

Custom Permissions

```
if( System.FeatureManager.checkPermission(
    'A
    C ust P erm ' ) == true ) { ...
    <apex:pageBlockRendered = "{!$Permission.ACustomPerm}" >
```

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 milliseconds 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/so mePath');
req.setHeader('X-Username', '{!$Credential.al.UserName}');
req.setHeader('X-Password', '{!$Credential.al.Password}');
req.setBody(
    'UserName: {! HTMLLEN CODE($ Credential.al.UserName)}' );
req.setHeader( 'Authorization'
    , 'OAuth {!$Credential.al.OAuthToken}' );
<!-- values: Basic, Bearer or null -->
{!$Credential.al.AuthorizationMethod}
<!-- values: Base-64 encoded username and password,
OAuth token or null -->
{!$Credential.al.AuthorizationHeaderValue}
{!$Credential.al.OAuthConsumerKey}
// usually Basic authentication goes like this
instead
```



Examples Using Named Credentials (cont)

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

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(
        new Messaging.SingleEmailMessage());
msg.toAddresses = new String[] {
    ...up to 100 contact /lead /user ids... };
msg.setTargetObjectId( ...single contact /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.SendEmailMessage msg =
    new Messaging.SendEmailMessage(
        new Messaging.SendEmailMessage(
            ...up to 250 contact /lead /user ids in
            List<ID>... );
```

String Concatenation

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



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,
    parameters);
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_YEAR:n
        FISCAL_QUARTER, N_FISCAL_QUARTERS: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.newInstance();
SObject sobj = targetType.newInstance(
    recordTypeId, loadDefaultFlag);
Schema.SObjectType targetType = myObj__c.SObjectType;
myObj__c m = new myObj__c();
Schema.SObjectType targetType = m.getSObjectType();
ID Prefix
Schema.DescribeSObjectResult dscObj = describeResult[0];
String objPrefix = dscObj.getKeyPrefix();
```

Schema Functions - Field Details

```
FieldSets
Map<String, Schema.FieldSet> fsMap =
    describeObjFieldSet.getMap();
Fields
Schema.DescribeFieldResult dfr =
    describeFieldSet.getField__c();
Schema.SObjectField fieldToken =
    myObj__c.myField__c;
Schema.DescribeFieldResult dfr =
    fieldToken.getDescription();
Map<String, Schema.SObjectField> fieldMap =
    Schema.SObjectType.myObj__c.getFieldSetMap();
Field Details
dfr.getLabel(), getName(), getDefaultVal(),
```



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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> recTypeInfoList =
    dscObj.getRecordTypeInfo();
Map<Id, Schema.RecordTypeInfo> rTypeInfoMap =
    dscObj.getRecordTypeInfo();
Map<String, Schema.RecordTypeInfo> rTypeInfoMap =
    dscObj.getRecordTypeInfo();
// ...getRecordTypeInfo() getName() getDeveloperName()
```

Sanitizing Input

HTMLENCODE()	replaces HTML reserved characters, > becomes >
JSENCODE()	prepends escape on JS characters, ' becomes \'
JSSINHTMLENCODE()	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.FieldSet.getByName();
Schema.DescribeSObjectResult dscObj =
    Schema.DescribeSObjectResult.newInstance();
Map<String, Schema.FieldSet> fsMap =
    Schema.FieldSet.getByName();
Schema.FieldSet fs2 = Schema.FieldSet.newInstance();
// fieldSet methods: getName() getLabel()
<ap ex: pageBlockTable value= " {!product -
    LineItems }"
    var="qli" >
<ap ex: repeat value= " {!$ObjectType.Quote -
    LineItem
        .FieldSetSalesForecastPage_DetailFields} "
    var="f" >
<ap ex: column value= " {!qli[f]}"
    rendered= "{! FIND( f, editableViewFieldList ) <= 0 }" />
<ap ex: column
    rendered= "{! FIND( f, editableViewFieldList ) > 0 }" >
    <ap ex: facet name="header"> -
        {!f.label}
    </ap ex :facet>
    <ap ex: inputField value= " {!qli[f]}" />
    </ap ex :column >
</ap ex :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=...
```

```
>
```

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

```
assignTo=...
```

```
To= " {...} " />
```

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[ 'mySO b jec t__c' ].New}
{!URLF OR( $Ac tio n.m ySO bje ct__c.N ew)}
URLFOR ($A cti on.M ea sur eme nt__c.New, null
, ['CF00 N3h 000 00H jxM j_l kid '=r ecordID
, 'C F00 N3h 000 00H jxM j'= the Rec ord.Name
, 'r etU RL' =$C urr ent Pag e.URL
, 's ave URL' =' /ap ex/ Edi tMe asu rem ent -
s?i d=' +re cordID
, 'c anc elU RL' =' /a pe x/E dit Mea sur eme -
nts ?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"
    val ue= " {!$ Obj ect Typ e.A cco unt.Fi -
eld Set s.m yFi eld Set }">
<ap ex: out putText value= " {!f }" />
    same as Schema.Fi eldSet fs = Schema.SO -
bje ctType
        .Ac cou nt.f ie ldS ets.ge tMa -
p().ge t(' myF iel dSet')
    or
    Sch ema.Fi eldSet fs = Schema.SO bje ctT -
ype.Ac count
        .fi eld Set s.m yFi eldSet;
{!$Obj ect Typ e.m yOb j__ c.k eyP refix}
    same as Schema.De scr ibe SOb jec tResult
objDescr =
        Acc oun t.s Obj ect Typ e.g -
etD esc ribe();
    obj Des cr.g et Key Pre fix()
other options are: label, labelP lural, name,
        acc ess ible, create able,
custom, deletable,
        mer geable, queryable,
search able, undelete able,
        upd ate able, ...
{!$Obj ect Typ e.m yOb j__ c.F iel ds.a Fi eld__c}
{!$Obj ect Type[ 'myObj__c' ].fields[ 'aFiel d__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

```
$Api.Session_ID
    same as UserIn fo.g et Ses sio nId()
    (this ID changes in VF and Lightning)
    and the formula function GETSES SIO -
NID()
docume nt.g et Ele men tById(
    " {!$ Com pon ent.th eFo rm.t he -
Blo ck.t he Section
        .th eSe cti onI tem.th eFi -
eld }" )
$Curre ntP age.pa ram ete rs.p ar amName
same as ApexPa ges.cu rre ntP age ().g et Par ame -
ters()
        .get( 'param Name' )
$Setup.Ap p_P ref s__ c.S how_He lp_ Con tent__c
    gets value from hierarchy custom settings
{!$Use r.U ITheme == 'Theme2'}
    Theme3 = Classic,
    Theme4d = lightning,
    Theme4t = mobile app,
    Theme4u = lightning console
```



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