <div class=\"card-label\">DNS Failures</div>
        <div class=\"card-value\" style=\"color:#ef4444\">${error_count}</div>
        <div class=\"card-sub\">could not resolve</div>
    </div>"
fi

# — Build table rows


---


table_rows=""
for row in "${rows[@]"; do
    IFS='|' read -r hostname name ip site color ping_status ping_avg <<<
"$row"
    if [[ "$ip" == "unresolved" ]]; then
        ip_html="<span class=\"ip failed\">unresolved</span>"
    else
        ip_html="<span class=\"ip\">${ip}</span>"
    fi
    if [[ "$ping_status" == "ok" ]]; then
        ping_html="<span class=\"badge ping-ok\">online</span>"
    else
        ping_html="<span class=\"badge ping-fail\">timeout</span>"
    fi
    table_rows+="
    <tr>
        <td><span class=\"hostname\">${hostname}</span></td>
        <td><span class=\"friendly\">${name}</span></td>
        <td>${ip_html}</td>
        <td><span class=\"badge\" style=\"background:${color}22;
color:${color}; border:1px solid ${color}55\">${site}</span></td>
        <td>${ping_html}</td>
    </tr>"

```

done

— Write HTML

```
mkdir -p "$(dirname "$OUTPUT_FILE")"

cat > "$OUTPUT_FILE" <<HTML
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>DNS Location Lookup</title>
<style>
*, *::before, *::after { box-sizing: border-box; margin: 0; padding: 0; }
body {
  font-family: system-ui, -apple-system, 'Segoe UI', sans-serif;
  background: #0f172a; color: #e2e8f0;
  min-height: 100vh; padding: 2rem 1rem;
}
.container { max-width: 960px; margin: 0 auto; }
header {
  display: flex; align-items: center; justify-content: space-between;
  flex-wrap: wrap; gap: 1rem; margin-bottom: 2rem;
}
.header-left h1 { font-size: 1.6rem; font-weight: 700; color: #f1f5f9; }
.header-left p { font-size: 0.8rem; color: #64748b; margin-top: 0.2rem; }
.summary { display: flex; flex-wrap: wrap; gap: 0.75rem; margin-bottom:
2rem; }
.card {
  background: #1e293b; border: 1px solid #334155;
  border-radius: 0.75rem; padding: 0.9rem 1.25rem; flex: 1 1 140px;
}
.card-label { font-size: 0.7rem; text-transform: uppercase; letter-
spacing: 0.08em; color: #64748b; margin-bottom: 0.3rem; }
.card-value { font-size: 1.8rem; font-weight: 700; line-height: 1; }
.card-sub { font-size: 0.75rem; color: #94a3b8; margin-top: 0.25rem;
white-space: nowrap; overflow: hidden; text-overflow: ellipsis; }
.table-wrap { background: #1e293b; border: 1px solid #334155; border-
radius: 0.75rem; overflow: hidden; }
table { width: 100%; border-collapse: collapse; }
thead { background: #0f172a; }
th {
  text-align: left; padding: 0.75rem 1rem; font-size: 0.7rem;
  text-transform: uppercase; letter-spacing: 0.07em; color: #64748b; font-
weight: 600;
}
td { padding: 0.85rem 1rem; border-top: 1px solid #1e293b; font-size:
0.9rem; vertical-align: middle; }
tr:nth-child(even) td { background: #172033; }
tr:hover td { background: #1d2d45; }
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.hostname { font-weight: 600; color: #f1f5f9; font-family: monospace;
font-size: 0.95rem; }
.friendly { color: #94a3b8; }
.ip      { font-family: monospace; color: #7dd3fc; }
.ip.failed { color: #f87171; font-style: italic; }
.badge { display: inline-block; padding: 0.25rem 0.7rem; border-radius:
9999px; font-size: 0.75rem; font-weight: 600; white-space: nowrap; }
.ping-ok  { background:#10b98122; color:#10b981; border:1px solid
#10b98155; }
.ping-fail { background:#ef444422; color:#ef4444; border:1px solid
#ef444455; }
.hint {
margin-top: 1.5rem; background: #1e293b; border: 1px solid #334155;
border-radius: 0.75rem; padding: 1rem 1.25rem; font-size: 0.8rem;
color: #64748b; display: flex; gap: 2rem; flex-wrap: wrap;
}
.hint strong { color: #94a3b8; display: block; margin-bottom: 0.25rem; }
.hint code {
background: #0f172a; border: 1px solid #334155;
padding: 0.1rem 0.4rem; border-radius: 0.25rem; font-family: monospace;
color: #7dd3fc;
}
@media (max-width: 600px) { th:nth-child(3), td:nth-child(3) { display:
none; } }
</style>
</head>
<body>
<div class="container">
  <header>
    <div class="header-left">
      <h1>DNS Location Lookup</h1>
      <p>Last updated: ${last_updated}</p>
    </div>
  </header>
  <div class="summary">
    <div class="card">
      <div class="card-label">Total Hosts</div>
      <div class="card-value" style="color:#f1f5f9">${total}</div>
      <div class="card-sub">across all sites</div>
    </div>
    ${site_cards}
  </div>
  <div class="table-wrap">
    <table>
      <thead>
        <tr>
          <th>Hostname</th>
          <th>Friendly Name</th>
          <th>IP Address</th>
          <th>Location</th>
          <th>Ping</th>
        </tr>
      </thead>
    </table>
  </div>
</body>
</html>
```

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        </tr>
    </thead>
    <tbody>
        ${table_rows}
    </tbody>
</table>
</div>
<div class="hint">
    <div>
        <strong>Add / remove hosts</strong>
        Edit <code>hosts.csv</code> &mdash; columns: <code>hostname</code>,
<code>name</code>
    </div>
    <div>
        <strong>Add / change sites</strong>
        Edit <code>sites.csv</code> &mdash; columns: <code>prefix</code>
(first two octets), <code>site</code>
    </div>
    <div>
        <strong>Auto-refresh</strong>
        Page regenerated by cron &mdash; last run shown above
    </div>
</div>
</div>
</body>
</html>
HTML

echo "Written to ${OUTPUT_FILE} at ${last_updated}"

```

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