Logical Transformation

Step 1: Convert Strong Entities

Visitor (VisitorID (PK), VisitorName, VisitorDateOfBirth, VisitorEmail)

Appointment (AppointmentID (PK), AppointmentDate, AppointmentTime, AppointmentZoomID)

TastingExperience (TastingExperienceID (PK), TastingExperienceName, TastingExperienceDuration, TastingExperienceCost)

Employee (EmployeeID (PK), EmployeeName, EmployeeAddress, EmployeeDepartment)

Department (DepartmentID (PK), DepartmentName)

Event (EventID (PK), EventName, EventDate, EventTime, EventCost, EventCapacity)

Booking (BookingID (PK), BookingDate, BookingNumberOfPeople)

Exhibit (ExhibitID (PK), ExhibitDescription, ExhibitNumberOfItems)

Subscription (SubscriptionID (PK), SubscriptionName, SubscriptionCost)

Package (PackageID (PK), PackageName)

Product (ProductID (PK), ProductName, ProductDescription)

Ingredient (IngredientID (PK), IngredientName, IngredientAllergens)

Supplier (SupplierID (PK), SupplierName)

Step 2: Convert Weak Entities

None, it doesn't exist.

Step 3: Convert One-to-One Relationship

Department (DepartmentID (PK), DepartmentName, EmployeeID (FK))

Exhibit (ExhibitID (PK), ExhibitDescription, ExhibitNumberOfItems, EventID (FK))

Step 4: Convert One-to-Many Relationship

Employee (EmployeeID (PK), EmployeeName, EmployeeAddress, EmployeeDepartment, DepartmentID (FK))

Appointment (AppointmentID (PK), AppointmentDate, AppointmentTime, AppointmentZoomID, Employee (FK))
*Appointment (AppointmentID (PK), AppointmentDate, AppointmentTime, AppointmentZoomID, Employee (FK), VisitorID (FK))

Subscription (SubscriptionID (PK), SubscriptionName, SubscriptionCost, VisitorID (FK))

Package (PackageID (PK), PackageName, SubscriptionID (FK))

Sourcing_History (IngredientID (PK, FK), SupplierID (FK), StartDate, EndDate, Cost, Quantity, UnitOfMeasurement)

Demonstrator (ReservationID (PK), EmployeeID (FK), MinutesBooked)
**added after Step 7

Step 5: Convert Many-to-Many Relationship

Employee_Works_In_Department (EmployeeID (PK, FK), DepartmentID (PK, FK))

Employee_Runs_Event (EmployeeID (PK, FK), EventID (PK, FK), Role)

Booking_Books_Event (BookingID (PK, FK), EventID (PK, FK))

Package_Has_Product (PackageID (PK, FK), ProductID (PK, FK))

Ingredient_Measurment_for_Product (IngredientID (PK, FK), ProductID (PK, FK), Amount, unit)

Step 6: Convert MVA

EmployeeQualifications (EmployeeID (PK, FK), QualificationName (PK))

Step 7: Convert Associative Entities / Ternary Relationship

Reservation (AppointmentID (PK, FK), EmployeeID (PK, FK), TastingExperienceID (PK, FK), EmployeeMakingReservation, DateOfReservation, ExperienceDate, ExperienceTime, NumberOfPeople)

FINAL TABLE:

Visitor (VisitorID (PK), VisitorName, VisitorDateOfBirth, VisitorEmail)

Appointment (AppointmentID (PK), AppointmentDate, AppointmentTime, AppointmentZoomID, Employee (FK), VisitorID (FK))

TastingExperience (TastingExperienceID (PK), TastingExperienceName, TastingExperienceDuration, TastingExperienceCost)

Employee (EmployeeID (PK), EmployeeName, EmployeeAddress, EmployeeDepartment, DepartmentID (FK))

Department (DepartmentID (PK), DepartmentName, EmployeeID (FK))

Event (EventID (PK), EventName, EventDate, EventTime, EventCost, EventCapacity)

Booking (BookingID (PK), BookingDate, BookingNumberOfPeople)

Exhibit (ExhibitID (PK), ExhibitDescription, ExhibitNumberOfItems, EventID (FK))

Subscription (SubscriptionID (PK), SubscriptionName, SubscriptionCost, VisitorID (FK))

Package (PackageID (PK), PackageName, SubscriptionID (FK))

Product (ProductID (PK), ProductName, ProductDescription)

Ingredient (IngredientID (PK), IngredientName, IngredientAllergens)

Supplier (SupplierID (PK), SupplierName)

Sourcing_History (IngredientID (PK, FK), SupplierID (FK), StartDate, EndDate, Cost, Quantity, UnitOfMeasurement)

Demonstrator (ReservationID (PK), EmployeeID (FK), MinutesBooked)

Employee_Works_In_Department (EmployeeID (PK, FK), DepartmentID (PK, FK))

Employee_Runs_Event (EmployeeID (PK, FK), EventID (PK, FK), Role)

Booking_Books_Event (BookingID (PK, FK), EventID (PK, FK))

Package_Has_Product (PackageID (PK, FK), ProductID (PK, FK))

Ingredient_Measurment_for_Product (IngredientID (PK, FK), ProductID (PK, FK), Amount, unit)

EmployeeQualifications (EmployeeID (PK, FK), QualificationName (PK))

Reservation (AppointmentID (PK, FK), EmployeeID (PK, FK), TastingExperienceID (PK, FK), EmployeeMakingReservation, DateOfReservation, ExperienceDate, ExperienceTime, NumberOfPeople)