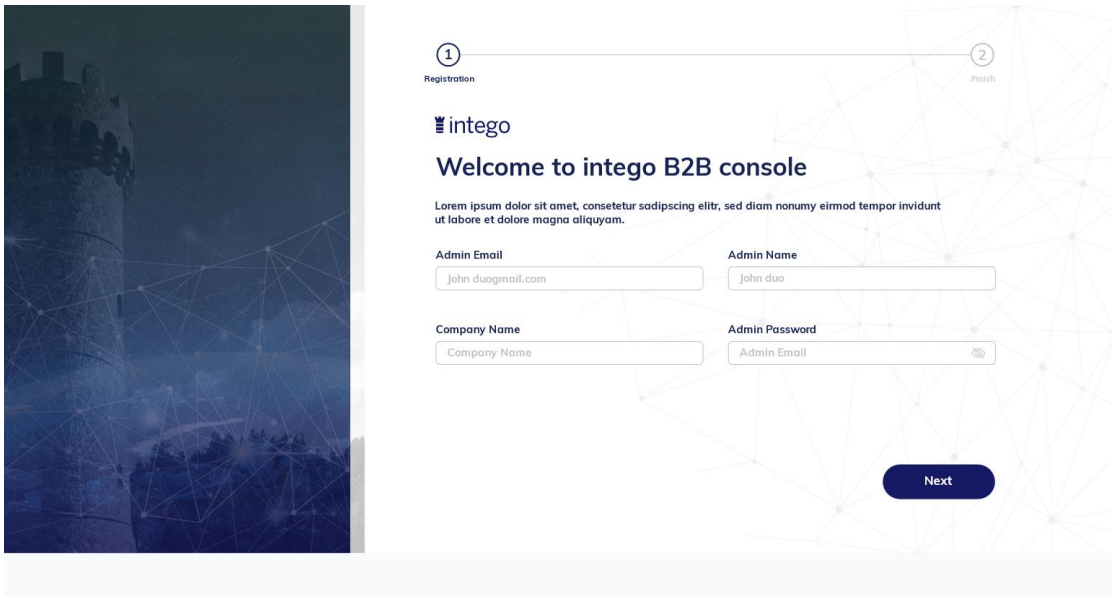
Full-stack skills assessment

Part 1 – full stack with nodejs

Using HTML, CSS, javascript and nodejs backend:

1. create the page in the “Full-stack Practical Skills assessment.xd”
2. validate input (all fields are mandatory, email)
3. Submit form to a nodejs backend
4. Store name, email, company, and hash for password in mysql table using nodejs backend

Preview:



Part 2 – python

1. Implement a class `PriceConverter` – the class should provide a method to convert given price in USD to a requested currency.
   The price should include the currency symbol at the correct position (to the left or right to the price – i.e. $40.95 and not 40.95$ for USD).
   You should translate only supported currencies – from this list:
   USD, JPY, GBP, EUR, CAD, AUD, SEK, SGD, MXN, NZD, DKK, BRL, NOK, HKD, CLP, THB, ZAR, INR, COP
   Any other – return USD price
   You can use this API to convert the currency: https://exchangeratesapi.io/
   The prices were converted from USD under these guidelines:
   a. Always round up
   b. For currency with 2-3 numbers always add decimal 2 with .99.
   c. For currencies with 4 numbers - unit's place=0
   d. For currencies with 5+ - tens place=00
   e. Examples:
      i. 18.77 -> 18.99
      ii. 254.01 -> 254.99
      iii. 5,456 -> 5,460
      iv. 11,527 -> 11,600
      v. 111,510 -> 111,600

2. Letter Combinations of a Phone Number

   Given a string containing digits from `2-9` inclusive, return all possible letter combinations that the number could represent. Return the answer in **any order**.

   A mapping of digit to letters (just like on the telephone buttons) is given below. Note that 1 does not map to any letters.

   Example 1:

```
Input: digits = "23"

Output: ["ad","ae","af","bd","be","bf","cd","ce","cf"]
```

Example 2:

```
Input: digits = ""

Output: []
```

Example 3:

```
Input: digits = "2"

Output: ["a","b","c"]
```

Constraints:

- `0 <= digits.length <= 4`
- `digits[i]` is a digit in the range `['2', '9']`.

Part 3 – php

1. Implement class `ScanResults`, the class should get XML for scan results. There are 2 types of scan results – `privacy` and `junk`, the XML can contain one or another. The class should be able to output the results as a json that includes in a tree the dir, file and size, and can be ordered by alpha-numeric (dir & file) or ordered by size (of dir &file).
   Do not assume the XML is ordered.

XML definition:

```
<ScanResults type="<str>">
  <dir name="<str>" items="<int>" sizeBytes="<int>">
    <file path="<str>" sizeBytes="<int>"/>
  </dir>
</ScanResults>
```

Example for privacy:

```
<ScanResults type="privacy">
  <dir name="chrome" items="3" sizeBytes="32324">
    <file path="c:\chrome\1.file" sizeBytes="23"/>
    <file path="c:\chrome\2.file" sizeBytes="25858"/>
    <file path="c:\chrome\3.file" sizeBytes="6443"/>
  </dir>
  <dir name="firefox" items="2" sizeBytes="2343">
    <file path="c:\firefox\1.file" sizeBytes="43"/>
    <file path="c:\firefox\2.file" sizeBytes="2300"/>
  </dir>
</ScanResults>
```

Example for junk:

```
<ScanResults type="junk">
  <dir name="c:\user\temp" items="3" sizeBytes="32324">
    <file path="c:\user\temp\1.file" sizeBytes="23"/>
    <file path="c:\user\temp\2.file" sizeBytes="25858"/>
    <file path="c:\user\temp\3.file" sizeBytes="6443"/>
  </dir>
  <dir name="c:\windows\temp" items="2" sizeBytes="2343">
    <file path="c:\windows\temp\1.file" sizeBytes="43"/>
    <file path="c:\windows\temp\2.file" sizeBytes="2300"/>
  </dir>
</ScanResults>
```

json output definition

```
{
 "type": "string",
 "totalSize": "int",
 "totalItems": "int",
 "results": {
  "folders": "array",
  "items": {
   "location": "string",
   "totalSize": "int",
   "totalItems": "int",
   "files": "array",
   "items in files array": {
    "file": "string",
    "size": "int"
   }
  }
 }
}
```

Example:

```
{
 "type": "junk",
 "totalSize": 34667,
 "totalItems": 5,
 "results": {
  "folders": [
   {
    "location": "c:\\user\\temp",
    "totalSize": 32324,
    "totalItems": 3,
    "files": [
     {
      "file": "c:\\user\\temp\\1.file",
      "size": 23
     },
     {
      "file": "c:\\user\\temp\\2.file",
      "size": 25858
     },
     {
      "file": "c:\\user\\temp\\3.file",
      "size": 6443
     }
    ]
   },
```

```
    {
      "location": "c:\\windows\\temp",
      "totalSize": 2343,
      "totalItems": 2,
      "files": [
        {
          "file": "c:\\windows\\temp\\1.file",
          "size": 43
        },
        {
          "file": "c:\\windows\\temp\\2.file",
          "size": 2300
        }
      ]
    }
  ]
 }
}
```