ER DiagramA screenshot of a computer

Description automatically generated

Above is the Entity-Relationship diagram for my database. Here is an explanation of the relationships:

1. **Candidate and Application Relationship**

Candidates play a crucial role in the system, being able to submit numerous applications for various job opportunities. A **candidate** may have sent one or more applications, but each **application** must have only one candidate. This is a **one-to-many** relationship.

1. **Job and Application Relationship**

Jobs act as pivotal points where employers seek suitable candidates. A **job** may have one or more applications sent for it, but each **application** can only correspond to one job. This is a **one-to-many** relationship.

1. **Job and Contract Relationship (Many-to-Many Resolved)**

It is important to acknowledge the intricate relationship between jobs and contracts. A **contract** may be used in one or more jobs, and each **job** may have one or more contracts. This results in a many-to-many relationship. This is resolved into two **one-to-many** relationships using the **job\_contract** table. The **job\_contract** table is known as a **junction** table.

1. **Job and Location Relationship**

Jobs are linked to specific locations, confining employment opportunities to defined geographical areas. A **job** can only have one location, but each **location** may have one or more jobs available in that area. This is a **one-to-many** relationship.

1. **Job and Sector Relationship**

Jobs are aligned with specific sectors, allowing for the categorisation of employment opportunities. A **job** can only be in one sector, but each **sector** may have one or more jobs linked to it. This is a **one-to-many** relationship.

1. **Job and Employer Relationship**

Jobs are posted by employers seeking to fulfil specific roles within their organisation. A **job** can only have one employer, but each **employer** may have one or more jobs posted. This is a **one-to-many** relationship.

1. **Sector and Employer Relationship**

Sectors serve as the main market in which an employer caters to. A **sector** may have one or more employers that specialise in it, but each **employer** will have only sector they specialise in. This is a **one-to-many** relationship.