

# Programming with Server-side Code

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# Server-side Programming Model

## Run code inside Cosmos DB

Stored procedures  
Triggers  
User-defined functions

## Scoped by partition key

Read/write documents with that partition key  
Fully transactional updates (ACID guarantee)

## Bounded execution

Implement continuation model  
for long running processes

## Handle throttling (code 429)

Implement retry logic when  
exceeding reserved throughput



# Writing Server-side Code

## Write a JavaScript function

Obtain context object

## Context exposes

Collection

Request

Response



# Demo



## Creating stored procedures



# Demo



## Hello World stored procedure



# Demo



Document validation and manipulation  
stored procedure



# Demo



## ID-generating stored procedure



# Demo



## Bulk insert stored procedure





# Demo



## Bulk delete stored procedure



# Working with Triggers

## Attach custom behavior

Access document being created or replaced

## Two trigger types

Pre-trigger  
Post-trigger

## Not fired automatically

Must be explicitly requested with an operation



# Demo



## Creating triggers



# Demo



## Pre-triggers



# Demo



## Post-triggers



# Creating User-Defined Functions (UDFs)

## **Extend the query language**

Write custom business  
logic that can be called  
from inside queries

## **Use with care**

Querying on a UDF  
requires a scan  
(cannot use index)

## **No access to context**

Compute-only  
JavaScript



# Demo



## User-Defined Functions (UDFs)



# Summary



## **Creating server-side code**

- Stored procedures
- Triggers (pre- and post-)
- User-Defined Functions (UDFs)

## **Bounded execution continuation model**

