

# BCI433 - IBM i Business Computing

## Week 9: Embed SQL Statements in RPGLE Program

# Agenda

- ▶ Embedded SQL in an RPGLE Program
- ▶ Lab 9A



# Lesson Objectives

Upon completion of this lecture and lab 2 you'll be able to:

- ▶ Apply both RPGLE statements and embedded SQL to access database files in RPGLE application development
- ▶ Understand subfile concepts

# Starting Lab 9A

Understanding Lab 9A, and preparing for final ...?

## ► What does Lab 9A do?

- Create a report (printer file) with the data obtained by "joining" 2 database tables (physical files as "input"s).

## ► Using 2 different ways to access the 2 tables:

### ■ Input 1: CUSTOMER20

- accessed by **RPGLE read statement**
- What do you need to define/declare for this table/file? **DCL-F**

### ■ Input 2: CONTACTS20

- accessed through **embedded SQL statements**
- What do you need to define/declare for this table/file? **DCL-DS**

# Starting Lab 9A

- ▶ The RPGLE state used to run/embed SQL statement:

**EXEC SQL**

// an SQL statement here

- ▶ What to do if a db table field allows **null** value (when using embed SQL)?

- Define a standalone indicator variable (type?), e.g. **INDNextCDate**, and **INDLastCDate**

- Add in after **the host variable** and a space, e.g.

SELECT **PHNLDC + PHNCIT DAYS**, **PHNLDC**, CSTPHN, PHNCOM, CSTLN

INTO **:NEXTCDATE :INDNEXTCDATE**, **:PHNLDC :INDLastCDate**, :CSTPHN, :PHNCOM, :CSTSLN

- Process null values after the embed sql statement

IF IndLastCDate = -1;

... ..

# Starting Lab 9A

- ▶ Processing after running embed SQL statements in RPG:
  - to indicate the rows/records with problem
  - to prevent program crash
  - includes,

- ▶ the process for null value field
- ▶ the process after Select ... INTO..., e.g.

```
SELECT;  
  WHEN SQLSTATE = '00000';  
  ... ..
```

- ▶ the process after Select ... INTO ... with group functions, e.g.  
count(\*), max(), min()

```
IF (SQLCODE <> 0) OR (SQLWNO = 'W');  
  CONTACTT = -99999;  
ENDIF;
```

# Starting Lab 9A

## ► Host variables

- Data fields defined for RPGLE Read statements
  - e.g. :CSTNUM
- Fields of data structure for Embed SQL statements
  - e.g. :CSTPHN, :PHNCOM, :CSTSLN
- Named fields,
  - e.g. :CONTACTT
- Standalone fields, e.g. indicator variables
  - e.g. :INDLastCDate

# Starting Lab 9A

- ▶ How to retrieve current user, system time and server name using SQL statement in IBM i?
  - See the last piece of code showed in class





# Lab 9A Demo



*The End*

