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# Midwest Dreamin' Gold Sponsors

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# Getting Started with Developer Console

# Phillip Southern

founder

clicks 2 code

@phil7s



# What is the developer console?

"The Developer Console is an integrated development environment with a collection of tools you can use to create, debug, and test applications in your Salesforce org."

Out of the box development environment provided and supported by Salesforce.

# How can I access it?

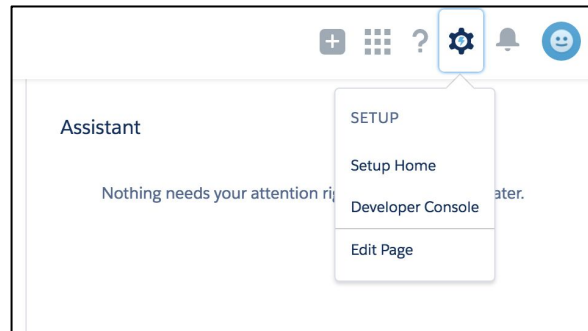
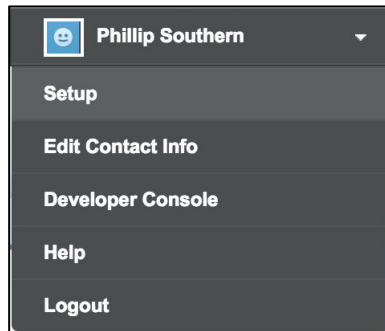
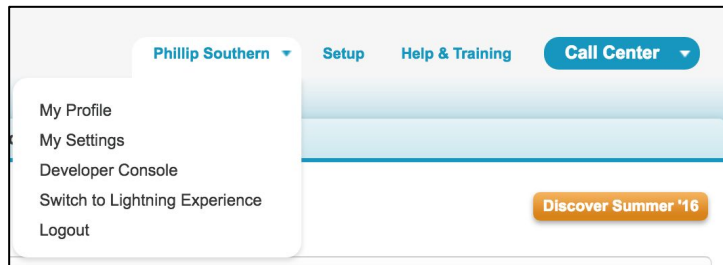
Available in: Salesforce Classic and Lightning Experience

Available in: **Enterprise, Performance, Unlimited, Developer,** and **Database.com** Editions

User Permissions Needed	
To use the Developer Console:	“View All Data”
To execute anonymous Apex:	“Author Apex”
To use code search and run SOQL or SOSL on the query tab:	“API Enabled”
To save changes to Apex classes and triggers:	“Author Apex”
To save changes to Visualforce pages and components:	“Customize Application”
To save changes to Lightning resources:	“Customize Application”

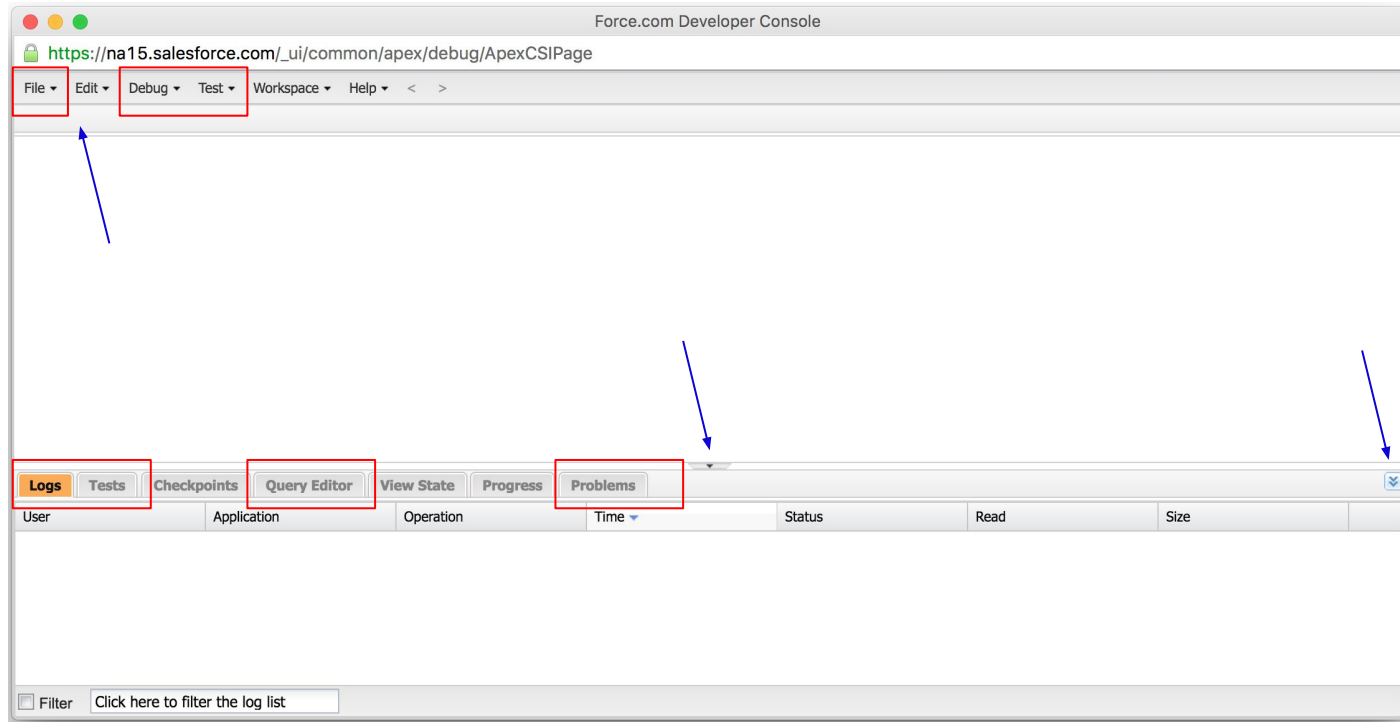
# Where can I access it?

Classic, Classic with Communities, Lightning Experience

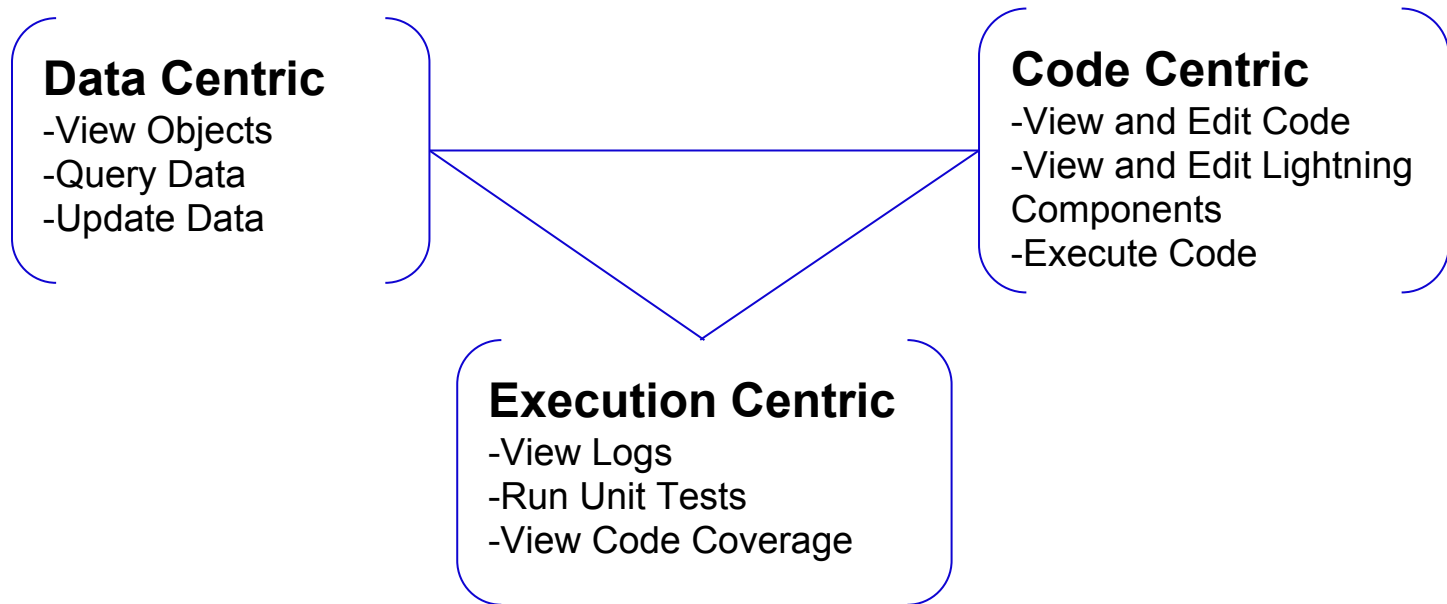




# Where can I access it?



# What can I do?



# Data Centric

## Viewing Objects

**Open**

Entity Type	Entities		Related		
Entity Type	Name	Namespace ▲	Name ▲	Extent	Direction
Classes	AcceptedEventRelation				
Triggers	Account				
Pages	AccountContactRole				
Page Components	AccountFeed				
Objects	AccountHistory				
Static Resources	AccountPartner				
Packages	AccountShare				
	ActionLinkGroupTemplate				
	ActionLinkTemplate				

☐ **Filter**  ☐ **Hide Managed Packages**

# Data Centric

## Viewing Objects

Account.obj	
Name	Apex Type
Id	id
IsDeleted	boolean
MasterRecordId	reference
Name	string
Type	picklist
ParentId	reference
BillingStreet	textarea
BillingCity	string
BillingState	string
BillingPostalCode	string
BillingCountry	string
BillingLatitude	double
BillingLongitude	double
BillingGeocodeAccuracy	picklist
BillingAddress	address
ShippingStreet	textarea

# Data Centric

## Query Editor

The screenshot displays the Force.com Developer Console interface. At the top, the browser address bar shows the URL: `https://na15.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. Below the address bar is a menu bar with options: File, Edit, Debug, Test, Workspace, and Help. A tab labeled "Account@3:16 PM" is active. The main content area shows a query: "Select Id, Name, Type from Account". Below the query, a table titled "Query Results - Total Rows: 12" displays the results. The table has three columns: Id, Name, and Type. The data rows are as follows:

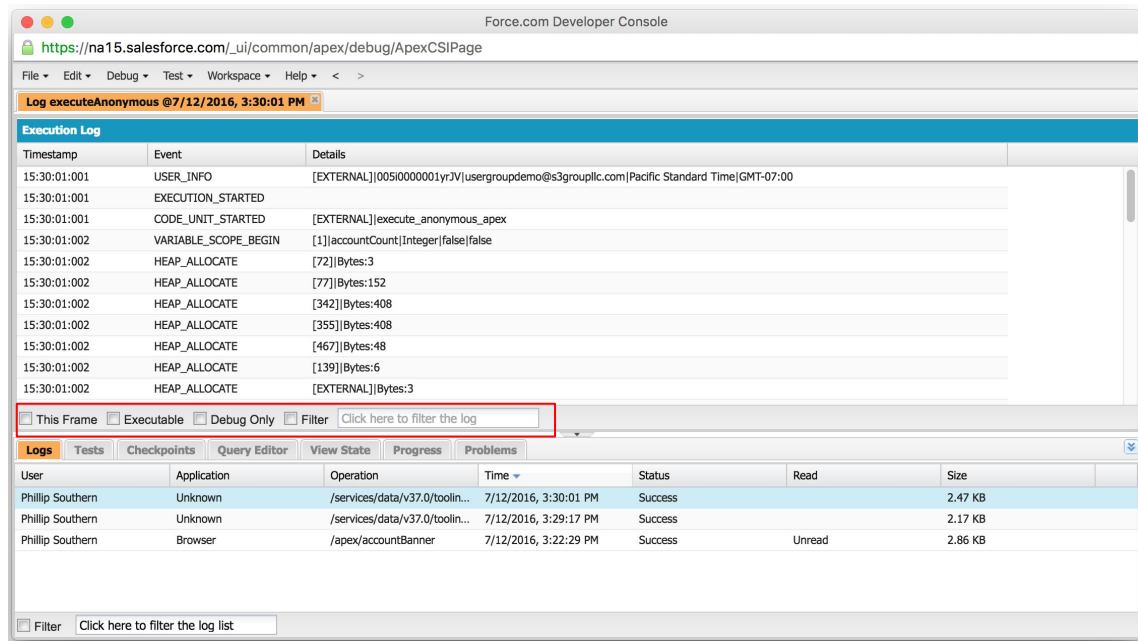
Id	Name	Type
001i000000RwsRAAR	GenePoint	Customer - Channel
001i000000RwsCAAB	sForce	
001i000000RwsSAAR	United Oil & Gas, UK	Customer - Direct
001i000000RwsXTAAR	United Oil & Gas, Singapore	Customer - Direct
001i000000RwsUAAR	Edge Communications	Customer - Direct
001i000000RwsVAAR	Burlington Textiles Corp of America	Prospect
001i000000RwsWAAR	Pyramid Construction Inc.	Customer - Channel
001i000000RwsXAAR	Dickenson plc	Customer - Channel
001i000000RwsXYAAR	Grand Hotels & Resorts Ltd	Customer - Direct

Below the table, there is a "Query Grid" section with buttons: "Save Rows", "Insert Row", "Delete Row", and "Refresh Grid". To the right of these buttons is a section labeled "Access in Salesforce:" with buttons: "Create New", "Open Detail Page", and "Edit Page". At the bottom of the console, there is a "Query Editor" tab selected, showing the same query: "Select Id, Name, Type from Account". Below the query, there is a text area for errors: "Any query errors will appear here...". At the very bottom, there is an "Execute" button and a checkbox for "Use Tooling API". On the right side of the console, there is a "History" panel showing a list of executed queries: "Executed", "Select Id, Name, Type from Account", and "SELECT Id, Name, ParentId, BillingCity, BillingPostal...".

# Execution Centric

## Debug Logs

“A debug log can record database operations, system processes, and errors that occur when executing a transaction or running unit tests.”



The screenshot displays the Force.com Developer Console interface. At the top, the browser address bar shows the URL `https://na15.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. Below the address bar, a menu bar includes `File`, `Edit`, `Debug`, `Test`, `Workspace`, and `Help`. A status bar indicates the log is for `Log executeAnonymous @7/12/2016, 3:30:01 PM`.

The main content area is titled **Execution Log** and contains a table with the following data:

Timestamp	Event	Details
15:30:01:001	USER_INFO	[EXTERNAL] 005i000001yrJV usergroupdemo@s3groupplc.com Pacific Standard Time GMT-07:00
15:30:01:001	EXECUTION_STARTED	
15:30:01:001	CODE_UNIT_STARTED	[EXTERNAL] execute_anonymous_apex
15:30:01:002	VARIABLE_SCOPE_BEGIN	[1] accountCount Integer false false
15:30:01:002	HEAP_ALLOCATE	[72] Bytes:3
15:30:01:002	HEAP_ALLOCATE	[77] Bytes:152
15:30:01:002	HEAP_ALLOCATE	[342] Bytes:408
15:30:01:002	HEAP_ALLOCATE	[355] Bytes:408
15:30:01:002	HEAP_ALLOCATE	[467] Bytes:48
15:30:01:002	HEAP_ALLOCATE	[139] Bytes:6
15:30:01:002	HEAP_ALLOCATE	[EXTERNAL] Bytes:3

Below the table, there are checkboxes for `This Frame`, `Executable`, `Debug Only`, and `Filter`, followed by a text input field with the placeholder `Click here to filter the log`.

The bottom section of the console has tabs for `Logs`, `Tests`, `Checkpoints`, `Query Editor`, `View State`, `Progress`, and `Problems`. The `Logs` tab is active, showing a table with the following data:

User	Application	Operation	Time	Status	Read	Size
Phillip Southern	Unknown	/services/data/v37.0/toolin...	7/12/2016, 3:30:01 PM	Success		2.47 KB
Phillip Southern	Unknown	/services/data/v37.0/toolin...	7/12/2016, 3:29:17 PM	Success		2.17 KB
Phillip Southern	Browser	/apex/accountBanner	7/12/2016, 3:22:29 PM	Success	Unread	2.86 KB

At the bottom of the console, there is a `Filter` checkbox and a text input field with the placeholder `Click here to filter the log list`.

# Execution Centric

Debug Logs - Debug Only and Limits

**Log executeAnonymous @7/12/2016, 3:30:01 PM**

**Execution Log**

Timestamp	Event	Details
15:30:01:005	USER_DEBUG	[2] DEBUG Account Count: 12

☐ This Frame ☐ Executable ☒ Debug Only ☐ Filter [Click here to filter the log](#)

15:30:01:005	LIMIT_USAGE_FOR_NS	(default)
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of SOQL queries: 1 out of 100
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of query rows: 12 out of 50000
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of SOSL queries: 0 out of 20
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of DML statements: 0 out of 150
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of DML rows: 0 out of 10000
15:30:01:000	LIMIT_USAGE_FOR_NS	Maximum CPU time: 0 out of 10000
15:30:01:000	LIMIT_USAGE_FOR_NS	Maximum heap size: 0 out of 6000000
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of callouts: 0 out of 100
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of Email Invocations: 0 out of 10
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of future calls: 0 out of 50
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of queueable jobs added to the queue: 0 out of 50
15:30:01:000	LIMIT_USAGE_FOR_NS	Number of Mobile Apex push calls: 0 out of 10
15:30:01:000	LIMIT_USAGE_FOR_NS	
15:30:01:005	CUMULATIVE_LIMIT_USAGE...	
15:30:01:005	CODE_UNIT_FINISHED	execute_anonymous_apex

# Execution Centric

## Unit Testing

The screenshot displays the Force.com Developer Console interface. The 'Test' menu is open, showing options like 'Always Run Asynchronously', 'New Run', 'Rerun', 'Rerun Failed Tests', 'Run All', 'Abort', 'New Suite', 'Suite Manager', 'New Suite Run', 'Collapse All', 'Expand All', and 'Clear Test Data'. The 'Tests' tab is selected in the bottom panel, showing a table of test results. The 'Overall Code Coverage' table is also visible, listing classes and their coverage percentages.

Status	Test Run	Enqueued Time	Duration	Failures	Total
✓	707f00000558zOC	Tue Jul 12 2016 15:47:51 GMT-...		0	1

Class	Percent	Lines
<b>Overall</b>	<b>87%</b>	
Milestone1_Calendar_Item	100%	9/9
Milestone1_Charts_GanttController	94%	64/68
Milestone1_Charts_Gantt_Helper	100%	5/5
Milestone1_Clone_Milestone_Controller	92%	47/51
Milestone1_Clone_Project_Controller	90%	55/61
Milestone1_Clone_Utility	100%	24/24
Milestone1_Constants	100%	22/22



# Execution Centric

## Unit Testing

The screenshot displays the Force.com Developer Console interface. The top section shows the URL `https://na15.salesforce.com/_ui/common/apex/debug/ApexCSIPage` and a menu bar with options: File, Edit, Debug, Test, Workspace, Help. Below the menu, a tab labeled `707f000005S8zOC` is active. The main area is divided into two panels. The left panel, titled 'Class Code Coverage', displays a table of test results. The right panel, titled 'Class Code Coverage', displays a table of code coverage data. The bottom section of the console shows a 'Tests' tab with a 'Test Run' table. The 'Test Run' table has columns: Status, Test Run, Enqueued Time, Duration, Failures, and Total. The 'Test Run' table shows a single test run with a green checkmark status, a folder icon, and the test ID `707f000005S8zOC`. The 'Test Run' table also shows the enqueued time as 'Tue Jul 12 2016 15:47:51 GMT-...' and the results as 0 failures and 1 total. The bottom right panel, titled 'Overall Code Coverage', displays a table of code coverage data for various classes.

Class	Method	Duration	Result	Errors	Stack Trace
Milestone1_Test_Task_Op...	testTaskTrigger	0:00	Pass		
Milestone1_Time_Trigger...	testTimeTrigger	0:02	Pass		
Milestone1_Time_Trigger...	testTriggerUtility	0:00	Pass		
Milestone1_XML_Export_U...	testSOQLQueries	0:04	Pass		
Milestone1_XML_Import_U...	testSOQLQueries	0:05	Pass		
Milestone1_repeatCon	testController	0:03	Pass		
Milestone1_repeatCon	testControllerFilterAllItems	0:03	Pass		
Milestone1_repeatCon	testControllerFilterAllItems...	0:05	Pass		
Milestone1_repeatCon	testControllerFilterMileston...	0:03	Pass		
Milestone1_repeatCon	testControllerFilterMileston...	0:03	Pass		
Milestone1_repeatCon	testControllerFilterMyProje...	0:03	Pass		
Milestone1_repeatCon	testControllerFilterMyProje...	0:01	Pass		
Milestone1_repeatCon	testControllerFilterTasksWi...	0:01	Pass		
Test_NewProjTriggerWalk...	testOppProject	0:02	Pass		
Test_OppProject	testOppProject	0:03	Pass		

Class	Percent	Lines
NewProjTrigger	89%	17/19
Milestone1_Project_Trigger	66%	4/6

Status	Test Run	Enqueued Time	Duration	Failures	Total
✓	707f000005S8zOC	Tue Jul 12 2016 15:47:51 GMT-...		0	1

Class	Percent	Lines
<b>Overall</b>	<b>87%</b>	
Milestone1_Calendar_Item	100%	9/9
Milestone1_Charts_GanttController	94%	64/68
Milestone1_Charts_Gantt_Helper	100%	5/5
Milestone1_Clone_Milestone_Controller	92%	47/51
Milestone1_Clone_Project_Controller	90%	55/61
Milestone1_Clone_Utility	100%	24/24
Milestone1_Constants	100%	22/22

# Code Centric

View and Edit Code

**Open**

Entity Type	Entities	Related
Entity Type	Name      Namespace ▲	Name ▲      Extent      Direction
Classes	Milestone1_Expense_Trigger	← Opportunity      SObject      References
Triggers	Milestone1_Milestone_Trigger	← OpportunityUtility      ApexClass      References
Pages	Milestone1_Project_Trigger	
Page Components	Milestone1_Task_Trigger	
Objects	Milestone1_Time_Trigger	
Static Resources	NewProjTriggerWalkThrough	
Packages	NewProjTrigger	
	OpportunityTrigger	

Open ☐ Filter Filter the repository (\* = any string) ☐ Hide Managed Packages Refresh

**OpportunityTrigger.apxt**

Code Coverage: None      API Version: 37

```
1 trigger OpportunityTrigger on Opportunity (before insert)
2 {
3     OpportunityUtility.createOrderNumber(trigger.new);
4 }
```

# Code Centric

View and Edit Lightning Components

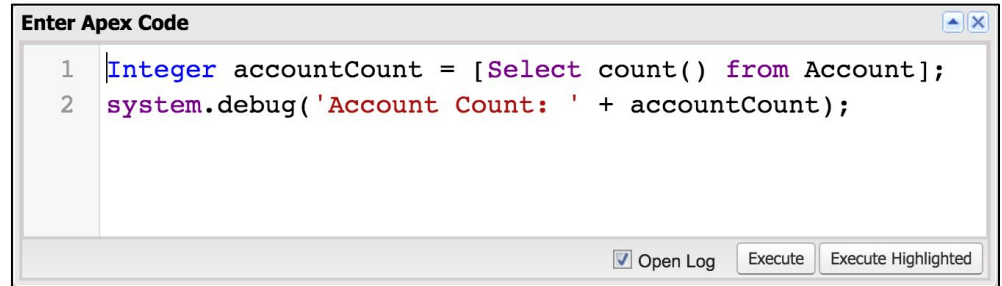
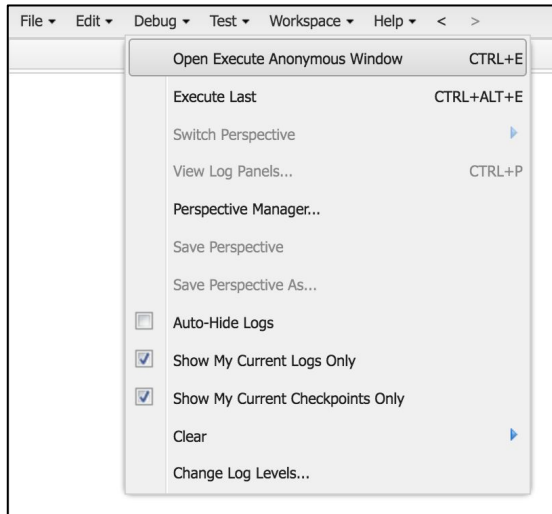


The screenshot displays the Salesforce Lightning Component Builder interface for a bundle named 'testApp'. The interface is split into two main sections. The left section, titled 'Description', contains the text 'A Lightning Component Bundle' and a note: 'Navigate to the bundle's definitions in the action bar to the right.' The right section, titled 'testApp', features a 'Preview' button and a table of shortcuts for creating various component types. Below the table is a 'Bundle Version Settings' section.

Shortcut	Component Type	Action
Ctrl + Shift + 1	APPLICATION	
Ctrl + Shift + 2	CONTROLLER	Create
Ctrl + Shift + 3	HELPER	Create
Ctrl + Shift + 4	STYLE	Create
Ctrl + Shift + 5	DOCUMENTATION	Create
Ctrl + Shift + 6	RENDERER	Create
Ctrl + Shift + 7	SVG	Create

# Code Centric

Execute Code - warning!



# Demo

1. Review layout
2. Look at an object
3. Open Trigger and Class
4. Run Test Class
5. View Logs

# Governance

1. Internal Discussions
2. Which Environment?
3. API limits
4. Viewing vs Creating/Modifying

# Resources

anonymous blocks: [https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex\\_anonymous\\_block.htm](https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex_anonymous_block.htm)

developer console intro:

[https://help.salesforce.com/apex/HTViewHelpDoc?id=code\\_system\\_log.htm](https://help.salesforce.com/apex/HTViewHelpDoc?id=code_system_log.htm)

interface overview: [https://help.salesforce.com/HTViewHelpDoc?id=code\\_dev\\_console\\_navigating.htm&language=en\\_US](https://help.salesforce.com/HTViewHelpDoc?id=code_dev_console_navigating.htm&language=en_US)

debug logging: [https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex\\_debugging\\_debug\\_log.htm](https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex_debugging_debug_log.htm)

# questions

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#MWD16





