

### Custom Permissions

```
if ( System.FeatureManagement.checkPermission (
    'ACustPerm' ) == true ) {
    ...
    <apex:pageBlock rendered="{!$Permission.ACustPerm}" >
```

### Custom Settings Methods

List: List<Games\_\_c> gamesListCustomSetting = Games\_\_c.getAll().values();

gamesListCustomSetting[0].GameType\_\_c; // getAll() returns a map

Games\_\_c aSingleCustomSetting = Games\_\_c.getValues( 'Pac Man' ); // same as getInstance()

Hierarchy: Support\_\_c supportHierarchyCustomSetting = Support\_\_c.getInstance( profileID );

Support\_\_c supportHierarchyCustomSetting = Support\_\_c.getOrgDefaults();

Support\_\_c supportHierarchyCustomSetting = Support\_\_c.getValues( userID );

// getValues doesn't merge the non-overriden values from the hierarchy

same as {!\$Setup.Support\_\_c.Config\_Field\_\_c}

### Date/DateTime Formats and Examples

myDate.format() format() and parse() use the current user locale

myDate = Date.parse( '12/27/2009' );

myDate = Date.valueOf( '2009--12-27 23:46:00' ); uses standard datetime format

myDate.toStartMonth()

myDate.toStartWeek()

dt.format()

### Date/DateTime Formats and Examples (cont)

dt.format( 'YYYY--MM-dd hh:mm:ss.SSS a' ) 2019-06-30 02:06:30.720 PM

dt.format( 'EEEE MMMMM dd, YYYY HH:mmZ' ) Sunday June 30, 2019 14:06+0600

z is timezone (CST), w is week in year, W is week in month, D is day in year, u is day number in week (1=Monday)

dt.getTime() number of milisseconds since Jan 1, 1970 00:00

dt = DateTime.parse( '10/14/2011 11:46 PM' ); uses current user locale

dt = DateTime.valueOf( '2011-10-14 23:46:00' ); uses standard datetime format

### Examples Using Named Credentials

```
HttpRequest req = new HttpRequest();
req.setEndpoint( 'callout:MyNamedCredential/somePath' );
req.setHeader( 'X-Username', '{!$Credential.UserName}' );
req.setHeader( 'X-Password', '{!$Credential.Password}' );
req.setBody(
    'UserName:{! HTML_ENCODE($Credential.UserName)}' );
req.setHeader( 'Authorization',
    'OAuth {!$Credential.OAuthAccessToken}' );
<!-- values: Basic, Bearer or null -->
{!$Credential.AuthorizationMethod}
<!-- values: Base-64 encoded username and password, OAuth token or null -->
{!$Credential.AuthorizationHeaderValue}
{!$Credential.OAuthConsumerKey}
// usually Basic authentication goes like this instead
```



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### Examples Using Named Credentials (cont)

```
of {!$Credential.AuthorizationHeaderValue}
Blob headerValue = Blob.valueOf(
    username + ':' + password );
String authorizationHeader = 'BASIC '
    + EncodingUtil.base64Encode( header-
Value );
req.setHeader( 'Authorization', authorizatio-
nHeader );
```

### Test Web Service Callouts

```
global class myWebServiceMockImpl
    implements WebServiceMock {
global void doInvoke( Object stub
    , Object request
    , Map<String, Object> response
    , String endpoint, String
soapAction
    , String requestName
    , String responseNS
    , String responseName
    , String responseType ) {
// create/populate response element and add it
// to the response parameter
// this assumes responseElement type is
// a WSDL-generated class
response.put( 'response_x', responseElement );
Test.setMock( WebServiceMock.class
    , new myWebServiceMockImpl() );
// in the test class
global class myHttpCalloutMockImpl
    implements HttpCalloutMock {
global HTTPResponse respond( HTTPRequest req ) {
// create fake response, set HTTPResponse
// values, and return it
```

### Test Web Service Callouts (cont)

```
Test.setMock( HttpCalloutMock.class
    , new myHttpCalloutMockImpl()
);
```

### Email Messaging

```
Messaging.SingleEmailMessage msg =
    new Messaging.SingleEmailMessage();
msg.toAddresses = new String[] {
    ...up to 100 contact/lead/user
ids... };
msg.setTargetObjectId( ...single cont/lead/user
id... );
msg.subject = 'Test msg';
msg.plainTextBody = 'Test body.';
Messaging.SingleEmailMessage[] msgList =
    new List<Messaging.SingleEmailMessage> {
msg };
Messaging.SendEmailResult[] results =
    Messaging.sendEmail( msgList );
// check results[ 0 ].success
// and results[ 0 ].errors[ 0 ].message)
Messaging.MassEmailMessage msg =
    new Messaging.MassEmailMessage();
msg.setTargetObjectIds(
    ...up to 250 cont/lead/user ids in List<I-
D>... );
```

### String Concatenation

```
List<String> soqlList = new List<String> {
    'SELECT ID, ', fieldList, ' FROM ...' };
String soql = String.join( soqlList, '');
```



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### String Parsing with Regex

```
String template = '{0} was last updated {1}';
List<Object> parameters = new List<Object> {
    'Universal Containers'
    , DateTime.newInstance( 2018, 11, 15 ) };
String formatted = String.format( template,
    paramtrs );
Pattern ptn = Pattern.compile(
    '...some regex with capturing groups...'
);
Matcher mtr = ptn.matcher( '...input string...' );
for( Integer i = 0; i < mtr.groupCount(); i++ ) {
    // NOTE: group 0 is the entire expression
    String extract = mtr.group( i );
}
```

### SOQL Date Functions and Formats

```
CALENDAR_YEAR(), CALENDAR_MONTH()
DAY_IN_YEAR() Feb 1st = 32
DAY_IN_MONTH()
DAY_IN_WEEK() Sunday = 1
WEEK_IN_MONTH()
WEEK_IN_YEAR()
YESTERDAY, TODAY, TOMORROW
LAST_X, THIS_X, NEXT_X
    where X can be (where it makes sense):
        YEAR, N_YEARS:n
        FISCAL_YEAR, N_FISCAL_YEARS:n
        FISCAL_QUARTER, N_FISCAL_QUARTERS:n
        QUARTER, N_QUARTERS:n
        MONTH, N_MONTHS:n
        90_DAYS, N_DAYS:n
        WEEK, N_WEEKS_:n
```

### Schema Functions

```
Record Creation with nulls or with default values
and record ids
Map<String, Schema.SObjectType> sObjTypeMap =
    Schema.getGlobalDescribe();
Schema.SObjectType targetType =
    sObjTypeMap.get( typeName );
SObject sobj = targetType.newSObject();
SObject sobj = targetType.newSObject(
    aRecordTypeId, loadDefaultsFlag );
Schema.SObjectType targetType = myObj__c.SObject-
    tType;
myObj__c m = new myObj__c();
Schema.SObjectType targetType = m.getSObject-
    Type();
ID Prefix
Schema.DescribeSObjectResult dscObj = descrResult[
    0 ];
String objPrefix = dscObj.getKeyPrefix();
```

### Schema Functions - Field Details

```
FieldSets
Map<String, Schema.FieldSet> fsMap =
    dscObj.fieldSets.getMap();
Fields
Schema.DescribeFieldResult dfr =
    dscObj.fields.myField__c;
Schema.SObjectField fieldToken =
    mySObj__c.myField__c;
Schema.DescribeFieldResult dfr =
    fieldToken.getDescribe();
Map<String, Schema.SObjectField> fieldMap =
    Schema.SObjectType.mySObj__c.fields.get-
    Map();
Field Details
dfr.getLabel(), getName(), getDefaultValue(),
```



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### Schema Functions - Field Details (cont)

```
getType(), getInlineHelpText(), ...
Picklist Values
List<Schema.PicklistEntry> pleList =
    dfr.getPicklistValues();
// pleList[ 0 ].getLabel(), getValue(), ...
```

### Schema Functions - Record Types

```
Schema.DescribeSObjectResult[] descrResult =
    Schema.describeSObjects( new String[] {
        'Account', 'Contact' } );
Schema.DescribeSObjectResult dscObj = descrResult[
    0 ];
List<Schema.RecordTypeInfo> recTypeList =
    dscObj.getRecordTypeInfos();
Map<Id, Schema.RecordTypeInfo> rTypeByIdMap =
    dscObj.getRecordTypeInfosById();
Map<String, Schema.RecordTypeInfo> rTypeMap =
    dscObj.getRecordTypeInfosByDeveloper-
    Name();
// ...getRecordTypeId() getName() getDeveloper-
    Name()
```

### Sanitizing Input

HTMLENCODE()	replaces HTML reserved characters, > becomes &gt;
JSENCODE()	prepends escape on JS characters, ' becomes \'
JSINHTMLENCODE()	same as JSENCODE(HTMLENCODE())
URLENCODE()	replaces illegal characters in URLs, spaces becomes %20, ? becomes %21
myString.stripHTMLTags();	removes tags from string

### FieldSet Examples

```
Map<String, Schema.FieldSet> fsMap =
    Schema.SObjectType.Account.fieldSets.ge-
    tMap();
Schema.DescribeSObjectResult d =
    Account.sObjectType.getDescribe();
Map<String, Schema.FieldSet> fsMap =
    d.fieldSets.getMap();
Schema.FieldSet fs2 = Schema.SObjectType.Account
    .fieldSets.myFieldName;
public List<Schema.FieldSetMember> fldList { get;
    set; }
fldList = SObjectType.mySObject.FieldSets
    .myFieldName.getFields();
// fieldSet methods: getName() getLabel()
<apex:pageBlockTable value="{!productLineItems}"
    var="qli" >
<apex:repeat value="{!$ObjectType.QuoteLineItem
    .FieldSets.Sales_Forecast_Page_Detail_Fiel-
    ds}"
    var="f" >
    <apex:column value="{!qli[ f ]}"
        rendered="{! FIND( f, editableFieldList ) <= 0
    }" />
    <apex:column
        rendered="{! FIND( f, editableFieldList ) > 0
    }" >
        <apex:facet name="header">{!f.label}
        </apex:facet>
        <apex:inputField value="{!qli[ f ]}" />
    </apex:column>
</apex:repeat>
...
```



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### VisualForce TabPanel (alternative 1)

```
<apex:tabPanel id="theTabPanel" switchType="server" value="{!varSelectedTab}" >
```

```
  <apex:tab id="tabOne" label="One" name="name1" >
```

```
    ...content for tab one...
```

```
// in the controller...
```

```
public String varSelectedTab {
```

```
  get;
```

```
  set {
```

```
    // save data from tab, stop tab change if failed saving
```

```
    if( varSelectedTab == null || saveData() == true ) {
```

```
      varSelectedTab = value;
```

```
    }
```

```
  }
```

```
}
```

```
// Apex to change the active tab: varSelectedTab = "name1";
```

```
varSelectedTab = 'name1';
```

### VisualForce TabPanel (alternative 2)

```
<apex:actionFunction name="changedTabJS" action="{!changedTab}" reRender="divContainingTabPanel,errorMsgPanel" >
```

```
  <apex:param name="tabName" assignTo="{!clickedTab}" value="" />
```

```
</apex:actionFunction>
```

```
<apex:tabPanel id="theTabPanel" switchType="client" selectedTab="name1" value="{!varSelectedTab}" >
```

```
  <apex:tab id="tabOne" label="One" name="name1" onTabEnter="changedTabJS( 'name1' );return false;" >
```

```
    ...content for tab one...
```

```
// in the controller...
```

```
public PageReference changedTab() {
```

```
  saveData();
```

```
  if( ApexPages.getMessages().size() <= 0 ) {
```

```
    // allow tab to change if no errors
```

```
    varSelectedTab = clickedTab;
```

```
  }
```

```
  return null;
```

```
}
```

```
// Apex to change the active tab:
```

```
varSelectedTab = "name1";
```

### VisualForce apex:CommandButton with parameters

```
<apex:commandButton value=... action=...
                    reRender="someDummyDivOrPage-Block" >
```

```
<apex:param name=... value="{!...}"
```

```
assignTo="{!...}" />
```

### VisualForce apex:ActionSupport with parameters

```
<apex:inputField value=...
```

```
<apex:actionSupport event="onchange"
```

```
action="{!...}" reRender=...
```

```
>
```

```
<apex:param name=... value="{!...}"
```

```
assignTo="{!...}" />
```

### VisualForce Link/Format with Param Examples

```
<apex:outputLink value="http://google.com/search">Search Google
```

```
  <apex:param name="q" value="{!contact.name}"/>
```

```
<!-- this will append the q parameter to the URL -->
```

```
<apex:outputText value="Formatted time now: {0, date, yyyy.MM.dd G 'at' HH:mm:ss z}"/>
```

```
<apex:param value="{! NOW() }" />
```

```
<apex:outputText value="{0, number, ###,###,##0.00}"/>
```

```
<apex:param value="{!Account.AnnualRevenue}"/>
```

```
<apex:outputText value="{0, number, currency}"/>
```

### Custom HTML Attributes in VisualForce

```
<apex:outputPanel layout="block" html-data-role="panel" html-data-id="menu">
```

```
becomes <div data-id="menu" data-role="panel">
```

### Blank Space

```
.
.
.
```

### Global Variables - URL Examples

```
$Site.BaseUrl path prefix not ending with a /
{!$Action[ 'mySObject__c' ].New}
{!URLFOR($Action.mySObject__c.New)}
URLFOR($Action.Measurement__c.New, null
, ['CF00N3h00000HjxMj_lkid'=recordID
, 'CF00N3h00000HjxMj '=theRecord.Name
, 'retURL'=$CurrentPage.URL
, 'saveURL'='/apex/EditMeasurements?id='+re-
cordID
, 'cancelURL'='/apex/EditMeasurements?id='+rec-
ordID])
```



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### Global Variables - URL Examples (cont)

```
some valid values: Clone, New, Edit, Delete
                  , List, Merge, Tab, View, Attachment.Download
The above corresponds to
return new ApexPages.StandardController(
    theRecord ).view();
{!URLFOR($Asset.SLDS
    , 'assets/images/profile_avatar_96.png')}
reference to icons from SLDS
https://lightningdesignsystem.com/icons/
{!$Resource.TestImage}
{!URLFOR( $Resource.TestZip, 'images/Bluehills.jpg' )}
```

### Global Variables - Field Examples

```
<apex:repeat var="f"
    value="{!$ObjectType.Account.FieldSets.myFieldSet}">
<apex:outputText value="{!f}" />
    same as Schema.FieldSet fs = Schema.SObjectType
        .Account.fieldSets.getMap().get('myFieldSet')
    or
    Schema.FieldSet fs = Schema.SObjectType.Account
        .fieldSets.myFieldSet;
{!$ObjectType.myObj__c.keyPrefix}
    same as Schema.DescribeSObjectResult objDescr
=
    Account.sObjectType.getDescribe();
    objDescr.getKeyPrefix()
other options are: label, labelPlural, name,
                  accessible, createable, custom,
deletable,
                  mergeable, queryable, searchable,
undeletable,
                  updateable, ...
{!$ObjectType.myObj__c.Fields.aField__c}
{!$ObjectType[ 'myObj__c' ].fields[ 'aField__c'
].Label}
```

### Global Variables - Field Examples (cont)

```
{!$ObjectType.myObj__c.Fields.aField__c.Label}
same as Schema.DescribeFieldResult dfr =
    Schema.SObjectType.myObj__c.fields.aField__c;
    dfr.getLabel()
other options are: inlineHelpText, length,
                  picklistValues, precision, scale, type,
accessible,
                  calculated, ...
```

### Global Variables - Miscellaneous Examples

```
$Api.Session_ID
    same as UserInfo.getSessionId()
    (this ID changes in VF and Lightning)
    and the formula function GETSESSIONID()
document.getElementById(
    "{!$Component.theForm.theBlock.theSection
        .theSectionItem.theField}" )
$CurrentPage.parameters.paramName
    same as ApexPages.currentPage().getParameters()
        .get( 'paramName' )
$Setup.App_Prefs__c.Show_Help_Content__c
    gets value from hierarchy custom settings
{!$User.UITheme == 'Theme2'}
    Theme3 = Classic,
    Theme4d = lightning,
    Theme4t = mobile app,
    Theme4u = lightning console
```



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