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Begin Programming Your Red Hat Network Satellite Server

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Session/Unit Goals

- Upon completion of this unit, you should be able to:
  - Describe the practical uses for the Red Hat Network API
  - Give an overview of basic RHN API program structure
  - Modify and write simple programs using the RHN API

RHN Application Programming Interface

- Application programming interface provided by RHN
- Red Hat Network API uses:
  - Custom queries
  - Reporting
  - Automated RHN administration
- Red Hat Network API functionality continues to expand
- Every Satellite server has relevant API documentation
  - http://*satellite.fqdn*/rhn/apidoc/

Supported Programming Languages

- Works with languages with XML-RPC client support
- Most common languages used are Perl and Python
- Perl
  - Requires perl-Frontier-RPC package
- No additional requirements for Python

RHN API Program Structure

- Programs which use the RHN API have a consistent pattern
- Connect to the Satellite server via XML-RPC library
- In most cases, authenticate as a valid user
  - Normal Satellite server permissions/roles apply
- Perform queries and operations of interest
- Log out (only when authenticated)

API Methods – RHN Software/Server Admin

- `api`
  - Provides `getVersion` and `systemVersion` methods
- `preferences`
  - Methods for locale and timezone configuration
- `proxy`
  - Provides methods to manage RHN Proxies
- `satellite`
  - Provides RHN Satellite management methods

API Methods – User/Organization Management

- `auth`
  - Provides login and logout methods
- `org`
  - Provides methods for Organization management
- `user`
  - Provides methods for RHN user administration

API Methods – Channel Management

- `channel`
  - Provides methods for managing Software Channels
- `configchannel`
  - Provides methods for Configuration Channel management
- `errata`
  - Provides methods to manage RHN errata
- `packages`
  - Methods that search for and deletes packages within RHN

API Methods – Systems Management

- `activationkey`
  - Provides methods for managing Activation Keys
- `kickstart`
  - Provides methods to manage kickstart profiles
- `schedule`
  - Methods to search and manage scheduled events
- `system`
  - Provides methods for queries and management of registered systems
- `systemgroup`
  - Provides methods for System Group administration

Sample Perl Script

```
#!/usr/bin/perl
use Frontier::Client;

my $URL = 'https://satellite.example.com/rpc/api';
my $user = 'rhn-username';
my $pass = 'rhn-password';

my $client = new Frontier::Client(url => $URL);
my $session = $client->call('auth.login', $user, $pass);

my $systems = $client->call('system.listUserSystems', $session);

foreach my $system (@$systems) {
    print $system->{'name'}."\n";
}

$client->call('auth.logout', $session);
```

Sample Python Script

```
#!/usr/bin/python
import xmlrpclib

URL = "https://satellite.example.com/rpc/api"
user = "rhn-username"
pswd = "rhn-password"

client = xmlrpclib.Server(URL, verbose=0)
session = client.auth.login(user, pswd)

list = client.user.list_assigned_system_groups(session, user)
for group in list:
   print group.get('name')

client.auth.logout(session)
```

Practice Exercise – RHN API Programming

- Log into your workstation
  - Username: student
  - Password: student
- RHN Satellite credentials
  - Username: summit*XX*
  - Password: redhat
- Sample scripts available
  - http://satellite/pub/rhn-api

- Follow handout instructions
- Work with your neighbors
- If all else fails, ask!

- Time: ~35 minutes

Thank You for Attending!

- To learn more about Red Hat Network Satellite, Red Hat Training offers the following 4-day course:
  - **Red Hat Enterprise Deployment and Systems Management (RH401)**
- Please complete your survey and log out of your system before you leave
- Additional question? Visit the Red Hat Training booth in the Partner Pavilion and speak with a member of the Red Hat Curriculum Team