# Stored Procedures and Stored Functions

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# Stored Programs

- Stored Procedure
- Stored Function
- Trigger
- Event

# Outline

- Stored Procedures
- Stored Functions

# Stored Procedures

- A stored procedure is a subroutine available to applications that access a relational database system
- A Stored Procedure contains one or more SQL statements stored in the database
- Typical used for Data Validation as well Access Control Methods
- A Stored Procedure is often called a *sproc* or *procedure*
- Parameters are used to pass one or more values from calling program

# Advantages of Stored Procedures

- Overhead
- Avoidance of Network Traffic
- Encapsulation of Business Logic
- Delegation of Access Rights
- Protection from SQL Injection

Reference: http://en.wikipedia.org/wiki/Stored_procedure

# Stored Functions

- A Stored Function is an executable database object with SQL procedural code
- A Stored Function is often called a User Defined Functions (UDF) or just a function
- A function can’t modify or change anything in the database by executing INSERT, UPDATE or DELETE statements
- The code to call Stored Functions is similar to built-in functions
- MySQL supports a scalar functions, which returns a single value

## Stored Procedure

- Returns many values
- Input and output parameters
- Can’t be used in SELECT
- SP can call functions
- May not return value
- Read and Modify Data
- INSERT/UPDATE/DELETE/SELECT
- Transaction Management

## Stored Function

- Returns only 1 value
- Only input parameters
- Can be used in SELECT
- Function can’t call SP
- Must return a value
- Reads only Data
- Allows only SELECT
- No Transaction Management

# Summary in Sixty Seconds

**#1 There are four different types of the stored programs**

- **Stored Procedure**
- **Stored Function**
- **Trigger**
- **Event**

**#2 The major advantage of Stored Procedure is Transaction Management and Performance**

**#3 The major advantage of Stored Function is that it can be used in different clauses of the SELECT statement**