

Modelos y bases de datos

A wide-angle, high-angle photograph of a vast, modern data center. The space is filled with rows of server racks, each illuminated with a warm, golden light. The racks are connected by a complex network of cables and conduits, creating a dense, organized web of infrastructure. The ceiling is high, with a complex steel truss system and numerous long, horizontal light fixtures. The floor is a light-colored, polished surface that reflects the ambient light. The overall atmosphere is one of high-tech precision and scale.

Google Data Center



Tener en cuenta...

- Proyecto
Sábado 12 de Abril
- Autoestudio 5
Jueves 24 de Abril – 10:00 am

Proyecto

AGENDA

S03. FORMULACIÓN DEL PROYECTO. (SA 8 FEB)

S05. DISEÑO CONCEPTUAL. GENERAL. (SA 22 FEB)

S07. DISEÑO CONCEPTUAL. EXTENDIDO. (SA 08 MAR)

S09. DISEÑO LÓGICO. ESTRUCTURA + DECLARATIVAS. (SA 22 MAR)

S11 . DISEÑO LÓGICO. ESTRUCTURA + PROCEDIMENTALES. (SA 05 ABR -> SA 12 ABR)

S15. DISEÑO FÍSICO. DATOS + COMPONENTES (SA 10 MAY)

S16. ENTREGA FINAL. PRIMER CICLO (SA 17 MAY).

S18. ENTREGA FINAL. SEGUNDO CICLO. (LU 19 MAY)

RECOMENDACIONES

- Archivos SQL: No es uno solo.
- Estructura en Astah.
- GitHub

| | | |
|---|--|---|
| Restricciones Declarativas, Procedimentales y Automatización | Tuplas Definición de las restricciones que implican más de un atributo | TuplasOK Ingreso de datos correctos con respecto a la restricciones de tuplas TuplasNoOK Intento de ingreso de datos incorrectos con respecto a las restricciones de tupla |
| | Acciones Definición de las acciones de referencia | AccionesOK Casos que prueban las acciones de referencia |
| | Disparadores Definición de disparadores | DisparadoresOK Ingreso de datos usando la automatización definida en los disparadores. |
| | XDisparadores Eliminación de disparadores | DisparadoresNoOK Intento de ingreso de datos erroneos protegidos por las restricciones de los disparadores. |
| | | |

Prácticas XP

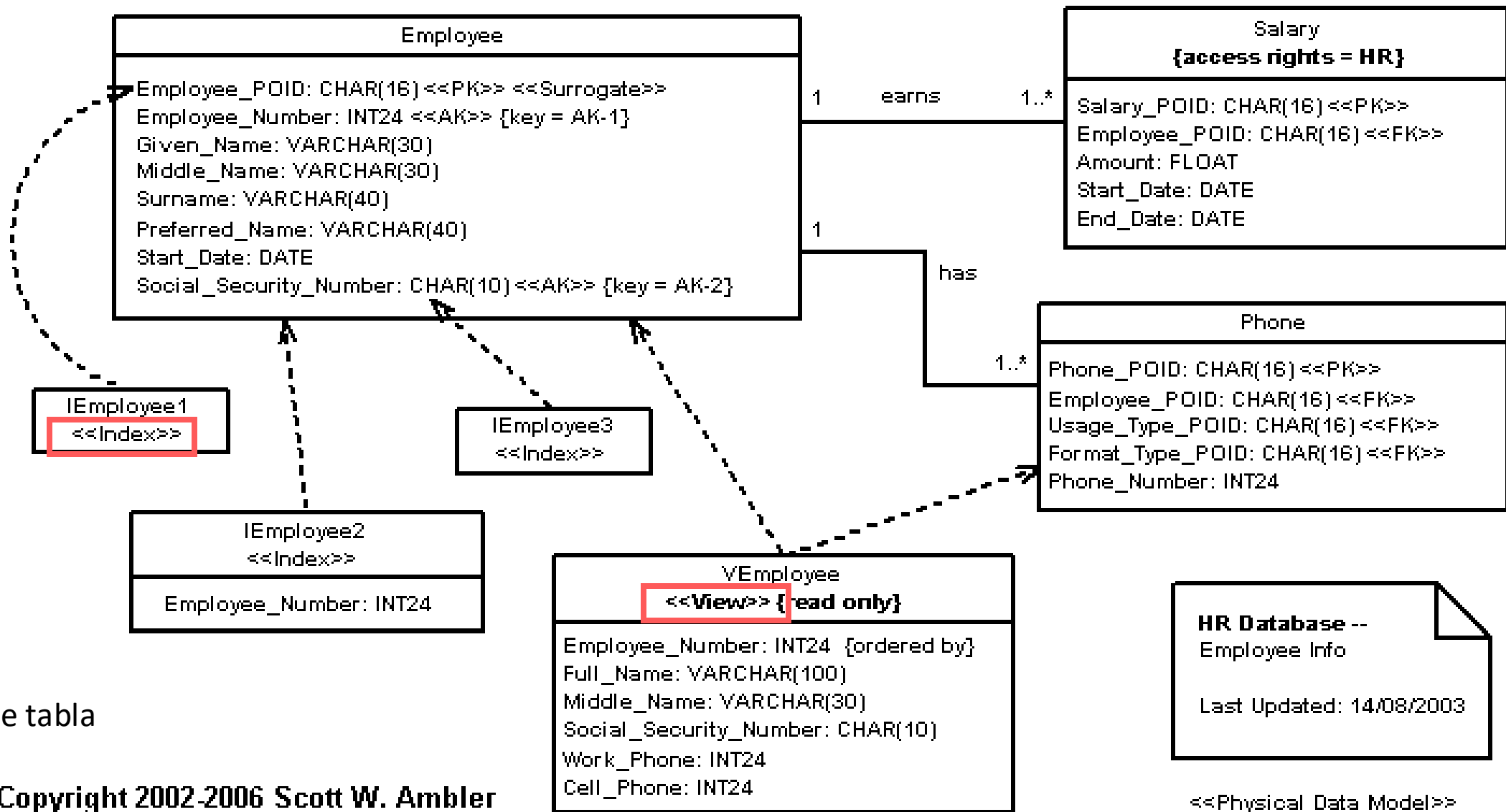
Testing

- ⓧ All code must have unit tests.
- ⓧ All code must pass all unit tests before it can be released.
- ⓧ When a bug is found tests are created.
- ⓧ Acceptance tests are run often and the score is published.

¿Qué propone?

¿Para qué se utiliza?

¿Cómo la usarían en MBDA?



De tabla

Order

Order ID: CHAR(16) <<PK>>

Order_Date: DATE {after Jan 1 2000}

Customer_POID: CHAR(16) <<FK>> {not null}

insertOrder(...) <<Trigger>> {event = after insert}

deleteOrder(...) <<Trigger>> {event = before delete}

HR_Database <<Stored Procedures>>

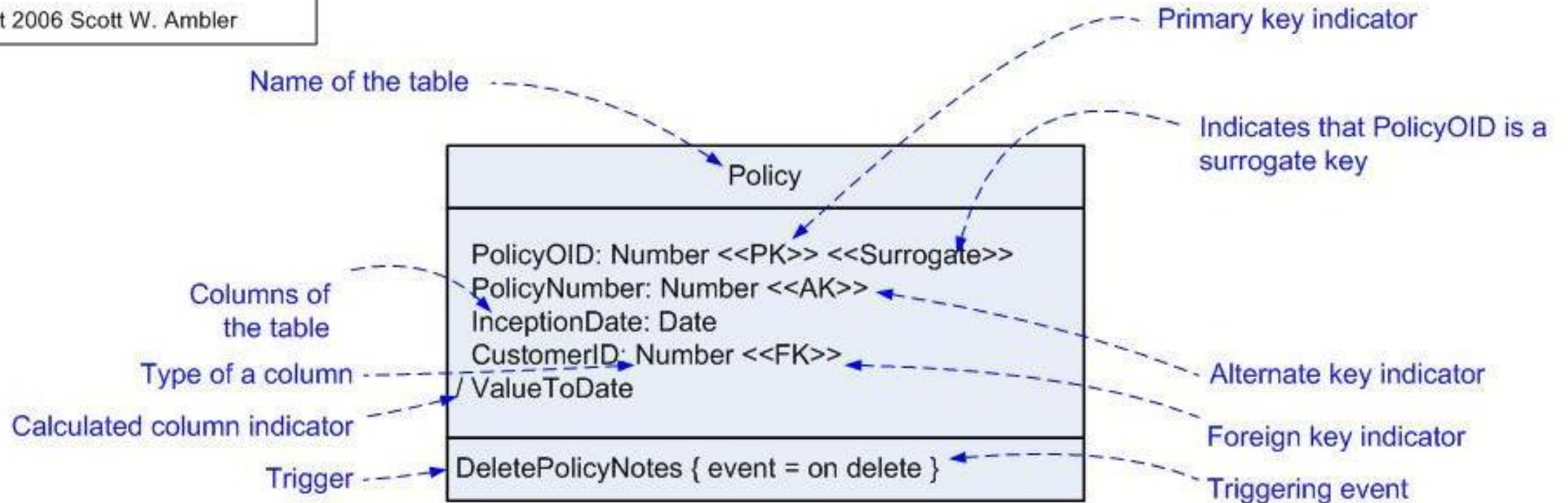
getOrderTotal(orderID: CHAR(10)): FLOAT

getOrders(customer_POID: CHAR(16)): RESULTSET

...

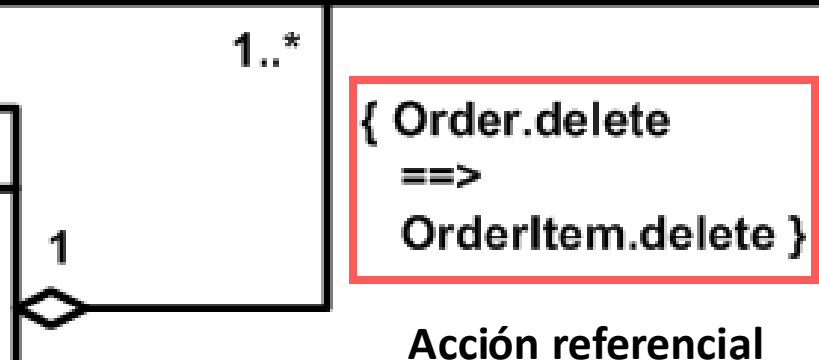
Notation Summary: UML Physical Data Model

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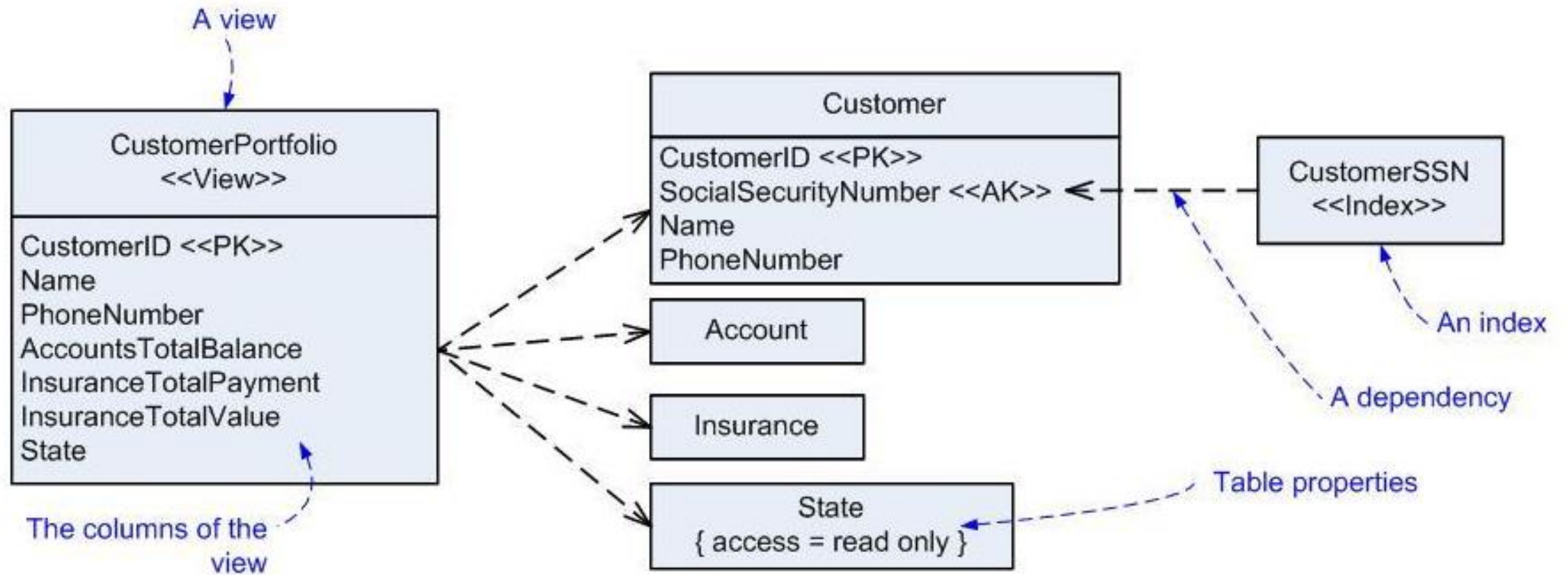


| Order_Item |
|---|
| Order_ID: CHAR(16) <<PK>> <<FK>> <<AK>> {key = PK, order = 1} {key = AK-1, order = 2} |
| Order_Item_Sequence: INT24 <<PK>> {order = 2} |
| Order_Item_ID: INT24 <<AK>> {key = AK-2} |
| Item_ID: INT24<<FK>> <<AK>> {key = AK-1, order = 1} {key = FK, table = Item} |
| ... |

| Order |
|--|
| Order_ID: CHAR(16) <<PK>> |
| Order_Date: DATE {after Jan 1 2000} |
| Customer_POID: CHAR(16) <<FK>> {not null} |
| insertOrder(...) <<Trigger>> {event = after insert} |
| deleteOrder(...) <<Trigger>> {event = before delete} |



| Stereotype | Diagram Type | Core Notation | Application | Style Issues |
|-----------------------|---------------------|---------------|---|---|
| <<AK>> | Physical | Yes | Indicates that a column is part of an alternate key, also known as a secondary key, for a table. | |
| <<Auto Generated>> | Physical | No | Indicates that the column value is automatically generated by the database. | This is interesting information, but I don't think I'd clutter the diagram with it. |
| <<CK>> | Conceptual, Logical | Yes | Indicates that an attribute is part of a candidate key for an entity. | |
| <<Column>> | Physical | No | Indicates that an attribute is a column. | Completely redundant information, I wouldn't even consider modeling this. |
| <<FK>> | Physical | Yes | Indicates that a column is part of a foreign key to another table. | |
| <<Natural>> | All | No | Indicates that an attribute or column is part of a natural key. | Interesting information, but don't clutter your diagram with it. |
| <<Not Null>> | Physical | Yes | Indicates that a column may not have null values. | |
| <<Nullable>> | Physical | Yes | Indicates that a column can have null values. | |
| <<PK>> | Physical | Yes | Indicates that a column is part of a primary key for a table. | |
| <<Surrogate>> | Physical | No | Indicates that a column is a surrogate key. | Interesting information, but don't clutter your diagram with it. |
| <<Unique Identifier>> | Conceptual, Logical | No | Indicates that an attribute is part of a unique identifier for an entity. Effectively an alternative to <<CK>>. | Prefer <<CK>> over this stereotype. |



Vistas

```
CREATE VIEW [Brazil Customers] AS  
SELECT CustomerName, ContactName  
FROM Customers  
WHERE Country = "Brazil";
```

índices

```
CREATE INDEX idx_lastname  
ON Persons (LastName);
```