

# App Engine

## Course Checklist

### Task

#### Day 1: Technology Overview and Development Approach

##### Technology Overview

- Y  Database Driven, Batch Programs, Set-Based
- Y  Structure of AE (Sections, Steps, Actions)

##### Working with AE Programs in App Designer

- Y  Viewing program structure
- Y  Adding your AE Program to your Project
- Y  Migrating AE Programs
- Y  Finding code in existing programs

##### AE Action Types

- Y  Do Actions: While, When, Select, Until
- Y  Understanding Action Execution Order
- Y  SQL
- Y  PeopleCode
- Y  Log Message
- Y  Call Section

- Y  **Example 1: Creating an AE Shell**

##### State (AET) Records

- Y  Work Record throughout execution
- Y  Retrieving and Storing Values in State Records

##### Creating Process Run Pages

- Y  Process Run Pages Overview
- Y  Designing Run Control Records (OPRID, RUN\_CNTL\_ID)
- Y  Creating Run Control Pages (PRCSRUNCNTL\_SBP)
- Y  Building the Component (PRCSRUNCNTL Search Record)
- Y  Connecting a Process to a Component (Process Definition)

#### Day 2: Building Set-Based AE Programs

##### Temporary Tables and AE

Understanding Temp Table Architecture: How TAO Table

- Y  instances are Used for isolating set Processing
- Y  Structure of TAO Tables (PROCESS\_INSTANCE as key)

Table Instances and Where They Are Set (Temp Table tab for each AE Program), online instance count in PeopleTools Options)

- Y  Online vs. Batch Instances
- Y  Referring to table instances [ %Table() ]
- Temporary Table Usage (PeopleTools > Application Engine > Review Temp Table Usage)

##### Inactivating Steps

- Y  How to mark steps inactive
- Finding all steps marked inactive in a program (SQL)

##### Writing SQL for AE (Using Meta-SQL)

- Y  Used to interact with state variables
- Y  Simplifies SQL Coding Substantially

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### Task

Y  %InsertSelect: To insert into one table by selecting from another

Y  %Select: To take results and place into state variables

#### **Writing PeopleCode for AE**

Y  Take care to avoid row-level PeopleCode

Y  How to access state values in PeopleCode

Y  Affecting AE Program Execution with PeopleCode (Exit(0))

### **Day 3: Advanced Topics and Troubleshooting**

Running an AE from the Command-Line

#### **Building Restartable AE Programs**

Y  Why Restartability is Necessary

Y  How Restart Works (Commits and PS\_AERUNCONTROL)

Forcing Programs to Start from Beginning

#### **Dynamic Section Calls**

Y  Using state variables to store the section name

Y  Other ways of conditionally calling sections (Do When)

Y  Best when there are many potential logic paths (Sections to call)

#### **Using the App Engine Request Page**

PeopleTools > Application Engine > Request AE

Specifying Bind Variables through Run Page

#### **Starting AE From PeopleCode**

Y  Initiating App Engine Programs from PeopleCode (CallAppEngine)

#### **Using AE Libraries**

Y  Similar to the App Class or FUNCLIBs

#### **Dynamic SQL in PeopleCode**

Y  Pulling in text from a SQL object using %SQL(SQLID)

Y  Putting in a where condition via %BIND({statevar},NOQUOTES)

#### **TroubleShooting AE**

Y  Finding within all code of an AE

Y  ToolsTable Overview

Y  Finding other programs called by this AE (tools SQL)

Y  Finding inactive steps

Y  Techniques to Handling Abends

Y  Reviewing Trace timings

#### **Tracing in AE Programs**

Y  Turning on Tracing (Process Definition)

Y  Setting Trace Flags (-Trace, -ToolsTraceSQL, -ToolsTracePC)

Y  Reviewing the Trace File

Y  AET vs. Trace SQL files